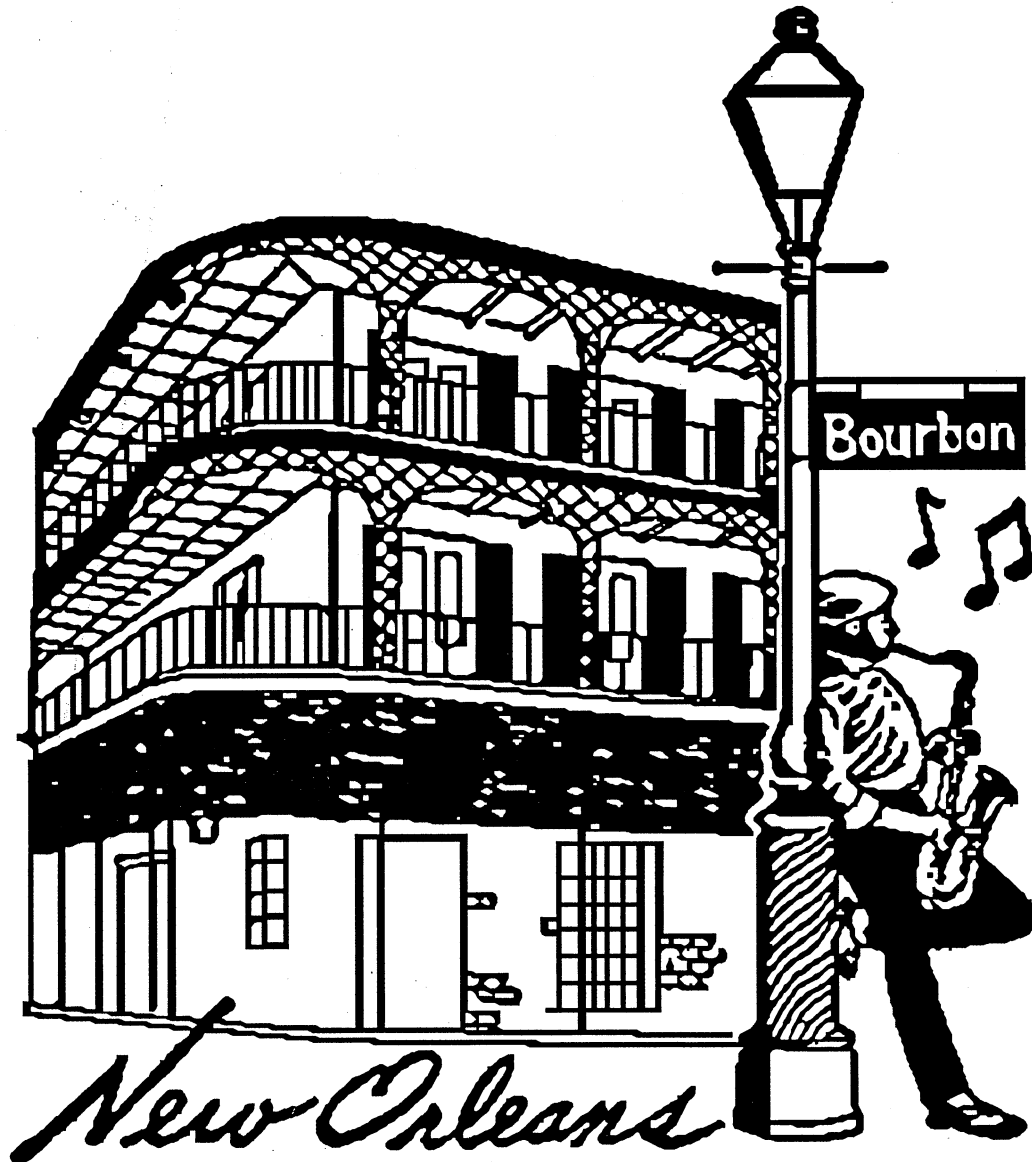


Advances in Consumer Research

Volume XVII



Marvin E. Goldberg
Gerald Gorn
Richard W. Pollay, Editors

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Preface

The research reported in this volume was first shared with the members of the Association for Consumer Research at their 17th Annual Conference, October 19-22, 1989 in New Orleans, Louisiana. This conference had record attendance, and a record number of submissions to the program, reflecting the continued growth of consumer research as a discipline.

The quality of the papers in this year's proceedings reflects both the discipline's development and the intensified competition to be on the program. Research papers became part of the program through one of two paths. They were either (1) proposed as a component part of a Special Session, or (2) submitted individually as a Competitive Paper. All competitive papers appear here, as revised by the authors following suggestions from the editors and the referees. Special Sessions are not as thoroughly represented in this proceedings volume, but participants and topics are listed, and Chairmen were encouraged to provide summaries in the absence of more complete documentation.

Proposals of both types were far more numerous than the available time would ever permit. For both competitive papers and special sessions, as a result, many interesting proposals, often by well known scholars, were rejected in deference to others that reviewers rated with even more enthusiasm. There was no "easy" way onto the program, as we could and did accept only about half of either type of proposal.

The papers included were accepted for the conference after a thorough peer review process involving another record number of participants. The Special Session proposals were each screened by one third of the program committee. All Competitive Papers were reviewed, with written comments and suggestions for revision, by as many as four referees. The reviewers were recruited by contacting those who had served in this capacity in recent years, except those already serving on the program committee or in other key ACR roles. To expand the number of referees, we also contacted those whose own work has appeared frequently in the previous three years' *Journal of Consumer Research* and/or *Advances in Consumer Research*. This involved a number of new people in the program's selection processes, especially younger scholars early in their careers, but already demonstrating research productivity and maturity.

We are, of course, grateful to a variety of people who helped us at various stages of the task of creating the program and this volume. Various ACR leaders provided advice and counsel generously whenever asked: Morris Holbrook recruited us and let us handle the job without being second guessed; Keith Hunt, as Executive Secretary, was our primary resource for mailing lists and many sundry organizational details, especially registration. This saved us from many headaches of management from another country (Canada) and the need for explanations to U.S. customs officials; Rich Lutz, *JCR* editor as well as a previous program chairman, helped us better understand the care and feeding of referees; Mike Houston, *JMR* editor and another previous program chairman, provided a variety of helpful suggestions along the way; and Jim Muncy coordinated and executed the production of this volume. Secretarial and administrative support was provided by Cynthia Ree (Vancouver - UBC) and Jean Hepworth (Montreal - McGill), who also supervised the many helping hands during peak efforts of receiving and mailing the multiple copies of the hundreds of manuscripts involved. Last, but far from least, we are grateful to each and every member of the program committee and the many reviewers listed on a separate page. They did their essential jobs conscientiously while still meeting our quick turnaround deadlines.

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ASSOCIATION FOR CONSUMER RESEARCH

ANNUAL CONFERENCE

**NEW ORLEANS MARRIOTT HOTEL
NEW ORLEANS, LOUISIANA
OCTOBER 19-22, 1989**

ACR PROGRAM

Conference Chairs:

**Marvin E. Goldberg
McGill University**

**Gerald J. Gorn/Richard W. Pollay
University of British Columbia**

THURSDAY, OCTOBER 19

REGISTRATION: 1:00 P.M. - 8:00 P.M.

10:00 A.M. - 5:00 P.M.	ACR EXECUTIVE BOARD MEETING	Balcony I (4th Floor, River Tower)
1:00 P.M. - 8:00 P.M.	REGISTRATION.....	Galerie Booth (2nd Floor)
6:00 P.M. - 8:00 P.M.	EARLY BIRD RECEPTION.....	Bissonet Room

FRIDAY, OCTOBER 20
REGISTRATION: 7:00 A.M. - 3:00 P.M.
1ST SESSION: 8:30 A.M. - 10:00 A.M.

1.1 Competitive Papers: *Qualitative Research and Its Evaluation*

Friday 8:30 A.M. - 10:00 A.M.....Galerie 1

Chair: Laurel A. Anderson, Arizona State University

"Regularities, Rules and Consumer Behavior: Tangencies Between Positivist and Interpretive Approaches to Research"
 Eileen Fischer, York University

"Eureka! and Other Tests of Significance: A New Look At Evaluating Interpretive Research"
 Craig J. Thompson, University of Tennessee

"Ritual, Ritualized Behavior, and Habit: Refinements and Extensions of the Consumption Ritual Construct"
 Mary A. Stanfield Tetreault, George Mason University
 Robert E. Kleine III, Arizona State University

"'To Everything There Is A Season:' A Photoessay of a Farmers' Market"
 Deborah D. Heisley, Northwestern University
 Mary Ann McGrath, Loyola University of Chicago
 John F. Sherry, Jr., Northwestern University

Discussant: Rebecca H. Holman, D'Arcy, Masius, Benton & Bowles Inc., New York

1.2 Special Session: *Psychophysiological Observations of Cognitive and Affective Processing*

Friday 8:30 A.M. - 10:00 A.M.....Galerie 2

Chair: Michael L. Rothschild, University of Wisconsin

"EEG as an Indicator of Micro Information Processing and a Predictor of Memory"
 Michael L. Rothschild, University of Wisconsin

"Physiological Indices of Communication Involvement and Attention to the Analysis of Broadcast Commercials"
 James E. Fletcher, University of Georgia
 John A. Shimell, Jr., Inner Responses Inc.

"Heart Rate as an Index of Attentional, Attitudinal and Memory Responses to Commercials"
 Esther Thorson, University of Wisconsin - Madison
 Brian Deith, University of Wisconsin - Madison

"Inferring Psychological Significance from Physiological Signals: A Theory of Psycho-Physiological Relationships"
 John T. Cacioppo, Ohio State University
 Louis G. Tassinary, University of Iowa

1.3 Special Session: *Imagery in Consumer Choice: Definitions, Predictions, and Measurement*

Friday 8:30 A.M. - 10:00 A.M.....Galerie 3

Co-Chairs: Deborah J. Mitchell, University of Pennsylvania
Richard L. Oliver, University of Pennsylvania
Thomas S. Robertson, University of Pennsylvania

"Imagery and Preference"
Paul Slovic, Decision Research

"An Exploratory Study of the Effect of Imagery on Expectations and Satisfaction"
Deborah J. MacInnis, University of Arizona
Linda L. Price, University of Colorado at Boulder

"Imaging/Analyzing Behavior and Choice"
Richard L. Oliver, University of Pennsylvania
Thomas S. Robertson, University of Pennsylvania
Deborah J. Mitchell, University of Pennsylvania

"Image Processing: Multiple Paths to Multiple Outcomes"
Julie A. Edell, Duke University

Discussants: John R. Rossiter, Australian Graduate School of Management
Susan E. Heckler, University of Michigan
Terry L. Childers, University of Minnesota

1.4 Special Session: *Pictures, Music and Humor: Stimulus Factors and Advertising Effectiveness*

Friday 8:30 A.M. - 10:00 A.M.....Galerie 4

Chair: Dipankar Chakravarti, University of Arizona

"Music as a "Peripheral Cue" in Advertising; Varying Dimensions and Influences on Ad and Brand Attitudes"
Deborah J. MacInnis, University of Arizona
C. Whan Park, University of Pittsburgh

"Humor in Advertising: Facilitation/Inhibition Effects on Memory for Brand Name and Message Claims"
Harishankar Krishanan, University of Arizona
Dipankar Chakravarti, University of Arizona

"Pictures and Words in Advertising: Memory and Selection Information Use in Consumer Choice"
Carolyn L. Costley, Texas A&M University
Merrie Brucks, University of North Carolina

1.5 Competitive Papers: Market Mavens and Opinion Leaders

Friday 8:30 A.M. - 10:00 A.M.....Balcony L
(4th Fl., River Tower)

Chair: Wesley J. Johnston, University of Southern California

"Generalization of the Market Maven's Information Provision Tendency Across Product Categories"
Mark E. Slama, Utah State University
Terrell G. Williams, California State University, Northridge

"An Assessment of the Moderating Effects of Market Mavenism and Value Consciousness On Price-Quality Perception Accuracy"
Donald R. Lichtenstein, University of Colorado
Scot Burton, Louisiana State University

"Opinion Leadership, Enduring Involvement and Characteristics of Opinion Leaders: A Moderating or Mediating Relationship?"
Meera P. Venkatraman, Boston University

Discussant: Robin A. Higie, University of Connecticut

1.6 Special Session: Service Encounters: Episodes & Entanglements Topic-of-Opportunity for the 1990's

Friday 8:30 A.M. - 10:00 A.M.....Galerie 6

Chair: Peter Wright, Stanford University

"Critical Service Encounter Events: Consumer and Employee Perspectives"
Mary Jo Bitner, Arizona State University

"Emotional Response to Service Encounters"
Marian Friestad, University of Oregon
Peter Wright, Stanford University

"From One Night Stands to Long-Term Relationships: Surrogate Consumers as Marketing Partners"
Michael Solomon, Rutgers University

"Service Encounter Research Opportunities: Views from Industry and Academia"
Peter Webb, Pacific Consulting Group

Discussant: Valerie Zeithaml, Duke University

<p style="text-align: center;">FRIDAY, OCTOBER 20 2ND SESSION: 10:30 A.M. - NOON</p>
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2.1 Special Session: To Be Or What To Be: Theoretical and Methodological Approaches to the Study of Metaphor in Advertising and Promotion

Friday 10:30 A.M. - NOONGalerie 1

Co-Chairs: Jacqueline C. Hitchon, University of Wisconsin - Madison
Peter A. Dacin, University of Wisconsin - Madison

"Examining the Effects of Metaphor in Advertising: A Categorization Based Approach"
Peter A. Dacin, University of Wisconsin - Madison

"Beauty and Joy in Metaphorical Advertising: The Poetic Dimension"
Barbara Stern, Rutgers University

"The Use of Sensory Metaphors in Product Evaluation"
Trudy Kehret-Ward, University of California - Berkeley

"Market Metaphors in Meeting Mates"
Mara B. Adelman, Northwestern University
Aaron Bernard, Northwestern University

"The Metaphor of the Exotic: A Textual Analysis of the Banana Republic Mail Order Catalog"
Elli Lester-Massman, University of Georgia - Athens

2.2 Special Session: *Implication of Variety Seeking: Understanding the Link Between Satiating and Choice*

Friday 10:30 A.M. - NOONGalerie 2

Chair: David Schmittlein, University of Pennsylvania

"Market Share Response When Consumers Seek Variety"
Fred M. Feinberg, Duke University
Barbara Kahn, UCLA
Leigh McAlister, University of Texas

"Satiating and Switching: The Dynamic Attribute Satiating Model Meets Observed Choice Patterns"
Emine Sarigollu, McGill University
David Schmittlein, University of Pennsylvania

"Variety Seeking at the Group Level"
Joel H. Steckel, New York University

Discussant: Leigh McAlister, University of Texas

2.3 Special Session: *Toward a Redefinition of "Attitude" in Consumer Research: Lessons From the Study of Attitude-Behavior Relations*

Friday 10:30 A.M. - NOONGalerie 3

Chair: Sharon Shavitt, University of Illinois

"Effects of Self-Reflection on Attitudes and Consumer Decisions"
Timothy D. Wilson, University of Virginia
Douglas J. Lisle, University of Virginia
Dolores Kraft, University of Virginia

"Attitudes and Behavior: The Cognitive-Affective Mismatch Hypothesis"
Abraham Tesser, University of Georgia
Murray Millar, University of Wisconsin - Parkside

"Effects of Attribute Salience on the Consistency of Product Evaluations and Purchase Predictions"
Sharon Shavitt, University of Illinois
Russell H. Fazio, Indiana University

Discussant: Mark P. Zanna, University of Waterloo

2.4 Special Session: Social Network Approaches to Linking Individual Action and Market Processes

Friday 10:30 A.M. - NOONGalerie 4

Chair: Harry L. Davis, University of Chicago

"Cognition and Social Behavior"

Peter Reingen, Arizona State University
James Ward, Arizona State University

"Information Characteristics and the Impact of Social Ties on the Flow of Information in Markets"

Jonathan K. Frenzen, University of Arizona
Kent Nakamoto, University of Arizona

"Agreements in Dyadic Interactions"

Dawn Iacobucci, Northwestern University

"Market Consequences of Social Processes Unleashed: The Case of the Home Party"

Jonathan K. Frenzen, University of Arizona
Harry L. Davis, University of Chicago

Discussant: Wayne Baker, University of Chicago

2.5. Competitive Papers: Brand and Product Perceptions

Friday 10:30 A.M. - NOONBalcony L
(4th Fl. River Tower)

Chair: David K. Tse, University of British Columbia

"Brand Categorization and Product Involvement"

Jacques E. Brisoux, Universite du Quebec a Trois-Rivieres
Emmanuel J. Cheron, Universite Laval

"In Search of Brand Image: A Foundations Analysis"

Dawn Dobni, University of Houston
George M. Zinkhan, University of Houston

"Consumer Evaluation of Franchise Extension Products: A Categorization Processing Perspective"

Cathy L. Hartman, University of Calgary
Linda L. Price, University of Colorado
Calvin P. Duncan, University of Colorado

"Brand Cognitions as Determinants of Brand Attitudes: The Influence of Measurement and Processing Involvement"

Randall L. Rose, University of South Carolina
Paul W. Miniard, The Ohio State University
Sunil Bhatla, Case Western Reserve University

"The Role of Tangible and Intangible Attributes in Similarity and Preference Judgments"

Roxanne Lefkoff-Hagius, University of North Carolina at Chapel Hill
Charlotte H. Mason, University of North Carolina at Chapel Hill

Discussant: James A. Muncy, Clemson University

2.6 Special Session: Political Effects of the Talking Lamp: Individual Processing of Political Advertising on Television

Friday 10:30 A.M. - NOONGalerie 6

Chair: Esther Thorson, University of Wisconsin - Madison

"The Information Processing of Televised Political Advertising: Using Theory to Maximize Recall"
Annie Lang, Washington State University
Patrick Lanfear, Washington State University

"The Role of Cognitive Schemata in Determining Candidate Characteristics Effects"
Gina M. Garramone, Michigan State University
Michael E. Steele, Michigan State University
Bruce E. Pinkleton, Michigan State University

"Political Commercials: Issue-Image Strategies, Attack vs Support Appeals, and the Impact of Music and Visual Background"
Esther Thorson, University of Wisconsin - Madison
William G. Christ, Trinity University
Clarke Caywood, Northwestern University

"Effects of Commercial Complexity, Party Affiliation, and Issue vs Image Strategies in Political Ads"
Joan Schleuder, University of Texas

Discussant: James Farwell, Fauchaux Farwell Associates

**FRIDAY, OCTOBER 20
NOON - 1:30 P.M.

Luncheon

Presidential Address
Morris Holbrook, Columbia
(Bissonet Room)**

**FRIDAY, OCTOBER 20
3RD SESSION: 1:45 P.M. - 3:15 P.M.**

3.1 Special Session: Cultural and Measurement Issues in the Study of Materialism

Friday 1:45 P.M. - 3:15 P.M.....Galerie 1

Chair: Marsha L. Richins, University of Massachusetts

"Isolating the Effect of Non-Economic Factors on the Development of a Consumer Culture: A Comparison of Materialism in the Netherlands and the United States"
Scott Dawson, Portland State University
Gary Bamossy, Vrije Universiteit

"German and Canadian Data on Motivations for Ownership: Was Pythagoras Right?"
Floyd W. Rudmin, Queens University

"Measuring and Comparing Materialism Cross-Culturally"
Guliz Ger, Bilkent University
Russell W. Belk, University of Utah

"Measuring Material Values: A Preliminary Report of Scale Development"
Marsha L. Richins, University of Massachusetts
Scott Dawson, Portland State University

Discussant: Melanie Wallendorf, University of Arizona

**3.2 Special Session: *Substantive Theory in Social and Consumer Judgments:
Implications for the Validity of Measurement***

Friday 1:45 P.M. - 5:15 P.M. (Double Session).....Galerie 2

Co-Chairs: Carolyn J. Simmons, University of Illinois - Urbana
Lauranne Buchanan, University of Illinois - Urbana

"Cognitive Models for Behavioral Frequency Survey Questions"
E. Marla Felcher, Northwestern University
Bobby J. Calder, Northwestern University

"Reducing Response Error in Consumers' Reports of Medical Expenses: Application of Cognitive Theory to the Consumer Expenditure Interview Survey"
Leslie A. Miller, Bureau of Labor Statistics
Theodore Downes-Le Guin, University of Michigan

"Cognitive Aspects of Proxy Reporting of Behavior"
Barbara A. Bickart, University of Illinois - Urbana
Johnny Blair, University of Illinois - Urbana
Geeta Menon, University of Illinois-Urbana
Seymour Sudman, University of Illinois - Urbana

"Informant Reports of Dependence: Can We Get the Real Story?"
Lauranne Buchanan, University of Illinois - Urbana

"The Disruptive Effects of Self-Reflection"
Timothy D. Wilson, University of Virginia
Dolores Kraft, University of Virginia
Douglas J. Lisle, University of Virginia

"The Influence of Survey Format on Judgment Processes: The Case of Ideals and Perceived Similarity"
Jack M. Feldman, Georgia Institute of Technology
Scott Wesley, Georgia Institute of Technology
Michael Hein, Georgia Institute of Technology
Ann Gilmore, Georgia Institute of Technology

"Response Modes in Market Research"
Scott A. Hawkins, University of Chicago
Stephen J. Hoch, University of Chicago

Discussant: John G. Lynch, Jr., University of Florida

**3.3 Special Session: *Emerging Theoretical and Methodological Issues in the
Study of AAd and AB***

Friday 1:45 P.M. - 3:15 P.M.Galerie 3

Chair: Timothy B. Heath, University of Pittsburgh

"Accessibility as a Determinant of A_{Ad}'s Mediating Role"

Douglas M. Stayman, University of Texas
David A. Aaker, University of California

"Moderating Influences on the A_{Ad}-A_B Relationship"

Marian C. Moore, Duke University
Julie A. Edell, Duke University

"Measuring and Modeling Brand Interest as an Alternative A_{Ad} Effect with Familiar Brands"

Karen A. Machleit, University of Cincinnati
Thomas J. Madden, University of South Carolina
Chris T. Allen, University of Cincinnati

"An Experimental Investigation of Ad and Brand Effects After a Single Ad Exposure"

Timothy B. Heath, University of Pittsburgh

3.4 Competitive Papers: *The ELM Model: Central and Peripheral Factors in Persuasion*

Friday 1:45 P.M. - 3:15 P.M. Galerie 4

Chair: Alan S. Dick, SUNY at Buffalo

"The Elaboration Likelihood Model (ELM): Replications, Extensions and Some Conflicting Findings"

Catherine Cole, University of Iowa
Richard Ettenson, University of Maryland
Suzanne Reinke, University of Iowa
Tracy Schrader, University of Iowa

"The Interaction of Peripheral Cues and Message Arguments On Cognitive Responses to an Advertisement"

Judith E. Hennessey, California State University, Northridge
Shirley C. Anderson, California State University, Northridge

"The Effect of Background and Ambient Color on Product Attitudes and Beliefs"

Susan E. Middlestadt, University of Illinois, Urbana-Champaign

"Effects of Odd-Even Price Endings on the Image Communicated by an Advertisement"

Robert M. Schindler, University of Chicago
Thomas Kibarian, Stanford University

Discussant: Daniel J. Howard, Southern Methodist University

3.5 Competitive Papers: *Incomplete Information and Prior Knowledge*

Friday 1:45 P.M. - 3:15 P.M. Balcony L
(4th Floor River Tower)

Chair: Siew Meng Leong, National University of Singapore

"The Effects of Missing Information on Decision Strategy Selection"

Sandra J. Burke, The University of Michigan

"Knowledge and Context Effects on Typicality and Attitude Judgments"

Cynthia D. Huffman, University of Minnesota
Barbara Loken, University of Minnesota
James Ward, Arizona State University

"Inferences about Missing Attributes: Contingencies Affecting the Use of Alternative Information Sources"

Carolyn J. Simmons, University of Illinois at Urbana-Champaign
Nancy H. Leonard, University of Illinois at Urbana-Champaign

"The Effects of Familiarity on Cognitive Maps"

Haim Mano, Washington University in St. Louis
Scott M. Davis, Washington University in St. Louis

Discussant: David W. Schumann, University of Tennessee

3.6 Special Session: *The Impact of AIDS on Society: Future Directions and Potential Consumer Reactions*

Friday 1:45 P.M. - 3:15 P.M.....Galerie 6

Co-Chairs: Ronald Paul Hill, Villanova University
Debra L. Stephens, University of Maryland

"Emotional Response to AIDS Messages: The Use of Fear Appeals"
Pat Stout, University of Texas - Austin

"AIDS and the Arts"
Ronald Paul Hill, Villanova University

"Increasing Condom Consumption: Ideas from Past & Current Research"
Debra L. Stephens, University of Maryland
Elizabeth Cooper-Martin, Georgetown University

Discussant: Meryl Gardner, University of Delaware

FRIDAY, OCTOBER 20
4TH SESSION: 3:45 P.M. - 5:15 P.M.

4.1 Competitive Papers: *Compulsion, Risk Taking and Regulation*

Friday 3:45 P.M. - 5:15 P.M.....Galerie 1

Chair: Russell Lacznik, University of Vermont

"An Exploratory Study of Lottery Playing, Gambling Addiction and Links to Compulsive Consumption"

Alvin C. Burns, Louisiana State University
Peter L. Gillett, University of Central Florida
Marc Rubinstein, University of Central Florida
James W. Gentry, University of Nebraska-Lincoln

"Compulsive Buying Tendencies of Adolescent Consumers"

Alain d'Astous, University of Sherbrooke
Julie Maltais, University of Sherbrooke
Caroline Roberge, University of Sherbrooke

"Risk-Taking Behavior: Protecting Consumers from Themselves"

Jef I. Richards, University of Texas at Austin

4.2 Special Session: *Substantive Theory in Social and Consumer Judgments: Implications for the Validity of Measurement*

Friday 3:45 P.M. - 5:15 P.M.....Galerie 2

(Double Session Continued)

4.3 Special Session: *Context Effects in Consumer Choice*

Friday 3:45 P.M. - 5:15 P.M.....Galerie 3

Co-Chairs: Rashi Glazer, University of California, Berkeley
Itamar Simonson, University of California - Berkeley

"Context Effects in Search"
Joel Huber, Duke University
Itamar Simonson, University of California - Berkeley
Eluise Coupey, Duke University

"Choice in Context"
Itamar Simonson, University of California - Berkeley
Amos Tversky, Stanford University

"Context Effects and Measurement Indeterminacy in Consumer Judgments"
Rashi Glazer, Columbia University
Morris Holbrook, Columbia University

4.4 Competitive Papers: *The Structure of Persuasive Messages: Positive and Negative Information*

Friday 3:45 P.M. - 5:15 P.M.....Galerie 4

Chair: Fleming Hansen, The Copenhagen School of Business Administration and Economics

"Conceptualizing Argument Quality via Argument Structure"
Gregory W. Boller, Memphis State University
John L. Swasy, American University
James M. Munch, University of Delaware

"Mediators of Message Sidedness Effects on Cognitive Structure for Involved and Uninvolved Audiences"
Manoj Hastak, The American University
Jong-Won Park, University of Illinois at Urbana-Champaign

"How Do Consumer Inferences Mediate the Effectiveness of Two-Sided Messages?"
Cornelia Pechmann, University of California, Irvine

"The Impact of Product-Related Announcements on Consumer Purchase Intentions"
Raymond R. Burke, Wharton School, University of Pennsylvania
Jaewun Cho, Arizona State University
Wayne S. DeSarbo, University of Michigan
Vijay Mahajan, Southern Methodist University

Discussant: Wendy Bryce, Western Washington University

4.5 Competitive Papers: Consumer Expertise in Search and Preference

Friday 3:45 P.M. - 5:15 P.M.....Balcony L
(4th Floor, River Tower)

Chair: Jolita Kisielius, University of Illinois - Chicago

"Consumer Expertise and the Feature-Positive Effect: Implications for Judgment and Inference"
Frank R. Kardes, University of Cincinnati
David M. Sanbonmatsu, University of Utah
Paul M. Herr, Indiana University

"The Effects of Expertise on Preference and Typicality in Investment Decision Making"
W. Steven Perkins, Penn State University
Valerie F. Reyna, University of Arizona

"Information Examination as a Function of Information Type and Dimension of Consumer Expertise:
Some Exploratory Findings"
Akshay R. Rao, University of Minnesota
Eric M. Olson, University of Minnesota

Discussant: John G. Myers, University of California, Berkeley

4.6 Special Session: Research, Teaching and Professional Issues for Women in Consumer Behavior: Do Women Have a Different Experience?

Friday 3:45 P.M. - 5:15 P.M.....Galerie 6

Co-Chairs: Valerie Folkes, University of Southern California
Henriette Sanft, University of Southern California

Panel: Elizabeth Hirschman, Rutgers University
Deborah Marlino, Simmons College
Mita Sujun, Pennsylvania State University
Alice Tybout, Northwestern University
Melanie Wallendorf, University of Arizona
Valerie Zeithaml, Duke University

SATURDAY, OCTOBER 21
5TH SESSION: 8:30 A.M. - 10:00 A.M.

5.1 Competitive Papers: Self Identity and Symbolic Consumption

Saturday 8:30 A.M. - 10:00 A.M.....Balcony I
(4th Fl., River Tower)

Chair: Timothy P. Meyer, University of Wisconsin

"The Meaning of Custom-Made Homes: Home as a Metaphor for Living"
C. B. Claiborne, Virginia Polytechnic Institute and State University
Julie L. Ozanne, Virginia Polytechnic Institute and State University

"T-Shirts as Wearable Diary: An Examination of Artifact Consumption and Garnering Related to Life Events"

T. Bettina Cornwell, Memphis State University

"A Conception of Consumer Identity"

Richard A. Feinberg, Purdue University
S.J. Yoon, Purdue University
Lori Westgate, Purdue University
Charles Trappey, Purdue University
Jodie Monger, Purdue University
Peter Smith, Louisiana State University, Shreveport
Dennis Raphael, Ministry of Education, Toronto

"Symbolic Interactionism: Some Implications for Consumer Self-Concept and Product Symbolism Research"

Dong H. Lee, Indiana University

Discussant: Robert F. Kelly, University of British Columbia

5.2 *Competitive Papers: Varying Approaches To Data Analysis*

Saturday 8:30 A.M. - 10:00 A.M.....Galerie 2

Chair: Allan D. Shocker, University of Minnesota

"How Regular is Regularity? An Empirical Test of the Regularity Assumption"

Thomas S. Gruca, University of Massachusetts

"Effects of the Mass Media News on Trends in the Consumption of Caffeine-Free Colas"

David P. Fan, University of Minnesota
Carol L. Shaffer, University of Minnesota

"A Structural Examination of Two Optimal Stimulation Level Measurement Models"

Russell G. Wahlers, Ball State University
Michael J. Etzel, University of Notre Dame

"Specifying Measurement Error in Structural Equation Models: Are Congeneric Measurement Models Appropriate?"

Joseph A. Cote, Washington State University
Robert Greenberg, Washington State University

Discussant: Stephen J. Arnold, Queen's University

5.3 *Special Session: New Directions in Research on Memory Based and Mixed Judgment*

Saturday 8:30 A.M. - 10:00 A.M.....Galerie 3

Co-Chairs: Manoj Hastak, The American University
John G. Lynch, University of Florida

"Competitive Advertising and Consumer Choice"

Raymond R. Burke, University of Pennsylvania
Hubert Gatignon, University of Pennsylvania

"Memory and Evaluation Effects in Competitive Advertising Environments"

Kevin Lane Keller, Stanford University

"Judgment Updating Strategies: Effects of New Information on Existing Product Evaluations"
Manoj Hastak, The American University

"On-Line Cognition in Consumer Memory and Judgment"
Thomas K. Srull, University of Illinois

5.4 Special Session: *The Role of Humor in Advertising*

Saturday 8:30 A.M. - 10:00 A.M.....Balcony J
(4th Floor, River Tower)

Chair: Amitava Chattopadhyay, McGill University

"Humorous Advertising: An Assessment of the Affect Transfer Hypothesis"
Thomas J. Madden, University of South Carolina

"The Importance of Humor Type in Humor-Dominant Commercials"
Paul Speck, University of Tennessee

"Humor in Advertising: The Moderating Role of Prior Brand Evaluation"
Amitava Chattopadhyay, McGill University
Kunal Basu, McGill University

"Repetition, Perceived Humor, and Wearout"
George M. Zinkhan, University of Houston
Betsy Gelb, University of Houston

Discussant: Calvin P. Duncan, University of Colorado

5.5 Competitive Papers: *Approaches to Understanding Information Processing*

Saturday 8:30 A.M. - 10:00 A.M.....Galerie 5

Chair: Anthony D. Cox, Indiana University

"Parallel Processing Models of Consumer Information Processing: Their Impact on Consumer Research Methods"
Dawne Martin, University of Calgary
Pamela Kiecker, Texas Tech University

"The Effect of Imagery Processing and Imagery Content on Behavioral Intentions"
Paula Fitzgerald Bone, West Virginia University
Pam Scholder Ellen, Georgia State University

"Style of Information Processing Differences in Relation to Products, Shopping, and Self-Consciousness"
Stephen J. Gould, Rutgers, The State University of New Jersey

Discussant: G. David Hughes, University of North Carolina

5.6 Special Session: *In The Name of Consumer Welfare: The Proposal to Ban Cigarette Advertising and Promotion*

Saturday 8:30 A.M. - NOON (Double Session).....Galerie 6

Chair: John E. Calfee, University of Maryland

"Tobacco in the Popular Press: 1925-60"
Gary T. Ford, The American University
Debra Jones Ringold, University of Baltimore
Martha Rogers, Bowling Green State University

"What Will Happen If Cigarette Advertising and Promotion are Banned?"
John E. Calfee, University of Maryland
Debra Jones Ringold, University of Baltimore

"The Regulation of Cigarette Promotion in the U.S.: Some Alternatives"
Edward T. Popper, Bryant College

"The Ban of Tobacco Products Advertising: The Canadian Experience"
Richard W. Pollay, University of British Columbia

Panel: Paul Bloom, University of North Carolina
Joel B. Cohen, University of Florida
Richard A. Daynard, Northeastern University
Harold H. Kassarian, UCLA
Joseph Mulholland, Federal Trade Commission
Judy P. Wilkenfeld, Federal Trade Commission
William Wilkie, University of Notre Dame

5.7 Competitive Papers: Information Processing Issues in Promotion and Sales

Saturday 8:30 A.M. - 10:00 A.M.....Balcony K
(4th Fl., River Tower)

Chair: Peter Bloch, University of Massachusetts

"The Effect of Framing on The Choice of Supermarket Coupons"
William D. Diamond, University of Massachusetts
Abhijit Sanyal, University of Massachusetts

"The Framing of Sales Promotions: An Approach to Classification"
William D. Diamond, University of Massachusetts
Robert R. Johnson, College of William and Mary

"Overestimating Salesperson Truthfulness: The Fundamental Attribution Error"
Robert Baer, Bradley University

Discussant: Harish Sujana, Pennsylvania State University

<p>SATURDAY, OCTOBER 21 6TH SESSION: 10:30 A.M. - NOON</p>
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6.1 Special Session: Holiday Rituals and Consumption

Saturday 10:30 A.M. - NOON.....Balcony I
(4th Floor, River Tower)

Chair: Eric J. Arnould, University of Arizona

"Thanksgiving Day Feasts: A Pictorial Analysis of Consumption"
Eric J. Arnould, University of Arizona
Melanie Wallendorf, University of Arizona

"Halloween: An Evolving American Consumption Ritual"
Russell W. Belk, University of Utah

"'Tis the Season to be Jolly?: Tensions and Trends in Christmas Shopping"
Eileen Fischer, York University

**6.2 Special Session: *The 1989 Household Consumption Behavior Research Forum
Toward Improving Household Consumption Behavior Research:
Avoidance of Pitfalls in Using Alternative Household Data
Collection Procedures***

Saturday 10:30 A.M. - NOON.....Galerie 2

Co-Chairs: Alvin C. Burns, Louisiana State University
James W. Gentry, University of Nebraska-Lincoln

"Methodological Problems in Survey and Experimental Research on Family Choice"
Kim P. Corfman, New York University

"Pitfalls in Obtaining Family Purchase Research Data"
Ellen R. Foxman, Washington State University
Patriya S. Tansuhaj, Washington State University

"A Simulation Game as a Family Research Paradigm"
James W. Gentry, University of Nebraska-Lincoln
Jeffery J. Stoltman, Wayne State University
Kevin R. Coulson, University of Nebraska-Lincoln

"Information Integration Theory Approach to Husband-Wife Decision Making"
James Shanteau, Kansas State University
C. Michael Troutman, Charles & Associates

"Longitudinal Methods for Family Consumer Research"
Alladi Venkatesh, University of California - Berkeley

Discussants: William J. Qualls, Massachusetts Institute of Technology
Michael D. Reilley, Montana State University

6.3 Special Session: *Message Framing Effects on Product Judgments*

Saturday 10:30 A.M. - NOON.....Galerie 3

Chair: Alice M. Tybout, Northwestern University

"Framing of Attribute Information in Product Descriptions"
Gary J. Gaeth, University of Iowa
Irwin P. Levin, University of Iowa
Susan Combs, University of Iowa

"Investigating Message Framing Effects on Consumer Judgments: The Influence of Personal
Relevance and Product Risk"
Joan Meyers-Levy, Northwestern University
Durairaj Maheswaran, New York University

"Individual Differences in Preferences for Numeric/Verbal Framing"
Nancy Artz, University of Southern Maine

"Exploring Temporal Perspective Framing Effects"
Carolyn Yoon, Duke University
Joan Meyers-Levy, Northwestern University
Alice M. Tybout, Northwestern University

Discussant: Christopher Puto, University of Arizona

6.4 Special Session: *Opportunities and Challenges in Empirical Research Using an Associative Learning Paradigm*

Saturday 10:30 A.M. - NOON.....Balcony J
(4th Floor, River Tower)

Chair: Chris T. Allen, University of Cincinnati

"The Effects of Music in Conditioning Brand Preference: Replication and Extension"
Kunal Basu, McGill University
Gerald J. Gorn, University of British Columbia
Marvin Goldberg, McGill University

"The Reinforcement Properties of Music Videos: I Want My ... I Want My ... MTV"
Basil G. Englis, Rutgers University

"Assessing the Impact of Cartoon Characters Using an Associative Learning Paradigm with Preschool Children"
Chris T. Allen, University of Cincinnati
M. Carole Macklin, University of Cincinnati

"Negative Conditioning of Attitudes: Implications for Consumer Research"
Elnora W. Stuart, Winthrop College
Terence A. Shimp, University of South Carolina

6.5 Competitive Papers: *Consumer Judgements: Primacy Effects, Attribute Uncertainty and Attribute Accessibility*

Saturday 10:30 A.M. - NOON.....Galerie 5

Co-Chairs: Tina Kiesler, University of Southern California
Michael A. Kamins, University of Southern California

"Order Effects in Consumer Judgment, Choice, and Memory: The Role of Initial Processing Goals"
Frank R. Kardes, University of Cincinnati
Paul M. Herr, Indiana University

"Selective Attention in Consumer Information Processing: The Role of Chronically Accessible Attributes"
S. Ratneshwar, University of Florida
David Glen Mick, University of Florida
Gail Reiting, University of Florida

"Multiattribute Judgments Under Uncertainty: A Conjoint Measurement Approach"
Amiya K. Basu, University of Illinois at Urbana-Champaign
Manoj Hastak, American University

"An Examination of the Effects of Attribute Order and Product Order Biases in Conjoint Analysis"
Michael Tharp, Kent State University
Lawrence Marks, Kent State University

Discussant: Wes Hutchinson, University of Florida

6.6 Special Session: *In The Name of Consumer Welfare: The Proposal to Ban Cigarette Advertising and Promotion*

Saturday 10:30 A.M. - NOON.....Galerie 6
(Double Session Continued)

6.7 Competitive Papers: *Affective States and Consumer Preferences and Decision-Making*

Saturday 10:30 A.M. - NOON.....Balcony K
(4th Fl., River Tower)

Chair: April M. Atwood, University of Washington

"The Power of Affective Reports in Predicting Satisfaction Judgments"
Laurette Dube-Rioux, University of Montreal

"Emotional States and Decision Making"
Haim Mano, Washington University in St. Louis

"Product Type: A Neglected Moderator of the Effects of Mood"
Meryl P. Gardner, University of Delaware
John E. Scott, University of Delaware

Discussant: Carl Obermiller, Seattle University

SATURDAY, OCTOBER 21
NOON - 1:30 P.M.
Luncheon
Business Meeting
Award Presentations
Salons D & E

SATURDAY, OCTOBER 21
7TH SESSION: 1:45 P.M. - 3:15 P.M.

7.1 Special Session: *The Forest or the Trees?: Perspectives on Product Complementarity*

Saturday 1:45 P.M. - 3:15 P.MBalcony I
(4th Floor, River Tower)

Chair: Michael R. Solomon, Rutgers University, New Brunswick

"Charting Consumption Constellations: A Role Theory Perspective on Product Complementarity"
Michael R. Solomon, Rutgers University, New Brunswick

"The Diderot Effect: Reflections on Why Goods Run in Packs"
Grant McCracken, University of Guelph

"Variety, Complementarity, and Similarity: An Investigation in the Context of the Performing Arts"
William J. Havlena, Rutgers University, Newark
Susan L. Holak, Rutgers University, Newark

Discussant: Morris B. Holbrook, Columbia University

7.2 Competitive Papers: *Improving Construct Measurements: Involvement, Knowledge and Values*

Saturday 1:45 P.M. - 3:15 P.M.Galerie 2

Chair: J. Michael Munson, Santa Clara University

"An Empirical Assessment of Multiple Operationalizations of Involvement"
Kapil Jain, University of Rhode Island
Narasimhan Srinivasan, University of Connecticut

"When Do The Measures of Knowledge Measure What We Think They are Measuring?"
Rajesh Kanwar, San Diego State University
Lorna Grund, San Diego State University
Jerry C. Olson, Pennsylvania State University

"Individual Differences in Value Stability: Are We Really Tapping True Values?"
L. J. Shrum, University of Illinois at Urbana-Champaign
John A. McCarty, University of Illinois at Urbana-Champaign
Tamara L. Loeffler, University of Illinois at Urbana-Champaign

Discussant: Judith L. Zaichkowsky, Simon Fraser University

7.3 Special Session: *Research Linking Advertising Exposure to Choice*

Saturday 1:45 P.M. - 3:15 P.M.Galerie 3

Chair: Andrew Mitchell, University of Toronto

"Ad Affect, Brand Attitude and Choice: The Moderating Roles of Delay and Involvement"
Amitava Chattopadhyay, McGill University
Prakash Nedungadi, University of Toronto

"Advertising and Consumer Choice: A Look at the Logic and Psychologic"
Tom Srull, University of Illinois

"The Relevance Accessibility Model of Advertising Effectiveness"
William Baker, Eric Erickson Advertising

"MADCAP: A Model Linking Advertising Exposure to Choice"
Ida Berger, University of Toronto
Andrew Mitchell, University of Toronto
Prakash Nedungadi, University of Toronto

**7.4 Special Session: *The Transformation of Transformational Advertising:
Research Extensions into the Realm of Drama, and Ad Effects
on Consumption Experience***

Saturday 1:45 P.M. - 3:15 P.M.Balcony J
(4th Fl., River Tower)

Chair: Jerry C. Olson, Pennsylvania State University

"The Vicissitudes of Product Experience: 'Songs of Our Consuming Selves' in Drama Ads"
Gregory W. Boller, Memphis State University

"Advertising Discourse Mode and the Teaching of Emotion"
John Deighton, University of Chicago
Stephen J. Hoch, University of Chicago

"Implementing the Concept of Transformational Advertising"
Douglas, M. Stayman, University of Texas - Austin
David A. Aaker, University of California - Berkeley

"The Transformational Process in Psychology: Implications for Advertising"
Christopher P. Puto, University of Michigan
George Julnes, University of Michigan
David Wooten, University of Michigan

Discussant: William D. Wells, DDB Needham Worldwide

7.5 Special Session: *Robert Ferber Awards Session*

Saturday 1:45 P.M. - 3:15 P.M.Galerie 5

Chair: Richard J. Lutz, Editor, Journal of Consumer Research

"Competitive Interference and Consumer Memory for Advertising"
Raymond Burke, University of Pennsylvania
Thomas K. Srull, University of Illinois

"Preconscious Processing Effects: The Independence of Attitude Formation and Conscious Thought"
Chris Janiszewski, University of Florida

"Spontaneous Inference Processes in Advertising: The Effects of Conclusion Omission and Involvement on Persuasion"
Frank R. Kardes, University of Cincinnati

**7.6 Special Session: *Knowledge Development in Consumer Behavior Research:
The Impact of ACR***

Saturday 1:45 P.M. - 3:15 P.M.Galerie 6

Chair: Jerry Zaltman, University of Pittsburgh

"A Citation Analysis of the ACR Proceedings: A Knowledge Development Perspective"
Jerry Zaltman, University of Pittsburgh
Marty Roth, Boston College
George Zinkhan, University of Houston
Mary Jane Saxton, University of Houston

"The History of ACR: A Presidential Perspective"
Susan Spiggle, University of Connecticut

"The Impact of ACR: The ACR Proceedings as a Formal Communication Network"
George Zinkhan, University of Houston

Discussant: Hal Kassarian, UCLA

7.7 Competitive Papers: Executional Aspects of Advertising

Saturday 1:45 P.M. - 3:15 P.M.Balcony K
(4th Fl., River Tower)

Chair: Ved Prakash, Morgan State University

"Metaphor In Promotional Communication: A Review of Research on Metaphor Comprehension and Quality"

James Ward, Arizona State University
William Gaidis, Marquette University

"An Introduction to Semantic Variables in Advertising Messages"

Karen A. Berger, Pace University
Robert F. Gilmore, The City University of New York

"Temporal Variations In The Evaluation Of Television Advertisements: The Role Of Key Nonverbal Cues"

Siva K. Balasubramanian, University of Iowa

Discussant: Edward F. McQuarrie, Santa Clara University

<p style="text-align: center;">SATURDAY, OCTOBER 21 8TH SESSION: 3:45 P.M. - 5:15 P.M.</p>
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8.1 Special Session: Innovative Insights on the Self and Extended Self in Consumer Behavior

Saturday 3:45 P.M. - 5:15 P.M.Balcony I
(4th Floor, River Tower)

Chair: David Mick, University of Florida

"The Role of Possessions in Constructing and Maintaining a Sense of Past"

Russell W. Belk, University of Utah

"The Animal 'Other': Self Definition, Social Identity, and Companion Animals"

Clinton R. Sanders, University of Connecticut

"To Me From Me: A Descriptive Phenomenology of Self-Gifts"

David Mick, University of Florida
Michelle DeMoss, University of Florida

Discussant: Michael Solomon, Rutgers University, New Brunswick

8.2 Special Session: The Impact on Subsequent Purchases of Buying a Brand on Deal

Saturday 3:45 P.M. - 5:15 P.M.Galerie 2

Chair: Joel Huber, Duke University

"The Impact of Deep Discounts and Price Emphasis on Brand Quality Perceptions and Full Price Loyalty"

Gwen Ortmeier, Harvard University
Joel Huber, Duke University

"Do Promotions Increase, Decrease or Have no Effect on Brand Repurchases? A Test of Three Rival Theories"

Gerald J. Tellis, University of Iowa

"The Long Run Effects of Promotions on Consumers' Brand Preferences and Promotion Sensitivities"

Pete Fader, University of Pennsylvania
James M. Lattin, Stanford University
Leigh McAlister, University of Texas

Discussant: J. Dennis Bender, Nielsen Marketing Research

8.3 Special Session: Consumer Choice Processes Under Ambiguity

Saturday 3:45 P.M. - 5:15 P.M.Galerie 3

Chair: Robert J. Meyer, University of California - Los Angeles

"Decision Making Under Risk, Ambiguity, and Ignorance: The Case of Insurance and Warranties"

Robin Hogarth, University of Chicago

"The Effects of Ambiguity on Strategic Marketing Decision Making"

William T. Ross, Jr., University of Pennsylvania

"Consumer Multiattribute Judgments Under Weight Uncertainty"

Barbara E. Kahn, University of California - Los Angeles
Robert J. Meyer, University of California - Los Angeles

Discussant: John Payne, Duke University

8.4 Competitive Papers: Gift Giving Behaviour

Saturday 3:45 P.M. - 5:15 P.M.Balcony J
(4th Fl., River Tower)

Chair: Eduardo G. Camargo, University of Southern California

"The Effect of Donor-Recipient Involvement on Consumer Gift Decisions"

Janet Wagner, University of Maryland
Richard Ettenson, University of Maryland
Sherri Verrier, University of Maryland

"Gift Giving: Consumer Motivation and the Gift Purchase Process"

Cathy Goodwin, University of Alaska
Kelly L. Smith, Georgia State University
Susan Spiggle, The University of Connecticut

"Motivations and Symbolism in Gift-Giving Behavior"

Mary Finley Wolfenbarger, University of California, Irvine

Discussant: Scott D. Roberts, Old Dominion University

8.5 Competitive Papers: Pricing: What's It Worth To You?

Saturday 3:45 P.M. - 5:15 P.M.Galerie 5

Co-Chairs: John J. Wheatley, University of Washington
Richard Yalch, University of Washington

"Choose Your Own Price: An Exploratory Study Requiring an Expanded View of Price's Functions"
Michael Lynn, University of Missouri - Columbia

"Assessing the Relationship Between Perceived and Objective Price-Quality: A Replication"
Scot Burton, Louisiana State University
Donald R. Lichtenstein, University of Colorado

"Tipping As A Consumer Behavior: A Qualitative Investigation"
John A. McCarty, University of Illinois at Urbana-Champaign
L. J. Shrum, University of Illinois at Urbana-Champaign
Tracey E. Conrad-Katz, University of Illinois at Urbana-Champaign
Zacho Kanne, University of Illinois at Urbana-Champaign

Discussant: Abe Biswas, Louisiana State University

8.6 Special Session: Meet JCR

Saturday 3:45 P.M. - 5:15 P.M.Galerie 6

Chair: Richard J. Lutz, Editor Journal of Consumer Research

"Overview of the Review Process at JCR"
Richard J. Lutz, University of Florida

"Perspectives on Reviewing Experimental Research, with Specific Reference to Hong and Wyer"
(September 1989 JCR)
Alice M. Tybout, Northwestern University

"Perspectives on Reviewing Ethnographic Research, with Specific Reference to Arnould" (September 1989 JCR)
John F. Sherry, Jr., Northwestern University

8.7 Competitive Papers: New Theoretical Perspectives on Consumer Behaviour

Saturday 3:45 P.M. - 5:15 P.M.Balcony K
(4th Fl., River Tower)

Chair: James J. Kellaris, University of Cincinnati

"Consumer Market Beliefs: A Review of the Literature and an Agenda for Future Research"
Calvin P. Duncan, University of Colorado-Boulder

"A New Perspective on Choice"
Kathleen M. Rassuli, Indiana-Purdue University at Fort Wayne
Gilbert D. Harrell, Michigan State University

"Capricious Consumption and the Social Brain Theory: Why Consumers Seem Purposive Even in the Absence of Purpose"
Joseph Cherian, University of Illinois - Chicago
Barbara Harris, University of Illinois - Chicago

Discussant: David W. Stewart, University of Southern California

SUNDAY, OCTOBER 22
9TH SESSION: 8:00 A.M. - 9:30 A.M.

9.1 Competitive Papers: *Situational and Individual Difference Variables in Advertising*

Sunday 8:00 A.M. - 9:30 A.M. Salon A

Co-Chairs: George Belch, San Diego State University
Michael Belch, San Diego State University

"The Effects of Situational and Intrinsic Sources of Personal Relevance on Brand Choice Intentions"
Simeon Chow, University of South Carolina
Richard L. Celsi, California State University, Long Beach
Robin Abel, University of South Carolina

"Effects of Individual Difference Variables on Responses to Factual and Evaluative Ads"
Meera P. Venkatraman, Boston University
Deborah Marlino, Simmons College
Frank R. Kardes, University of Cincinnati
Kimberly B. Sklar, Pugh-Roberts Associates, Cambridge

"Situational Product Relevance and Attitude Persistence"
Curtis P. Haugtvedt, Ohio State University
Alan J. Strathman, Ohio State University

9.2 Competitive Papers: *Measuring Advertising's Effects*

Sunday 8:00 A.M. - 9:30 A.M. Salon B

Chair: Peter J. DePaulo, University of Missouri at St. Louis

"Further Validation of the Consumer Susceptibility to Interpersonal Influence Scale"
William O. Bearden, University of South Carolina
Richard G. Netemeyer, Louisiana State University
Jesse E. Teel, University of South Carolina

"The Conceptual Organization of Behavior and Attitude-Behavior Consistency"
Mahmood M. Hajjat, The Ohio State University

"Constructing A More Difficult Recognition Test For Television Commercial Scenes"
Michael L. Rothschild, University of Wisconsin
Lisa Qualheim, University of Wisconsin
Brian Deith, University of Wisconsin
Yong J. Hyun, University of Wisconsin

Discussant: Ivan Ross, University of Minnesota

9.3 Special Session: *The Intensity of Emotional Response as an Antecedent of Behavioral Intentions*

Sunday 8:00 A.M. - 9:30 A.M. Salon C

Chair: David J. Moore, University of Michigan

"The Conative Component of Attitudes"
Rajeev Batra, University of Michigan

"Intense Negative Emotions as Positive Mediators of Attitudes and Behavioral Intentions"
Richard P. Bagozzi, University of Michigan
David J. Moore, University of Michigan

"Affect Intensity as an Individual Difference Variable in Consumer Response to Advertising Appeals"
William Harris, Ohio University
David J. Moore, University of Michigan

Discussant: Julie Edell, Duke University

9.4 Special Session: A Behavioral Approach to Consumers' Reactions to Delays

Sunday 8:00 A.M. - 9:30 A.M. Salon D

Co-Chairs: Laurette Dube-Rioux, University of Montreal
France Leclerc, Massachusetts Institute of Technology

"Temporal Discounting and the Aversiveness of Waiting"
George Loewenstein, University of Chicago

"Waiting for Service: Consumer Views of the Duration and Aversiveness of Waiting, and Resulting Impact on Specific and Global Service Evaluations"
Shirley Taylor, Queen's University

"Frames of Reference in Waiting"
France Leclerc, Massachusetts Institute of Technology
Bernd H. Schmitt, Columbia University
Laurette Dube-Rioux, University of Montreal

"Waiting for Phantom Products"
Peter H. Farquhar, Carnegie-Mellon University
Anthony R. Pratkanis, University of California, Santa Cruz
Subramanian Balachander, Carnegie-Mellon University

Discussant: Richard H. Thaler, Cornell University

9.5 Competitive Papers: Consumer Socialization and the Role of Children in the Marketplace

Sunday 8:00 A.M. - 9:30 A.M. Salon E

Co-Chairs: Katrin Harich, UCLA
Carol Pluzinski, New York University

"Consumer Socialization Research: Content Analysis of Post-1980 Studies, and Some Implications for Future Work"
Scott Ward, University of Pennsylvania
Donna Klees, University of Pennsylvania
Daniel B. Wackman, University of Minnesota

"An Investigation of Mothers' Communication Orientations and Patterns"
Les Carlson, University of Arkansas
Sanford Grossbart, University of Nebraska
Carolyn Tripp, University of Arkansas

"Children's Influence in Purchase Decisions: A Review and Critique"
Tamara F. Mangleburg, Virginia Tech

Discussant: Debbie Roedder John, University of Minnesota

9.6 Competitive Papers: Social Class and Ethnicity

Sunday 8:00 A.M. - 9:30 A.M.Salon F

Chair: John K. Wong, DePaul University

"Toward an Understanding of Social and World Systemic Processes in the Spread of Consumer Culture: An Anthropological Case Study"
Janeen A. Costa, University of Utah

"An Empirical Update and Extension of Patronage Behaviors Across the Social Class Hierarchy"
Scott Dawson, Portland State University
Bruce Stern, Portland State University
Tom Gillpatrick, Portland State University

"An Empirical Study of the Effects of Ethnicity on Consumption Patterns in a Bi-Cultural Environment"
Chankon Kim, Concordia University
Michel Laroche, Concordia University
Annamma Joy, Concordia University

Discussant: Alan R. Andreasen, California State University, Long Beach

<p>SUNDAY, OCTOBER 22 10TH SESSION: 9:30 A.M. - 11:00 A.M.</p>
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10.1 Special Session: Getting a Charge Out of Buying

Sunday 9:30 A.M. - 11:00 A.M.Salon A

Chair: Stephen Hoch, University of Chicago

"Findings and Speculations About Impulsive Buying"
Dennis W. Rook, Northwestern University

"Pure Impulse Buying and Consumer Self Control"
George F. Loewenstein, University of Chicago
Stephen J. Hoch, University of Chicago

"Factors Related to Intense Affect in Compulsive Buying"
Thomas C. O'Guinn, University of Illinois
Ronald J. Faber, University of Minnesota

"Consumption Styles of the Rich and Famous: The Semiology of Saul Steinberg and Malcolm Forbes"
Elizabeth C. Hirschman, Rutgers University

10.2 Special Session: *Defining, Measuring, and Extending Brand Equity*

Sunday 9:30 A.M. - 11:00 A.M..... Salon B

Co-Chairs: Peter H. Farquhar, Carnegie-Mellon University
Paul M. Herr, Indiana University

"Extending Brand Equity to New Categories"
Peter H. Farquhar, Carnegie-Mellon University
Paul M. Herr, Indiana University
Russell H. Fazio, Indiana University

"Uncovering Cognitive Associations Linked to Brand Extensions"
Deborah J. MacInnis, University of Arizona
Kent Nakamoto, University of Arizona

"The Effects of Sequential Brand Extensions"
David A. Aaker, University of California - Berkeley
Kevin L. Keller, Stanford University

"Toward an Equity Based Theory of Brand Extensions"
Arvind Rangaswamy, University of Pennsylvania
Raymond Burke, University of Pennsylvania
Terence Oliva, University of Pennsylvania

Discussants: Jordan Louviere, University of Alberta
Allan D. Shocker, University of Minnesota

10.3 Special Session: *New Directions in Need for Cognition Research*

Sunday 9:30 A.M. - 11:00 A.M..... Salon C

Chair: Douglas M. Stayman, University of Texas

"The Interacting Relationship Between Mood, Need for Cognition, and Argument Quality"
Rajeev Batra, University of Michigan
Douglas M. Stayman, University of Texas

"The Moderating Role of Need for Cognition on Consumer Choice"
Wayne D. Hoyer, University of Texas
J. Jeffrey Inman, University of Texas
Leigh McAlister, University of Texas

"Need for Cognition and Belief Change Resistance"
Curtis P. Haugtvedt, Ohio State University
Deepak Sirdeshmukh, Ohio State University

Discussant: John T. Cacioppo, Ohio State University

10.4 Competitive Papers: *Promotional and In-Store Issues with Services*

Sunday 9:30 A.M. - 11:00 A.M..... Salon D

Chair: Easwar Iyer, University of Massachusetts

"The Cognitive Representation of Services Varying in Concreteness and Specificity"
Laurette Dube-Rioux, University of Montreal
Dennis T. Regan, Cornell University
Bernd H. Schmitt, Columbia University

"Testing a Theory of Crowding in the Service Environment"
Michael K.M. Hui, Concordia University
John E.G. Bateson, The London Business School

"The Effect of Positioning on the Purchase Probability of Financial Services Among Women with Varying Sex-Role Identities"
Lynn J. Jaffe, Northeastern University

Discussant: Deborah Cowles, Virginia Commonwealth University

10.5 Competitive Papers: *Aging, Life Cycles and the Sociology of Time*

Sunday 9:30 A.M. - 11:00 A.M.....Salon E

Chair: Pamela Henderson, Carnegie-Mellon University

"The Antecedents of Cognitive Age"
Caroline Chua, Student, National University of Singapore
Joseph A. Cote, Washington State University
Siew Meng Leong, National University of Singapore

"Attitudinal and Leisure Activity Differences Across Modernized Household Life Cycle Categories"
William D. Danko, State University of New York
Charles M. Schaninger, State University of New York

"The Intensions and Extensions of the Time Concept: Contributions from a Sociological Perspective"
Carol J. Kaufman, Rutgers University
Paul M. Lane, Western Michigan University

Discussant: Elaine Sherman, Hofstra University

PRESIDENTIAL ADDRESS
**The Role of Lyricism in Research On Consumer Emotions: Skylark, Have
You Anything to Say to Me?**
Morris B. Holbrook, Columbia University¹

ABSTRACT

This paper examines the role of lyricism in research on consumer emotions. It associates lyricism with the songlike expression of feelings and suggests that, as the content of consumer research deals increasingly with emotional phenomena, its style must adapt accordingly. In this, our work must incorporate aspects of singing. Herein, it may depart from some traditional canons of science narrowly conceived, but may retain consistency with a broader conception of scholarship. Additional support for this point emerges from postmodern and feminist perspectives on the philosophy of science. Further, the paper itself illustrates the lyrical style and thereby exemplifies the phenomenon of which it speaks. In sum, it expresses the hope that consumer researchers may find a new voice so as to transcend some limitations of their conventional impoverished language by drawing on the force of lyricism in research on consumer emotions.

God guard me from those thoughts men think
In the mind alone;
He that sings a lasting song
Thinks in a marrow-bone
[W. B. Yeats (1935), "A Prayer for Old Age,"
Collected Poems, p. 281].

... Now my ladder's gone,
I must lie down where all the ladders start,
In the foul rag-and-bone shop of the heart
[W. B. Yeats (1936-1939), "The Circus
Animals' Desertion," *Collected Poems*, p.
336].

We know truth not only by reason but more
by the heart [Blaise Pascal, quoted by Scruton
(1981), p. 45].

The feelings expressed in music are incapable
of articulation, not because they are too
vague for words, but on the contrary because
they are too specific [Felix Mendelssohn,
quoted by Crutchfield (1987), p. 1].

the lyric poet...through the medium of the
emotions...has enabled us to glimpse
spiritual depths which until now were closed
and inaccessible to himself as well as to

us.... every great lyricist gives us knowledge
of a new feeling for the world. He shows us
life and reality in a form in which we feel we
have never known it before.... All this "is"
and "endures"; it discloses to us a *knowledge*
which cannot be grasped in abstract concepts,
which stands before us, nevertheless, as the
revelation of something new, something
never before known or familiar [Ernst
Cassirer (1961), *The Logic of the Humanities*,
p. 85].

Somewhere afield here something lies
In Earth's oblivious eyeless trust
That moved a poet to prophecies --
A pinch of unseen, unguarded dust:

The dust of the lark that Shelley heard,
And made immortal through times to be --
Though it only lived like another bird,
And knew not its immortality....

Go find it, faeries, go and find
That tiny pinch of priceless dust,
And bring a casket silver-lined,
And framed of gold that gems encrust;

And we will lay it safe therein,
And consecrate it to endless time;
For it inspired a bard to win
Ecstatic heights in thought and rime
[Thomas Hardy (1887), "Shelley's Skylark"].

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Today is a very *emotional* day for me. It is
also a very emotional day for *you*. And, indeed, it
is a very emotional day for *all consumers*
everywhere because emotion, I would argue, lies at
the heart of the consumption experience as an
inextricable part of the basic human condition. This
faith in the importance of emotional responses in
the lives of consumers has sustained me for a
number of years and has, I'm happy to say, begun to
win acceptance as a fairly conventional point of
view shared by others, too numerous to mention,
who are doing excellent work in this area of
investigation.

In short, it seems safe to say that,
collectively, we have now accepted emotion as an
important topic for study. The remaining questions
concern not whether but rather how to proceed when
conducting research on the emotional aspects of the
consumption experience. In this connection (to
preview briefly), I wish to argue that -- contrary to
our age-old devotion to a pseudo-scientific style of
writing -- our discourse on emotion must show more
feeling. We must, I believe, replace our typically
cold, impersonal, dispassionate, literal mode of

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communicating with warmer, more colorful, richer, and more metaphoric uses of language. In other words, when speaking about emotional consumption experiences, we must adopt a style more lyrical (by which I mean more expressive) than that to which we have grown accustomed.

This conviction accounts for the first part of my title -- namely, "The Role of Lyricism in Research on Consumer Emotions." But you may still wonder how to explain my subtitle -- "Skylark, Have You Anything to Say to Me?" That phrase refers, of course, to the first line of "Skylark," a wonderful old ballad written in 1941 by Hoagy Carmichael and Johnny Mercer, recently repopularized by such singers as Bette Midler and Linda Ronstadt, and characterized by Alec Wilder in his book on the *American Popular Song* (1972) by such adjectives as "superior," "remarkable, distinguished," and "extraordinary" (p. 383). Further -- reflecting the location of ACR's 1989 Conference in New Orleans, the birthplace of jazz -- "Skylark" has long been a favorite tune of jazz musicians. Indeed, I might best account for my subtitle by telling you a brief story about a jazz singer whom I once heard on a trip to the South.

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A few years ago, Sally, Chris, and I visited Charlotte, North Carolina, where our friends took us to a concert to hear a marvelous singer named Marlene Ver Planck, who commands a voice as pure and soft as mountain snow. As Marlene sang her first song, accompanied by the Loonis McGlohon Trio, I was in seventh heaven and only barely noticed a large white-haired lady who entered and sat down on the seat in front of me. Then the musicians began their version of "Skylark." After some slow, pensive chords from Loonis on the piano, Marlene stepped to the microphone, closed her eyes, tilted back her head, and sang: "Skylark..., have you anything to say to me?"

As she began this phrase, her words hit the air like bells ringing sweet and clear above the crowd. The concert hall fell as quiet as a church. And, in this reverent silence, the large white-haired lady on the seat in front of me let out a clearly audible gasp of appreciation -- "aaahhh."

After the intermission, Marlene began her second set by introducing a few old friends from Charlotte who were seated in the audience. She mentioned a couple of local celebrities whose names I no longer remember, and then she called on the great operatic soprano, Eileen Farrell. The spectators broke into a thunderous ovation. And the large white-haired lady on the seat in front of me stood up and took a bow.

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Clearly, what I had witnessed in that spontaneous gasp of appreciation was the immediate but deep emotional reaction of one great artist to another. My intimately shared view of Eileen Farrell admiring Marlene Ver Planck represents a facet of the consumption experience that usually occurs more privately. It represents a profound aesthetic response far deeper than anything that might be

characterized as simple hedonic pleasure. It represents a state of nearly spiritual ecstasy duplicated elsewhere only in elevated levels of exalted rapture or cosmic consciousness.

It also raises questions about how we can account for such transcendental consumption experiences. In the present case, I suspect that this magic resulted from the utter perfection in Marlene Ver Planck's rendering of Hoagy Carmichael's achingly beautiful tune and Johnny Mercer's poignantly tender lyrics. In short, I suspect that it resulted from a brief but nearly quintessential manifestation of what we might call *the power of lyricism*.

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For years, as a student of English, I wondered what people meant when they talked about "lyricism." What makes a lyrical poet "lyrical"? Why do we call the words to a song its "lyrics"? What is the connection of lyricism with the small stringed instrument, the little ancient harp, that we refer to as a "lyre"?

In Greek mythology, Hermes (the messenger of the gods who gave his name to hermeneutics or the theory of interpretation) received credit for inventing the lyre (a stringed instrument whose name provides the root for the word "lyrical"). The great musician Orpheus used his lyre to soothe the wild beasts, to move the rocks, to make the trees dance, and to stop the river of time. Thus, the book on *Greek Myths* by Robert Graves (1981) calls Orpheus "the most famous poet and musician who ever lived" (p. 44). A review by Andrew Porter (1988) sees Orpheus as the "embodiment of music's power over the emotions" (p. 106); points out that this has made him a favorite protagonist in operas by great composers ranging from Monteverdi and Gluck to Stravinsky to Hans Werner Henze and Lukas Foss; and concludes that

Orpheus, who demonstrated that song can override the stern rules of the physical world -- moving mountains, bringing the dead to life -- remains the musician's greatest hero (p. 111).

Indeed, in appreciation for these gifts, Apollo placed the lyre of Orpheus in heaven among the constellations of stars.

The lyre has lent its name to the lyrical form in poetry. According to Northrop Frye and his colleagues, "Lyrical poetry began in ancient Greece in connection with music, as poetry sung, for the most part, to the accompaniment of a lyre" (Frye et al. 1985, p. 268). In general, as suggested by M. H. Abrams (1988):

the term is now used for any fairly short, nonnarrative poem presenting a speaker who expresses a state of mind or a process of thought and feeling.... the lyric is uttered in the first person.... A lyric poem may be simply a brief expression of a mood or a state of feeling (pp. 97-98).

Thus, "the majority of lyrics consist of thoughts and feelings uttered in the first person" (Abrams 1953, p. 85).

A book entitled *The Idea of Lyric: Lyric Modes in Ancient and Modern Poetry* by W. R. Johnson (1982) emphasizes the first-person aspects of the classical (as opposed to the modern) lyric as found in the "pronomial patterning" of the "I-You poem" (p. 3) before its evolution in the direction of more meditative forms. Johnson argues that "when the lyric poet casts his poem in the first-person singular..., the integrity of lyric form and lyric impulse remains intact" (p. 149):

What is essential, then, to lyric is rhetoric, and essential to this lyrical rhetoric...is the pronomial form and lyric identity, the dynamic configuration of lyrical pronouns that defines and vitalizes the situation of lyrical discourse (p. 23).

This first-person discourse in "lyric poetry...about our feelings" (p. 13) lends itself to the creation of "lyric poems where emotions...are distilled to their richest purity" (p. 13):

The most usual mode in Greek lyric (probably) and in Latin lyric (certainly) was to address the poem (in Greek, the song) to another person or to other persons. What this typical lyric form points to is the conditions and the purposes of song: the presence of the singer before his audience; his re-creation of universal emotions in a specific context...; and, finally, the sharing, the interchange of these emotions by singer and audience (p. 4).

In the romantic tradition celebrated by M. H. Abrams in *The Mirror and the Lamp* (1953), the lyrical poem expresses "the spontaneous overflow of feeling" (p. 97):

Poetry is the expression or overflow of feeling, or emerges from a process of imagination in which feelings play the crucial part (p. 101).

Along similar lines, *The Logic of the Humanities* by Ernst Cassirer (1961) describes the lyric as follows:

Indeed, the lyric appears to be, of all the arts, the most fluid and fleeting.... If there is an attempt here to hold fast to anything, it is to change as such -- the coming and going, the emerging and the vanishing, the suggestion and tantalization of the subtlest stirrings of the soul, and the most transient of the sentiments.... For there are, after all, only a few great and fundamental themes to which lyric poetry may apply itself.... lyric poetry never leaves the sphere of human feelings....

Always lyric poetry resolves itself into the "natural forms of humanity" (pp. 209-210).

In *The Roots of Lyric*, Andrew Welsh (1978) acknowledges the Wordsworthian conviction that "poetic language arises from occasions of particular excitement and passion" (p. 3) and ties this poetic impulse to the *melos* (meaning song or music) of Aristotle (p. 135), the *melopoeia* (meaning musicality) of Ezra Pound (p. 15), and the *melos* (meaning the musical principle in verbal organization) of Northrop Frye (p. 18):

The melopoeia of song and the melopoeia of speech...recall...the lyre and the lute of the Greek Melic poets and the medieval troubadours as emblems of the lyric grace to be heard within (p. 195).

However, Welsh also emphasizes the magic, incantatory, enchanting charm by which lyrical discourse acquires the power to move:

The point is that charms are first and foremost concerned with power, with the use of magic words.... It is the sense of sacred formality, the *necessity* for the compelling, incantatory quality, that produces the rich webs of sound in charms. At the roots, the words of a charm are themselves magic actions...of words which move (p. 145).

In search for words which move, then, the language of magic sought out what became the melopoeia of charms, a special language of webs of sound and irregular rhythms different from the language used to communicate ordinary meanings.... The language of the charms is a language of power, and that power comes primarily...from other meanings hidden deep in the sounds and rhythms (p. 153).

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In sum, though a variety of different meanings have attached to the term, the adjective "lyrical" (with all its suggestions of emotive power) literally means "suitable for singing." Thus, it would be redundant to apply the term to a song itself because that is what the word denotes in the first place. Rather, we say that some other discourse is lyrical when we mean that it is *like* a song. In this sense, lyricism connotes songlike qualities associated with the sharing of personal feelings. Like some primordial urge that gives birth to singing and that (in the views of Vico and Rousseau) is perhaps associated with the origins of language itself, lyricism expresses emotion. In the song by Carmichael and Mercer, the primary emotion expressed concerns a deep yearning for romantic love.

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Skylark, have you anything to say to me?

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Won't you tell me where my love can be?
Is there a meadow in the mist,
Where someone's waiting to be kissed?

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I believe that such emotions -- as captured by the lyrical voice -- deserve a place in consumer research, in at least two senses. As already mentioned, the first sense involves the way in which consumption activities prompt emotional responses. Clearly, as consumers, we feel joy, sadness, anger, and fear. To paraphrase the words of "Just Friends" by Sam Lewis and John Klenner, we love, we laugh, we cry. In short, we knit the fabric of our consumption experiences around their emotional consequences, around our appreciative responses. In this, how we *act* as consumers in making purchase decisions becomes less important than how we *react* in the resulting emotions that move and stir our lived experiences. A valid body of consumer research must reflect this fact. It must reflect the importance of emotion in its *content* or *substance*.

This insight has won fairly wide acceptance in our discipline by now. But I would add that consumer research must also increasingly reflect the importance of emotion in its *form* or *style*. This second point on the matching of matter and manner is a bit more controversial and probably requires a few words of justification. Here, I refer to what I perceive as the need for more lyricism in consumer research -- the need to create a mode of communicating that sounds less matter of fact and more expressive, less humdrum and more songlike, less "scientific" and more "poetic."

*

Under the sway of our concern for scientific rigor, most of us engage in a rarefied, depersonalized, colorless, desiccated, rational, dreary, cold, and dispassionate sort of rhetoric. Indeed, for a long time, many thinkers have distinguished sharply between scientific and poetic forms of discourse. According to this distinction, the former conveys facts whereas the latter expresses feelings. Thus, a literary critic such as I. A. Richards (1926, 1935, ed. 1970) contrasted science (logical, factual) with poetry (emotional, feelingful). Linguists like Roman Jakobson (ed. 1976) have separated lyricism (emotive, songlike, first-person, metaphorical) from epic or narrative (referential, prosaic, third-person, metonymic). Semioticians have followed Charles Morris (1946) in emphasizing the difference between scientific discourse (designative-informative) and poetic discourse (appraisive-valuative):

the language of empirical science is adapted to expressing the truth and not the importance of its statements. Lyric poetry...uses terms...for...values and evaluations (p. 58).

Similarly, the early Roland Barthes (1964) pursued Hjelmslev's contrast between denotation and

connotation. More recently, Pierre Guiraud (1975) has distinguished the referential (logical, denotative, objective, scientific) from the emotive (aesthetic, connotative, subjective, artistic):

The two principal modes of semiological expression are the referential (objective, cognitive) function and the emotive (subjective, expressive) function. They stand in antithetical opposition to one another to such an extent that the notion of a "double function" of language can be extended to all modes of signification. In fact, *understanding* and *feeling*, mind and soul, constitute two poles of our experience and correspond to modes of perception which are not only opposed but are inversely proportional, so that one could define *emotion* as an incapacity to understand: love, pain, surprise, fear, etc., inhibit the intellect, which is incapable of comprehending what is happening (p. 9).

M. H. Abrams (1979) draws a related distinction between scientific and humanistic demonstrations:

A humanistic demonstration, unlike a scientific demonstration, is rarely such as to enforce the consent of all qualified observers. For it to carry the reader through its exposition to its conclusions requires some grounds for imaginative consent, some comparative ordering of values, some readiness of emotional response to the matters shown forth, which the reader must share with the author even before he begins to read; and these common grounds are no doubt in part temperamental, hence variable from reader to reader (p. 194).

Meanwhile, a psychologist like Jerome Bruner (1986) contrasts the paradigmatic with the narrative (p. 12) and scientific writing with the language of poetry (p. 22). Even the humanistically inclined sociologist Peter Berger (1963) suggests that one should not mix the scientific with the subjective but rather should keep them as meticulously separate as meat and milk in a kosher kitchen (p. 124). And, speaking of humanism, the self-proclaimed generalist C. P. Snow (1959, ed. 1964) once inflamed his colleagues by pointing to a rift between "the two cultures": the sciences and the humanities.

I suggest, then, that a basic dichotomy -- reference versus emotion, facts versus feelings, science versus poetry, logic versus lyric -- has won wide acceptance and informs the literary efforts of virtually every serious writer. Further, in our eagerness to achieve the status of scientists, most of us have learned to pursue the former and to shun the latter.

Yet we pay a price for this attempt to retreat into a coldly dispassionate form of discourse. Often, our gains in factual accuracy and freedom from

value-based biases are partially offset by an atmosphere of bland indifference that prompts many of our readers to wonder, in effect, "So what?" or "Who cares?"

We may be prepared to pay this price when we study such phenomena as brand choice or purchase decisions. But, when we come to phenomena related to consumers' emotions, we run the risk that our scientific rhetoric may actually falsify the phenomena we claim to illuminate. Even Charles Morris (1946) admits this danger:

Since scientific language is pre-eminently designative in mode and informative in use, the tendency is strong to place reliance upon scientific discourse and to avoid, or even derogate, the other types of discourse. In so far as such "scientism"...discourages the use of non-designative signs it is theoretically questionable and culturally dangerous (pp. 116-117).

Thus, the study of emotions seems to call for an expressive mode of discourse. Along these lines, in *The Logic of the Sciences and the Humanities*, F. S. C. Northrop (1947) notes the power of art to convey reality (pp. 173-186, passim); and, in *The Philosophy of Rhetoric*, I. A. Richards (1936) acknowledges the "mysterious power" of *exemplifying* what one describes (p. 121).

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That false attempts at scientific rigor and quantification in the realm of the emotions can do more harm than good appears clearly in Act I of Shakespeare's *King Lear* (ed. 1970). The king immediately establishes his affinity with consumer researchers by announcing that he has "a constant wish to publish" (I.i.43). However, what he wants to "publish" or to proclaim is a clarification of his daughters' dowries. And, toward that end, he asks the three girls to be precise in stating their feelings toward him in quantitative terms: "Which of you shall we say doth love us most/That we our largest bounty may extend" (I.i.51-52). The only true response comes from Cordelia, who recognizes that she *cannot* weigh and objectify her emotions in this manner and therefore vows to say "Nothing" (I.i.87-89): "Love, and be silent.... my love's/More ponderous than my tongue" (I.i.62 and I.i.77-78). Lear's cruel and foreboding response -- "Nothing will come of nothing" (I.i.90) -- fails to recognize the folly of reducing the emotions to the scientific mode of discourse and thereby lays a foundation for the tragedy that follows. Consumer researchers concerned with emotion might wonder whether we, in our quest for a dispassionate language of facts and numbers, might also rush headlong into the arms of tragedy.

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In a postmodern conception of science -- perhaps one drawing on something close to the post-Cartesian, antifoundationalist, arepresentational view (or *nonview*) of epistemology articulated by Richard Rorty in *Philosophy and the Mirror of*

Nature (1979) -- knowledge is socially constructed and depends on the consensus of people interacting in dialogues and discussions so that the community becomes the primary source of epistemic authority:

justification is not a matter of a special relation between ideas (or words) and objects, but of conversation, of social practice. Conversational justification, so to speak, is naturally holistic, whereas the notion of justification embedded in the epistemological tradition is reductive and atomistic.... The crucial premise of this argument is that we understand knowledge when we understand the social justification of belief, and thus have no need to view it as accuracy of representation.... So holism produces...a conception of philosophy which has nothing to do with the quest for certainty (pp. 170-171).

Via such conversations, we feel emotions. Those emotions must affect our work, whether we admit it or not. To deny this is to threaten our own humanity:

The fear of...scientism...is the fear that all discourse will become normal discourse.... This is frightening because it cuts off the possibility of something new under the sun, of human life as poetic rather than merely contemplative (pp. 388-389).

To try to write research reports devoid of emotion is to try to smuggle one's feelings past one's colleagues undetected. By contrast, those reports might more honestly reflect the emotional underpinnings from which they spring.

This need for research to carry the expression of its own emotional foundations becomes especially apparent when the focus of the study is emotion itself. In other words, if we want to write about love, about joy, about ecstatic moments of profound aesthetic rapture -- or alternatively about hate, about sadness, about anger verging on white-hot fury -- we may need to adopt a mode of discourse that lets the audience *feel* what we are saying. If we want to claim that emotions matter, we may need to *show* that they matter in the way we tell about them.

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Few philosophers of science (Rorty, perhaps, included) would readily agree with this argument. Those such as Hanson (1958), Koestler (1964), Bronowski (1965), or Brannigan (1981) -- who have much to say about the scientist's intuitive, playful, and creative but always socially embedded subjective personal introspections -- tend to see the researcher's own emotions as a mode of discovery rather than justification. In this quasi-Reichenbachian spirit, they consign emotions to the front end of a hypothetico-deductive process (where the propositions get formulated) rather than to the back end (where the results get reported).

To this, I have two responses.

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First, if we wish to resist the scientists and to avoid watching our discipline drained of its emotional fervor, perhaps we ought to re-examine our position. Here, in agreement with an article by Herbert Rotfeld entitled "Marketing Educators Must Become More 'Scholarly'" (1985), I believe that academicians owe an allegiance to their profession above and beyond that which they owe to science narrowly conceived. Specifically, they owe a paramount obligation to *scholarship*. The *sine qua non* for the academic profession is scholarship, not science. Perhaps, then, what we need in consumer research on emotions is not so much science as scholarly work that somehow manages to preserve the researcher's emotions and to keep them intact.

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Second, perhaps the conventional views of science are themselves wrong. Perhaps one cannot explain the world in a discourse stripped of its affective content. Perhaps we lose too much when we try to reduce our feelings to facts, our emotions to cognitions, our passions to thoughts.

Some of the more conventional perspectives on consumer research -- for example, the focus that uses rational choice models to represent purchase decisions -- demand a self-consciously logical and dispassionate approach. After all, in such a world view, we can state axioms, derive propositions through the application of logic, and test those hypotheses empirically. This degree of precision proves comforting to the scientist and scholar alike.

But, as we turn to an increased interest in the role of emotion in the consumption experience, we are encouraged to embrace a more qualitative, subjective, impressionistic, introspective, personal, metaphorical, anecdotal -- yes, a more lyrical -- approach to our topic. Further, as we deal more with emotional content, our manner of communicating will, as always, be more effective if it reflects the nature of our subject matter. And so, whether we like it or not, we may be forced to abandon the prosaic in favor of the poetic. We may be compelled to retreat, in part, from speech into song.

[With this awakening of lyricism, incidentally, we shall overcome our semi-official aversion to the self-designating pronouns (not to mention our fondness for what Barbara Stern calls the "deadly" passive voice and for lackluster "to be" verbs), and we shall speak more often in the first-person singular. Increasingly, the pronouns "we" and even "I" will replace "you" and "they." We shall witness a diminution of "he," "she," "it," and (mercifully) "s/he." Clearly, we must applaud any trend that removes "s/he" forever from our vocabulary.]

In arguing for a more lyrical style of communication in scientific consumer research on emotions, I might cite two potential sources of support -- the first from literary criticism, the second from the philosophy of science itself.

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First, as discussed by M. H. Abrams in *The Mirror and the Lamp* (1953), the neoclassical

literary critics (paragons of rationality) believed strongly in "the basic neo-classic unifying principle of decorum" (p. 290) that argued for "the traditional consideration of style from the point of view of its appropriateness to the subject matter" (p. 234) so as to require an "adjustment to the...matter signified, as well as the character and emotional state of the speaker depicted" (p. 290). This principle received its most famous epigrammatic articulation in Alexander Pope's apothegm from "An Essay on Criticism" (1711) urging that "The sound must seem an echo to the sense" (l. 365). In *The Rhetoric of Fiction*, Wayne Booth (1961, ed. 1983) invokes a comparable "process whereby substance and form, subject and treatment, matter and manner become fused" (p. 104). In this connection, Northrop Frye and his colleagues (1985) suggest that "the rhetorical device known as imitative harmony, or making the sound, in Pope's phrase, an echo to the sense, is most common in lyric" (p. 269). Not surprisingly, then, Andrew Welsh's *Roots of Lyric* (1978) makes much of Pope's prescription vis-a-vis the verbal dance or musical discourse that transpires in the most lyrical poetic moments:

Pope points to something that happens in the language of poetry, that sophisticated poets take the care to make happen and that readers of poetry have learned to admire. To say that sound echoes sense in a poem is to say that the poet has involved melopoeia with...logopoeia (p. 243).

More recent critics have sometimes referred to Pope's dictum and its various generalizations as "the fallacy of imitative form," which Christopher Lehmann-Haupt (1986) explains as "the error of, say, writing chaotic prose in order to convey a mood of chaos" (p. C21). However, Lehmann-Haupt admits that experts he consulted "reacted to my inquiries as if I were trying to sell them hand cranks for starting cars" (p. C21).

Adopting a less "cranky" posture, others have celebrated the wisdom of matching style to substance, form to content. For example, in a book edited by Berel Lang on *The Concept of Style*, Albert Hofstadter (1979) distinguishes among lyric, drama, and epic narrative; suggests that "the lyrical persona is directly engaged in an experience it is expressing" so that "the possibilities of emotional response...in the case of the lyric are directly embodied in the individual lyrical persona" (p. 74); and concludes that "the communicative differences" (between lyric, drama, and epic) "exist in order to express the cognitive differences, and at the same time their existence tends to generate and sustain the very possibility of such cognitive differences" (p. 76).

In short, a poet requires some conformability between substance (matter) and the style (manner) in which it is communicated so as to achieve a unity of purpose and structure, of content and form. In simpler terms, this emphasis on the matching of manner to matter appears to paraphrase a more

jargon-rich statement later in the same book by Monroe Beardsley (1979):

Distinguished, or especially admirable, style, on the other hand, consists in the harmonious adjustment of many concurrent and overlapping illocutionary actions, so that varied subordinate actions combine for richness in communication and intensity of pervasive style-quality (p. 163).

Thus, to repeat, our manner must echo our matter; our form must mirror its content; our style must convey our substance; our way of speaking must embody our message; our voice must articulate its theme.

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A second argument for a more lyrical style of communication in consumer research on emotions comes from some newer trends in the philosophy of science and its relation to the role of semiotics, hermeneutics, and rhetoric. For example, Umberto Eco's book on *The Theory of Semiotics* (1976) tears apart the positivistic referential theory of meaning that informed the work of I. A. Richards and argues for an inextricable chain of denotation and connotation in which one *cannot* in principle remove the latter. It follows that the only honest science acknowledges its own emotional and motivational bases:

Frequently to be really "scientific" means not pretending to be more "scientific" than the situation allows.... *Ceteris paribus*, I think that it is more "scientific" not to conceal my own motivations, so as to spare my readers any "scientific" delusions (p. 29).

This point recalls the perspective of Friedrich Nietzsche, who inveighed against the *possibility* of value-free, dispassionate discourse and loaded his own style with hyperbole to serve as a constant reminder of its basis in personal interpretation:

Nietzsche uses his changing genres and styles...to prevent his readers from overlooking the fact that his views necessarily originate with him. He depends on many styles in order to suggest that there is no single, neutral language in which his views, or any others, can ever be presented. His constant stylistic presence shows...that the very distinction between the content of a view and the manner in which that view is presented is to be seriously questioned (Nehamas 1985, p. 37).

According to Allan Megill's *Prophets of Extremity* (1985), Nietzsche called his *Birth of Tragedy* "music" and felt that it should be *sung* (p. 90). Similarly, according to Roger Norrington (himself a great conductor), Nietzsche also said that "all thought that does not dance is dead" (quoted by Stearns 1989, p. 106).

Though it does not explicitly mention Nietzsche, the influential work on *Personal Knowledge* by Michael Polanyi (1958) evinces a comparable distrust of objectivism and embraces the emotional -- indeed, the passionate -- bases of both discovery *and* justification. Thus, Polanyi (1958) starts by "rejecting the ideal of scientific detachment" and replacing it with "an alternative ideal of knowledge" based on "the *personal participation* of the knower in all acts of understanding" (p. vii) where "into every act of knowing there enters a passionate contribution of the person knowing what is being known" (p. viii):

We reach here the decisive issue of the theory of knowledge. Throughout this book I have persistently followed one single endeavour. I have tried to demonstrate that into every act of knowing there enters a tacit and passionate contribution of the person knowing what is being known, and that this coefficient is no mere imperfection, but a necessary component of all knowledge (p. 312).

In this view, motivated by "intellectual desire" (p. 128) or by intuitive "heuristic craving" (p. 130), discovery moves beyond tacit skills and inarticulate connoisseurship (p. 55) -- beyond ineffable Gestalts (p. 88) -- to achieve experiences of "ecstatic communion" (p. 7). Further, despite the prevailing conception of science based on "the disjunction of subjectivity and objectivity," justification or verification or demonstration requires "forms of persuasion which can induce a conversion" (p. 151) and, therefore, *does* entail "*persuasive* passion" (p. 159) or "passionate, personal, human appraisals of theories" in which "we cannot truly account for our acceptance of such theories without endorsing our acknowledgement of a beauty that exhilarates and a profundity that entrances us" (p. 15):

The affirmation of a great scientific theory is in part an expression of delight. The theory has an inarticulate component acclaiming its beauty.... This is the kind of feeling described in the title of this chapter as 'Intellectual Passions'.... A scientific theory which calls attention to its own beauty, and partly relies on it for claiming to represent empirical reality, is akin to a work of art.... More generally, science, by virtue of its passionate note, finds its place among the great systems of utterances which try to evoke and impose correct modes of feeling (p. 133).

Thus, Polanyi adopts a view of scientific knowledge as rooted in "a fiduciary framework" (p. 266) that readily accepts its own personal and emotional components:

personal knowledge in science...commits us, passionately and far beyond our comprehension, to a vision of reality. Of

this responsibility we cannot divest ourselves by setting up objective criteria of verifiability -- or falsifiability, or testability, or what you will.... Like love, to which it is akin, this commitment is a 'shirt of flame', blazing with passion and, also like love, consumed by devotion to a universal demand (p. 64).

In this view, then, science converges with art:

The decisive part which intellectual passions have been shown to play in the several domains of natural science, engineering, and mathematics, demonstrates the ubiquity of such participation.... The arts appear then no longer as contrasted but as immediately continuous with science.... There is present a personal component, inarticulate and passionate, which declares our standards of values, drives us to fulfill them and judges our performance by these self-set standards (p. 195).

Indeed, when at last he turns his attention to the *human* sciences, Polanyi proposes a principle that sounds very much like a transported version of literary decorum:

Facts about living things are more highly personal than the facts of the inanimate world. Moreover, as we ascend to higher manifestations of life, we have to exercise ever more personal faculties -- involving a more far-reaching participation of the knower -- in order to understand life.... as we proceed to survey the ascending stages of life, our subject matter will tend to include more and more of the very faculties on which we rely for understanding it. We realize then that what we observe about the capacities of living beings must be consonant with our reliance on the same kind of capacities for observing it (p. 347).

More recently, in *Consequences of Pragmatism*, Richard Rorty (1982) recalls the Nietzschean perspective on the mistake inherent in any hope for a neutral vocabulary (p. 193), inveighs against the fetish of filtering the subjective components from one's thoughts (p. 194), and adopts a quasi-Polanyian view in which social science approaches art:

What we hope for from social scientists is that they will act as interpreters for those with whom we are not sure how to talk. This is the same thing we hope for from our poets and dramatists and novelists (p. 202).

This point gains impetus, I believe, when coupled with the relativism of Paul Feyerabend's *Against Method* (1975), recently called forcefully to our attention by Paul Peter and Jerry Olson (1983) and

by Paul Anderson (1983). (Apparently, when dealing with relativism, it helps to be named Paul.) In their cleverly titled piece -- "Is Science Marketing?" -- Peter and Olson capture the essence of Feyerabend's (1975) argument that when theories become incommensurable (Ch. 17), the only possible grounds for the justification of theoretical preferences become "aesthetic judgements, judgements of taste" (p. 285) so that, in effect, "anything goes" (p. 296) and emotional propaganda becomes part of the scientific process (p. 154). In short, scientific justification rests not on proof but on persuasion. This persuasive task calls upon the use of rhetoric. Thus, in *Science in a Free Society*, Feyerabend (1982) calls upon the rhetorical use of emotions to supplement reason in scientific argumentation:

I also favour imagination and emotion but I don't want them to *replace* reason, I want them to *limit it*, and to *supplement it* (p. 189).

This argument from the need for justification to the role of persuasion to the power of rhetoric to the use of emotional appeals parallels such earlier articulations as J. S. Mill's insistence that "eloquence" uses "feelings" to affect "beliefs" (Abrams 1953, p. 321) and F. S. C. Northrop's (1947) contention that, used properly, poetry and art can *convey* scientific truth:

the art of the future will...take the new conception of the theoretic component of reality...and...convey this conception metaphorically...in terms of the vivid aesthetic materials given in immediate intuition. Then and not until then will there be poetry...which meets the emotional, moral, aesthetic and intellectual needs of contemporary men (p. 186).

It is ours...to start afresh with the immediacy of experience as it has forced the scientist to new and more adequate theory, and, in terms of this theory to make articulate a new philosophy joining the theoretic and aesthetic components of reality, thereby defining a new meaning for human existence and hence a new morality, which it will be the privilege of some Dante of the future to express metaphorically and embody aesthetically in the feelings and emotions of men (p. 189, italics removed).

As developed in a long line of tradition traced back at least as far as the Greeks and surveyed magisterially in Perelman and Olbrechts-Tyteca's *The New Rhetoric: A Treatise on Argumentation* (1958, ed. 1969), rhetoric is "the art of persuading and of convincing, the technique of deliberation and of discussion" (p. 5) and, as such, involves "the *discursive means* of obtaining the adherence of minds" via "the technique which uses language to

persuade and convince" (p. 8). Here, the focus of the authors "constitutes a *break with a concept of reason and reasoning due to Descartes*" (p. 1) and dwells instead on "the theory of argumentation" as "the study of the discursive techniques allowing us to induce or to increase the mind's adherence to the theses presented for its assent" (p. 4):

The goal of all argumentation...is to create or increase the adherence of minds to the theses presented for their assent (p. 45).

In seeking this "adherence of minds," the authors place a strongly customer-oriented emphasis on "the essential role played by the audience" (p. 7) and repeatedly call attention to this basic principle in the marketing of ideas:

There is only one rule in this matter: adaptation of the speech to the audience, whatever its nature (p. 25).

The central principle, in this connection, is always adaptation to the audience (p. 461).

The guiding consideration...should be the needs of adaptation to the audience (p. 508).

This orientation prepares the way for an almost scornful dismissal of scientific detachment:

The authors of scientific reports and similar papers often think that if they merely report certain experiments, mention certain facts, or enunciate a certain number of truths, this is enough of itself to automatically arouse the interest of their hearers or readers. This attitude rests on the illusion, widespread in certain rationalistic and scientific circles, that facts speak for themselves and make such an indelible imprint on any human mind that the latter is forced to give its adherence regardless of its inclination (p. 17).

In place of the scientific "illusion," Perelman and Olbrechts-Tyteca repeatedly argue (contra Ogden and Richards) that one *cannot*, in principle, separate descriptive from emotive meaning (p. 140) so that "the distinction between the emotive aspect and the descriptive aspect of a concept is questionable" (p. 447) and "if it is possible to discern...some statements that relate to facts, and others that relate to values, the distinction between these two forms of statement can never be clear cut" (p. 513):

Nothing could be more arbitrary than the distinction made in textbooks between factual, neutral, descriptive speech, and sentimental, emotive speech. These distinctions have the sole advantage of drawing the student's attention to the fact that value judgments are very obviously introduced into argumentation, but they are harmful in that they imply that there are ways of

expressing oneself that are per se descriptive, that there are speeches in which only facts, with their unquestionable objectivity, find place (p. 150).

Thus, one can never remove values from scientific discourse. Rather, "values enter, at some stage or other, into every argument" (p. 75):

In reasoning of a scientific nature, they are generally confined to the beginning of the formulation of the concepts and rules that constitute the system concerned and, insofar as the reasoning aims at the truth value, to the conclusion (p. 75).

From this, it follows that even scientific arguments will include such emotional elements as "illustrations...chosen for their affective impact" (p. 360) and "feelings of the speaker" that "serve as an indication of sincerity" (p. 456):

What is required in argumentation is not so much the exactness of specific logical modalities attributed to what is asserted, as the means of obtaining the adherence of the audience through variations in the way of expressing thought (p. 163).

The version of the "new rhetoric" advanced by Richard McKeon in *Thought, Action, and Passion* (1954) and in *Rhetoric: Essays in Invention and Discovery* (ed. 1987) pursues a similar point of view. McKeon (1987) defines rhetoric as "the art of persuasion and debate" (p. 108): "As an art of communication rhetoric has been designed to make use of all means of persuasion" (p. 109). According to the introductory comments by Mark Backman, "McKeon's most important contribution" was to oppose "the arbitrary separation of rhetoric from philosophy": "The divorce of rhetoric from philosophy, of expression from content, prevents the intellectual synthesis essential to resolving the persistent problems of being, thinking, and acting" (p. xi). Thus, McKeon (1954) argued that "science, and philosophy...rhetoric, ...poetry...are not distinct in the context or in the techniques from which they arise, and...to separate them is to be guilty of unwarranted dichotomies and abstractions" (p. 13). In the more recent collection of essays, McKeon (1987) suggests that "rhetoricians...today might make rhetoric an architectonic art which relates all things by means of science and the experiences of men" and adds that "we seek to produce it in concrete experience and existence by rejoicing reason and sense, cognition and emotion" (p. 13).

These viewpoints from "the new rhetoric" have exerted considerable influence in a variety of disciplines. For example, in literary criticism, compendious works such as Wayne Booth's *The Rhetoric of Fiction* (1961, ed. 1983) see rhetoric as "the art of communicating with readers" or "the effort to help the reader grasp the work" (p. xiii) so

that, again, a strong customer-oriented emphasis attaches to the role of the audience:

The ultimate problem in the rhetoric of fiction is, then, that of deciding for whom the author should write.... And nothing the writer does can be finally understood in isolation from his effort to make it all accessible to...his audience (pp. 396-397).

From this, it follows that one cannot choose *whether* but can only choose *how* to use rhetoric:

The author cannot choose whether to use rhetorical heightening. His only choice is of the kind of rhetoric he will use (p. 116).

the author cannot choose to avoid rhetoric; he can choose only the kind of rhetoric he will employ (p. 149).

Thus, "rhetorical inquiry is universally applicable" (p. 405); or, to put the same point somewhat differently, the author cannot choose to disappear. Rather, "the author's judgment is always present, always evident to anyone who knows how to look for it" (p. 20). In this sense, "neutrality is impossible" (p. 76), and the affective evaluations of an implied author always emerge: "The emotions and judgments of the implied author are...the very stuff out of which great fiction is made" (p. 86).

Even more relevant to our present focus, a systematic view of rhetoric as the art of persuasion (p. 46) and of scientific methodology as the art of rhetoric (p. 162) appears in Kenneth Burke's *A Rhetoric of Motives* (1969). More recently, in *Modern Dogma and the Rhetoric of Assent*, Wayne Booth (1974) has developed the relevance of what he calls "emotional proof" (p. 158) -- for example, the use of arguments in which "love constitutes a good reason" (p. 162). (Here, for brevity, I neglect some important related rhetorical devices such as the use of figurative language -- for example, metaphors and other kinds of tropes. For a short review, see Abrams 1988, pp. 64-68.)

Gradually, comparable viewpoints have shone on the philosophy of science. In *The Return to Cosmology*, for example, Stephen Toulmin (1982) distinguishes early between science and poetry but nevertheless gravitates toward a postmodern view of "the need to reinsert humanity into nature" (p. 210). Thus, Toulmin focuses on the Cartesian dichotomy between subject and object and on the resulting view of science as objective versus subjective (p. 241). He views this Cartesian objectivity as "an Idol" (p. 248), pronounces that "the scientist as spectator is dead" (p. 252), and moves toward a postmodern view based on the metaphor of being "at home in the world of nature" (p. 272) -- a metaphor that he illustrates with nothing less than a quote from T. S. Eliot's "Little Gidding" (1942, ed. 1962) in which "the rose" stands for contemplation and "the fire" represents passion:

We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time....
And all shall be well and
All manner of thing shall be well
When the tongues of flame are in-folded
Into the crowned knot of fire
And the fire and the rose are one (p. 145).

Thomas Nagel's *The View From Nowhere* (1986) pursues similar themes by expressing a concern for the absurdity of the Cartesian subject/object dichotomy (p. 220), by acknowledging the limits of objectivity (p. 87), and by seeking a possible harmony or resolution in an attitude that others have characterized as endemic to the realm of aesthetic experience:

Finally, there is an attitude which cuts through the opposition between transcendent universality and parochial self-absorption, and that is the attitude of nonegocentric respect for the particular. It is conspicuous as an element in aesthetic response, but it can be directed to all kinds of things, including aspects of one's own life. One can simply look hard at a ketchup bottle, and the question of significance from different standpoints will disappear.... the object engages us immediately and totally in a way that makes distinctions among points of view irrelevant.... such an attitude...toward the elements of everyday life...would require an immediacy of feeling and attention to what is present (pp. 222-223).

This possible mode of apprehending reality constitutes the essence of what Morris Berman (playing on Max Weber) calls *The Reenchantment of the World* (1981). Berman laments the divorce between scientists and poets and the consequent repudiation of emotion (p. 45), which he characterizes as the motto to "kill anything that moves" (p. 120). Drawing on analogies with alchemy, Berman envisions a dissolution of the subject-object dichotomy via a "participating consciousness" that merges subject and object, self and other, in a holistic worldview:

unless...participating consciousness can be restored in a way that is scientifically (or at least rationally) credible and not merely a relapse into naive animism, then what it means to be a human being will forever be lost (p. 132).

Thus, Berman hopes to overcome the Cartesian duality and to enter a world of "sensual or affective science" (p. 183) in which "eros is a fully articulated way of knowing the world" (p. 157), science is grounded in "the human experience of nature" (p. 187), and "the important thing is that affect and analysis not be differentiated" (p. 186).

Recently, we have experienced a comparable focus in the work by Russ Belk, Tom O'Guinn, John Sherry, Melanie Wallendorf, and others who describe evocatively and document carefully the role of deep meanings in possessions. [See, for example, the videotape by Wallendorf and Belk (1987), available from MSI.] In this view, a subject-object fusion enriches the psychic life of property via a consciousness of commodities that informs the essential character of the consumption experience. In profound aesthetic experience, I have argued, this fusion reaches the heights of ecstatic rapture when the subject-object dichotomy disappears (Holbrook 1980).

Other commentators have focused on similar phenomena. For example, in *Literature and Science*, the novelist Aldous Huxley (1963) describes the merger of the subjective and objective that results in *samadhi* and *satori* (p. 76). Jack Burnham (1973) points out that, in *The Raw and the Cooked*, anthropologist Claude Levi-Strauss set his chapter outlines to musical forms, thereby attempting "the reconciliation of poetry and science" (p. 16). Meanwhile, both Dudley Andrew (1984) and Jonathan Culler (1983) see Roland Barthes as progressing from the structuralism of, say, *Elements of Semiology* (1964) or *The Fashion System* (1967) to the anarchic hedonism of, say, *The Pleasure of the Text* (1973). Even as early as *Mythologies*, however, Barthes (1957) denied the Cartesian dichotomy:

I cannot countenance the traditional belief which postulates a natural dichotomy between the objectivity of the scientist and the subjectivity of the writer (p. 12).

An occasional social scientist has pursued a comparable line of thought. For example, the sociologist Richard Brown has argued persuasively for *A Poetic for Sociology* (1977). Among anthropologists, in work later collected under the title *Works and Lives: The Anthropologist as Author*, Clifford Geertz (1988) has moved some distance toward embracing the role of rhetoric at the core of scientific conviction wherein "the relation between the *ars intelligendi*, the art of understanding, and the *ars explicandi*, the art of presentation, is so intimate in anthropology as to render them at base inseparable" (p. 46). For Geertz, "ethnography...is a work of the imagination" (p. 140) that draws on rhetorical devices in a manner such that "the writing of ethnography involves telling stories, making pictures, concocting symbolism, and deploying tropes" (p. 140), all intended to produce conviction in the reader:

The ability of anthropologists to get us to take what they say seriously has less to do with either a factual look or an air of conceptual elegance than it has with their capacity to convince us that what they say is a result of their having actually

penetrated...another form of life, of having, one way or another, truly "been there." And that, persuading us that this offstage miracle has occurred, is where the writing comes in (pp. 4-5).

Influenced by this Geertzian perspective, Renato Rosaldo's essay in *The Rhetoric of the Human Sciences* (1987) calls attention to how the traditional distancing rhetoric of ethnography begins to sound like parody when applied to deep emotional experiences so that "reports cast in the normalizing ethnographic idiom trivialize the events they describe by reducing the force of intense emotions to spectacle" (p. 99). Countering this tendency to lose the phenomenon, Rosaldo proposes "a more personal, particularizing, experiential rhetoric" (p. 101).

Probably no social scientist has gone farther than Donald McCloskey in *The Rhetoric of Economics* (1985) in analyzing the scientific use of persuasive techniques. Calling on the work of Feyerabend, Booth, Polanyi, Toulmin, and Rorty -- among others -- McCloskey sees good rhetoric as enhancing the persuasiveness of the scientific "conversation" in its movement toward intersubjectivity (p. 27). Accordingly, his "Rhetoric of Economics" appears to have paved the way for a review of two books by Kenneth Boulding recently written by the Nobel Laureate Wassily Leontief for the *New York Times* (1986):

The indisputable success of Mr. Boulding's writing is probably to a considerable extent due to his truly magisterial style -- one is tempted to say, his rhetoric.... If the purpose of communication is to persuade, then oratorical discourse, which exploits to the full the emotional suggestiveness and occasional ambiguity of common language, should prove to be quite effective (p. 7).

Perhaps more than any other thinker (and sooner than most), Charles Davy captured the essence of the proposed rapprochement between science and lyrical poetics. In his book entitled *Towards a Third Culture*, Davy (1978) follows Vico and Rousseau when he suggests that the primeval languages, like those of primitive peoples still, were "more poetic" (symbolic) and "more song-like" (using variations in tone and pitch) than modern languages and that this form of expression "went with...a sense of immediate participation in...life and...nature which we have largely lost" (p. 50) so that we now find ourselves "strangers in a universe that has lost human meaning" (p. 51). Historically, "participating consciousness" has yielded to "onlooker consciousness" in which "thinking and feeling tend to fall apart" (p. 64). Aphoristically, "when imagination fails, the measurable becomes the measure of all things" (p. 71). Thus, Davy calls for a humanizing counter-current in the form of a new culture:

the third culture...will retain the particular virtues of the scientific outlook -- disciplined thinking, respect for facts, testing by experiment -- but it will use them differently.... it will be...also a religious and an artistic culture (p. 93).

Davy associates the "counter-current" of the third culture with "a humanizing influence" (p. 104) and a "new imagination" (p. 115) in which "the poet and the artist are...clairvoyant in the sense of perceiving more in the world than most of us do" (p. 116) in the way that lines of poetry "differ in meaning from a factual prose statement":

they operate differently on the mind. They bring about a temporary change in consciousness, so that something embodied in the lines -- not only in their verbal meaning but in their sound and rhythm and associated overtones and images -- is perceived (p. 135).

In short, Davy sees the progression from a participating consciousness to an onlooking consciousness as moving from an originally poetic language to a scientific discourse that has grown cold, lifeless, and empty. He envisions the birth of the "third culture" in terms that evoke the changing of the seasons:

the onlooker-consciousness...is a winter consciousness.... summer comes first: the time when nature is abundant and men in their activities and feelings go out into nature.... Evolution proceeded to autumn; the skies of consciousness darkened and men turned their thoughts to earth. We are now in winter.... We have come far from the dreamy moods of summer; our thinking is as clear and sharp as frost.... The winter experience has been indispensable; but the imagination of man has power to quicken the dry earth and bring in a new season (pp. 172-173).

*

The "new season" to which Davy tacitly refers, of course, is Spring. Here, Davy irresistibly evokes the words of another great prophet of imaginative experience, the poet Percy Bysshe Shelley, whose "Ode to the West Wind" (1820) asks what M. H. Abrams (1988) calls "the most famous rhetorical question in English" (p. 161): "If Winter comes, can Spring be far behind?" Shelley's ode implores the inspiring wind to "Make me thy lyre" (l. 57). In this, it reminds us of our "Skylark" and of Shelley's own poem, "To a Skylark" (1820). That lyric hails our bird as a "blithe Spirit" who "Pourest thy full heart/In profuse strains of unpremeditated art" (ll. 1-5). In turn, the second stanza of Carmichael and Mercer's song recalls Shelley's question to the West Wind:

O, Skylark, have you seen a valley green
with spring,
Where my heart can go a-journeying,
Over the shadows and the rain
To a blossom-covered lane?

*

This second stanza seems to celebrate a feminine point of view, concerned as it is with the fecundity and fertility of a green valley and a blossom-covered lane. And, in that, it reminds us by counterexample of how completely the field of consumer research has been dominated by the contrasting masculine orientation.

Lately, I have been reading some enlightening books that apply the perspective of feminism to the philosophy of science. For example, in her treatise on *The Flight to Objectivity*, Susan Bordo (1987) points out that our whole conventional scientific epistemology rests on a dualistic dichotomy between Self and Other. She argues that this dualism reflects a Cartesian mistrust of subjectivity that is essentially masculine in its psychological origins and that stems developmentally from the "wrenching tear" experienced in the male child's emotional separation from his mother (p. 57). In Bordo's terms, the resulting separation anxiety precipitates an anxious reaction against emotion or passion and a flight to objectivity (p. 76). This results in a masculinized psyche in which emotions become irrelevant: "Thus, the specter of infantile subjectivism is overcome by the possibility of a cool, impersonal, distanced cognitive relation to the world" (p. 99).

Bordo joins, however, in "the critical protest against the Cartesian notion that reason can and should be a 'pure' realm free from contamination by emotion, instinct, will, sentiment, and value" (p. 116). Here, she receives support from Evelyn Fox Keller's *Reflections on Gender and Science* (1985), which emphasizes that the feminine viewpoint (subjective, emotional, personal, nurturing) -- as opposed to the masculine viewpoint (objective, rational, impersonal, power-oriented) -- retains a sense of the union between mother and child and thereby permits a dissolution of the Cartesian dichotomy between subject and object (self and other), in the form of a subject-object merger. In this sense, for Keller, science "is a form of love" (p. 117) based on an empathy and intimacy in which "self and other, mind and nature survive not in mutual alienation...but in structural integrity" (p. 165).

Along similar lines, a recent book by Wendy Hollway entitled *Subjectivity and Method in Psychology: Gender, Meaning and Science* (1989) describes a masculinization of science in which "men...avoided the affective by producing it as a particularly feminine characteristic" so that "the affective was expunged simultaneously from scientific, rational and male thought" (p. 110). Hollway inveighs against what she calls "sexist regimes of truth" (p. 45) and proposes to replace these by "developing a method for interpreting texts

and working out a theory of meaning and subjectivity adequate to it" (p. 47). This method focuses on the subjectivity of meanings produced in the framework of interpersonal discourse (e.g., p. 67) -- that is, on a linguistic construction of subjective reality (p. 82) -- thereby drawing Hollway's attention to "intersubjective relations" in general and to "the part played by gender difference" in particular (p. 86). Here, she criticizes psychometric approaches to the study of androgyny (p. 99), attacks cognitive theories of sex-role stereotyping (p. 103), and proposes to replace these with a "feminist position...based on a recognition of, and celebration of, women's difference from men" (p. 105). This feminist position focuses on "women's experience" (p. 106) and on its implications for "gendered subjectivity" (p. 108). In this light, Hollway expands Keller's (and, implicitly, Bordo's) emphasis on separation anxiety and, even while recognizing the variability among people (p. 119), reaches a similar conclusion that "being a woman provides advantageous conditions for identification with the person or people participating in the research" (p. 127).

In the views of Bordo, Keller, and Hollway, the feminine aspect of science (recalling Paul Simon's "Mother and Child Reunion" and "Loves Me Like a Rock") speaks, as described by Carol Gilligan, *In a Different Voice* (1982). Gilligan characterizes feminine discourse in terms of its ability to sustain deep, caring interpersonal connections and to entertain tender, supportive feelings: "Thus women not only define themselves in a context of human relationship but also judge themselves in terms of their ability to care" (p. 17). In *Women's Ways of Knowing: The Development of Self, Voice, and Mind*, Mary Field Belenky and her colleagues (1986) point out the key importance of this metaphor for epistemological growth in which women are "gaining a voice" (p. 16). For them, this voice involves "connected" as opposed to "separate" knowing (p. 101). Connected knowing entails a trust in personal experience and a capacity for empathy (pp. 112-113). It aspires toward the "passionate" knowledge of "knowers who enter into a union with that which is to be known" (p. 141) and emerges, ultimately, in "the development of a more authentic voice" (p. 209).

According to Jean Baker Miller in *Toward a New Psychology of Women* (1976), this authentic feminine voice exerts a humanizing influence by "expressing the emotional and personal qualities that are inherent in all experience" (p. 25). Miller sees women, in comparison with men, as "trained to be involved with emotions and with the feelings occurring in the course of all activity" (p. 39). She also suggests that, as therapy, "men can also go on to enlarge their emotional experience" (p. 46). Indeed, if we (the scientists or the men) try to hang tough by denying this feminine voice, we can only succeed in falsifying the reality that confronts at least half the population -- namely, the reality described in such works as Jessie Bernard's *The Female World* (1981) and Anne Wilson Schaeff's

Women's Reality (1985). I would like to urge, therefore, that -- when the occasion calls for it, as I believe it does when we address the emotions -- both the women and the men who conduct consumer research must learn to think, to feel, and to write in a manner more feminine.

*

But I must also warn that such consumer researchers will inevitably encounter difficulties associated with the pioneering lyrical spirit and foretold in the "bridge" or B-section of "Skylark":

And, in your lonely flight,
Haven't you heard the music in the night --
Wonderful music --
Faint as the will-o'-the-wisp,
Crazy as a loon,
Sad as a gypsy serenading the moon?

*

The simple fact is that -- if you follow my advice, embark on a "lonely flight," and yield to the lyrical spirit when writing your next paper on consumer emotions -- the first reviewer will say that your logic is "faint as a will-o'-the-wisp"; the second will complain that your method is "crazy as a loon"; the third will charge that your results and conclusions are "sad (or even mad) as a gypsy serenading the moon"; and the editors will reject your manuscript (in agreement with the insuperable criticisms posed by the reviewers' many helpful comments).

This will happen, I fear, because -- as a discipline -- we have learned to deny the feminine aspects of our collective consciousness and to signal this denial by demonstrating or at least pretending that we do not care very much about each other's feelings. We adopt reviewing standards that reward authors' abilities to suppress their emotions. We excoriate any trace of self-revelation. If an occasional author dares to violate this norm, we punish this deviation by declaring the work "self-indulgent" (sometimes relying on such damning epithets as "paroxysms of self-expression"). In this, we imply that we do not care very much about each other or, ultimately, even about ourselves.

*

In short, if we were to view the discipline of consumer research metaphorically as a dwelling place in which we live, it appears (figuratively) that we have constructed a house in which there is no room for the researcher's emotions. This style of intellectual architecture violates an important principle that I believe I learned last summer.

This past June, as my friends who saw my scratched and splintered fingers can attest, I spent a good deal of time building bookcases in our apartment to accommodate my fairly large and rapidly growing collection of paperbacks and compact disks that I love dearly but that I had no place to keep. Later, I spent a happy month of July at U.B.C. in Vancouver as the guest of Rick Pollay and Carole Christopher. The moment I walked into their house, I was struck by its carefully planned use

of space. Rick is an eminent collector of relics from advertising (which he calls "advertiques") and has meticulously designed every square inch of his study at home and his office at school to store and display his collection. I felt in a profound way that Rick's example validated my own adventures in home improvement via the construction of bookshelves. And, after sensing this validation, I finally realized that it hinged on a very simple principle -- namely, that without a place to keep things that we cherish, things that move us, things that stir our emotions, things that add meaning to our lives, a house would be deeply flawed.

Yet, in consumer research, we have chosen to dwell (but perhaps not fully to live) in such a deeply flawed house -- a house with no place to put the things that matter most to many of us -- namely, a house with no room for our own feelings. Such a house may be, in the words of Graham Nash, "a very, very, very nice house." But such a house is not a home.

Apparently -- remembering the Skylark's warm, green valley and the need to build bookshelves to hold our deepest meanings -- in consumer research, we need Better Homes and Gardens. My inference, then, corresponds directly to the metaphorical content in the last stanza of Johnny Mercer's great lyrics:

Skylark, I don't know if you can find these things,
But my heart is riding on your wings;
So, if you see them anywhere,
Won't you lead me there;
O, Skylark, won't you lead me there.

In this almost prayerful conclusion, the lyricist asks for a place in which the heart can reside. Analogously, I ask for an annex to the grounds and for some new rooms with new windows and new views in the mansion where those who labor in the field of consumer research have erected their edifice. I ask for an open embrace by consumer researchers of the attempt in our work and our writings to express our emotions. I ask us, collectively, to abandon our mercilessly tough stance and to start caring profoundly about one another's deepest selves. I ask for this enlarged acceptance of poetic insights in consumer research because I believe that the lyrical resonance in which we converse will greatly facilitate our ability to interpret and to communicate the nature of the emotional phenomena that pervade the consumption experience.

Here, returning to Robert Graves and his *Greek Myths* (1981), one recalls the legend of Arion -- another great master of the lyre -- whose singing saved him from drowning in the deep when the "impassioned strains" of "his song...attracted a school of music loving dolphins, one of which took Arion on his back" and carried him to safety (p. 8).

We, too, need singing in *our* school. Perhaps only the lyricism of an impassioned song such as Arion's can rescue us from drowning in a sea of indifference.

I might illustrate what I regard as the restorative power of lyricism -- its saving grace -- with three examples drawn from music and, therefore, closely linked to singing. Here, the analogy between the scholarly activity of an academic and the creative activity of an artist becomes unmistakable. In both endeavors, I believe, lyricism may transform the mundane into the extraordinary and may encourage a transcendence from the pathetic to the exalted, from the ridiculous to the sublime.

Consider, first, the work of the great jazz saxophonist, Art Pepper. By the account found in his own autobiography -- ironically entitled *Straight Life* (1979) -- and by any reasonable standards of polite society, Pepper was for most of his life a complete scoundrel, obsessive profligate, unrepentant bum, and hardened criminal. He took drugs with reckless abandon, robbed filling stations, betrayed his friends, and spent most of his adult years in prison. Pepper was no gentle junky jazz musician -- like (say) Charlie Parker, who never hurt anyone but himself. By his own insistence, Pepper was a callous convict -- a self-proclaimed sociopath -- whose only concern for others boiled down to the fear of being caught.

Yet Pepper had one saving grace and that was his total honesty of self-expression -- found, for example, in his unfathomable ability to tell his own sordid story in the form of that amazingly candid autobiography. This honesty also permeated all his playing and revealed itself in a surprisingly lyrical temperament.

Art Pepper's alto style incorporated an almost excruciating lyricism, a vivid sense of immediate feelings and unconstrained emotions. In one of his most celebrated recordings, for example, he emerged from a drug-induced torpor, picked up a broken-down horn that he had not touched in months, and somehow blew chorus after chorus of inspired jazz melodies, wrenched not from a printed score but from the depths of his own tortured soul. In short, Art Pepper's lyrical gifts transformed this otherwise miserable creature into a poet and a prophet of emotional expression.

Paul Desmond, a second magnificent alto saxophonist, was the most lyrical player that jazz has ever known. He spun lilting musical phrases out of airy nothingness in a constantly inventive stream of sequences composed of repeated thematic ideas and their developing variations. I have enthused about Desmond's gifts elsewhere (Holbrook and Zirlin 1985) and will not repeat those effusions here, except to note the manner in which his lyricism appeared to elevate his spirit above the commonplace.

On one mournful day only a few weeks before his untimely death, in a recording made with Chet

Baker of "You Can't Go Home Again," Paul Desmond summoned all his waning strength, endured his pain, and blew one of his most beautiful solos just before collapsing from the burden of these over-exertions. His playing betrays no hint of his physical anguish. It is all tenderness, all delicacy, all lyricism. Thus does the lyrical gift raise one's spirits to heights otherwise unattainable. Thus does the force of lyricism lift one's powers of communication.

*

Interestingly, both Art Pepper and Paul Desmond recorded our emblematic song, "Skylark" -- Pepper on an early album in which he accompanied Hoagy Carmichael performing some of his own tunes, Desmond in one of his last recordings made just three years before he died. Pepper may have been uncomfortable with the unsympathetic character of Carmichael's labored singing style. For whatever reasons, his performance is dark and brooding, filled with rhythmic displacements and bent notes that suggest pain and doubt. By contrast, Desmond's rendition of this piece conjures up sweetness and light. He alters some of its chords and melody lines in ways characteristically Desmondian and toys effortlessly with melodic sequences in his typically playful pattern of implication, surprise, and reconciliation. Hence, even while Pepper's and Desmond's treatments of "Skylark" differ markedly in tone, both share an intense lyricism. Pepper sounds as if he is crying through his horn. Desmond sounds like smiling.

*

Similar stories could be told about the last concert of Sonny Stitt (who, ironically, was asked to fill in for the recently deceased Art Pepper) or about Charlie Parker's tantalizing solo on "Lover Man," which breaks off in mid-stream when the artist literally passes out and falls to the floor of the recording studio. All these evince the power of lyricism in the lives of musical geniuses. I shall end, however, on a third illustration intended to convey a somewhat more triumphant note -- namely, the achievement by the late Dinah Washington, often referred to as "the Queen."

Dinah Washington began as a gospel singer and carried the fervor of that style into her later work as a pop vocalist. Her energetic and feelingful recordings of such songs as "What a Difference a Day Made" completely mask what was for her an agonizing disability. Specifically, Dinah Washington stuttered, stuttered so badly that she could scarcely conduct a normal conversation. Hence, her ability to communicate via conventional means was severely limited. But, as often happens in cases of stuttering, her problem disappeared when she raised her voice in song. The stuttering stopped. Her lyrical gift conquered her verbal nemesis. And Dinah Washington sang like an angel.

*

As consumer researchers embarking on the study of emotion, we venture forth into a new and intellectually perilous area of inquiry. Like Art Pepper and Paul Desmond and Dinah Washington,

copied with the melodic and harmonic structure in a difficult piece of music, we face threatening risks and potential dangers. But -- also like Pepper, Desmond, and Washington -- we have the opportunity to express ourselves through the power of our lyrical gifts.

We have a choice. We can cultivate a bland form of scientific discourse that conveys little more than does a hopeless stammer. We can let our voices stammer and falter and gasp for words and have huge sighs of inarticulate helplessness. Or we can learn a lesson from Dinah Washington and the others. We can lift every voice and sing. We can let our feelings show. We can express our emotions and can welcome them in ourselves and in others for what they are -- namely, concomitants of the phenomena that we wish to understand. And, if we can follow the latter path, we may earn the contribution to be gained from the role of lyricism in research on consumer emotions.

*

The song by Carmichael and Mercer that I have been using as my text ends on what strikes me as a rather profound and even devout note in which the lyricist's heart rides on the Skylark's wings. So I, too, want to end by returning to my theme (concerning the heart) with which I began and by reminding you that today (like every day) is a very emotional day for all consumers everywhere -- and, therefore, a very emotional day for you -- and, especially, a very emotional day for me.

Perhaps, in conclusion, you might wonder what emotions I feel as I near the end of my story.

First, of course, a sense of relief that I have almost completed my task.

Second, a sense of hope that I may have encouraged us to show a little more care about one another's feelings and a little greater acceptance of each other's attempts at self-expression.

Third, a sense of pride in what we as a field of inquiry have already accomplished in the twenty short years since the first ACR conference met in Columbus during the Fall of 1969.

And fourth, abundant gratitude that leaves me full of thanks to many people. Thanks to Keith Hunt for his unswerving dedication as our Executive Secretary. Thanks to our Board of Directors -- Beth, Rich, Terry, Jack, Becky, Kent, Keith -- and the other Officers for their wise decisions. Thanks to Jerry Kernan for acting as our stalwart representative on the JCR Policy Board. Thanks to Peter Bloch and Jim Muncy for keeping our communications flowing. Thanks to Terry Shimp for his many labors of love. Thanks to Arch Woodside for his help with the local arrangements in New Orleans. Thanks to Marv Goldberg, Gerry Gorn, and Rick Pollay for serving so splendidly as chairpeople, for managing the 1989 conference with such expertise, and for putting together such a carefully designed program. Thanks to Beth Hirschman, Becky Holman, and Mike Solomon in anticipation of their efforts on our behalf next year in New York. And thanks, most of all, to all of you for listening to me express myself and for letting me be your President.

*

Skylark, I don't know if you can find these things,
 But my heart is riding on your wings;
 So, if you see them anywhere,
 Won't you lead me there.
 O, Skylark, won't you lead me there.

*

I would like to close with a reference to just one more popular song, one that I admired greatly as a youngster because some of my favorite jazz musicians used to play it -- namely, DeSylva, Brown, and Henderson's "Birth of the Blues." When I was growing up, I found the chord changes of this tune too hard to negotiate. But, since then, I have figured them out and have also noticed something else important about the song. Specifically, it seems to fuse the theme of my talk today with the location of this year's ACR conference. Thus, it again invokes the power of lyricism as represented by another singing bird (this time, a whippoorwill) and ties this bird's lyrical gift to the origins of jazz in the area around New Orleans:

From a whippoorwill,
 High on a hill,
 They took a new note;
 Pushed it through a horn
 'Til it was born
 Into a blue note.

And then they nursed it,
 Rehearsed it,
 And gave out the news
 That the Southland
 Gave birth to the blues.

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Regularities, Rules and Consumer Behavior: Tangencies Between Positivist and Interpretive Approaches to Research

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ABSTRACT

Positivist approaches to consumption behavior have as a goal the identification of regularities which have law-like, causal effect on the actions of individuals. Many interpretive approaches to studying consumption behavior have an analogous goal, the identification of rules, which are the tacitly understood norms and conventions underlying the behavior of individuals. Despite the profound disparities between positivist and interpretive science, the regularities/ rules which each seeks to identify constitute a point of tangency. This paper explores the relationship between positivist regularities and interpretive rules in consumer behavior and traces their implications for reconciling alternative routes to seeking knowledge.

Compelling arguments have been mounted regarding the need to consider interpretive approaches as alternatives or supplements to positivist approaches to studying consumption behavior (for instance Anderson 1986; Hudson and Ozanne 1988; Peter and Olson 1983). The challenge now facing consumer researchers is how to employ one or more research approaches in a manner of practical value for the development of the field. Hudson and Ozanne (1988) have identified four alternative strategies for coping with the diversity of research approaches. Specifically, they suggest: (1) a supremacy alternative, in which researchers attempt to resolve which scientific approach is best; (2) a synthesis alternative, in which researchers merge interpretive and positivist approaches, ignoring differing underlying assumptions; (3) a dialectic alternative, in which multiple research approaches are applied with an appreciation for their divergent philosophical foundations, but with an aim to utilize competing insights within a single analysis in the hope that an entirely new form of understanding may be generated; or (4) a relativistic alternative, in which the differing approaches are all considered acceptable so long as they are evaluated by the standards appropriate to the method of knowledge production.

Those who opt for pursuit of the latter two of these alternatives are faced with the question of how research premised on one philosophical foundation may usefully and appropriately be integrated with research from a different philosophical perspective. It is clear that those who follow the dialectic route inherently require some means for integrating the findings of divergent research streams, but it may be less evident why those who adopt the relativistic approach should share this concern. Unless relativistic researchers operating within one research tradition are content to ignore findings relevant to their topic but generated within an alternative tradition, however, they must consider how the

products generated by discrepant research approaches can be, in some sense, reconciled.

The objective of this paper is to explore one important way in which the foci of interpretive and positivist research are tangent, thereby suggesting a point of departure for researchers who attempt to draw on knowledge generated by divergent traditions. Specifically, the paper will examine the tangency between the causal regularities sought in positivist research and the hermeneutic rules sought in interpretive research. The benefits of recognizing these tangencies will be discussed. As well, limitations to the tangency between rules and regularities will be outlined. It is important to recognize that interpretive approaches are no more monolithic than positivist approaches: not all interpretive research can be said to seek interpretive rules, just as not all positivist research seeks causal regularities. Moreover, there are likely important and irreducible differences in the perspectives an interpretivist and a positivist will take on a seemingly identical phenomena: for instance, a fundamental difference in perspective occurs because interpretive researchers place much greater emphasis on the agency of actors whose behavior is studied. Given, however, that many forms of interpretive research (such as hermeneutic analysis, symbolic interactionism, and certain forms of phenomenological sociology and ethnomethodology) do generate insight into social rules, it is useful to seek tangencies between these research findings and the causal regularities which are sought in much positivist research. Even if the similarities between the perspectives taken on a phenomenon of interest is limited, it is useful to consider the nature and value of tangencies in alternative perspectives.

INCOMMENSURABILITY WITHOUT CONTRADICTION OR INCOMPARABILITY

Although the research traditions of positivism and interpretivism are incommensurable, they are not necessarily incomparable or contradictory. Tracing the implications of incommensurability, and showing that they do not include incomparability or inconsistency, will help to clarify the extent to which a rapprochement between positivism and interpretivism is possible.

The incommensurability of positivism and interpretivism stems from the differences in axiology, ontology and epistemology which characterize the two approaches. A positivist axiology entails a commitment to explanation and is based on an ontological belief that a single, multifaceted reality exists, coupled with an epistemological belief that distinct, separable facets of the one reality can be known. An interpretive axiology entails a commitment to understanding and

is based on an ontological belief that realities are mediated by the perception and comprehension of individuals, coupled with an epistemological belief that these realities can only be grasped partially, in both senses of the term (i.e. all understanding is incomplete and is conditioned by the researcher's own perspective (Packer 1985)).

Incommensurability of approaches means that "two groups of scientists see different things when they look at the same point and in the same direction" (Kuhn 1970, p. 150). That is, positivists and interpretivists may look upon the same phenomenon, but see different aspects of it. Further, they may construe the problem to be investigated in differing ways, and apply different standards to the evaluating research efforts (Bernstein 1985).

Incommensurability described in this way does not imply incompatibility. For positivist and interpretive research projects to be incompatible, the two projects would have to entail some logical contradiction. Such contradictions presuppose a shared framework of logic, a possibility upon which the incommensurability of positivism and interpretivism places severe constraints. While positivist and interpretive research programs may contain contradictions in some aspects, they are not totally contradictory simply because they are incommensurable.

In addition to being (at least partially) logically compatible, positivist and interpretive research projects may also be comparable. In fact, as Anderson (1986) demonstrates, incommensurable research programs can be compared on numerous bases. Although Anderson is contrasting incommensurable research programs that share a common cognitive aim and can all be labelled positivist, his approach is equally valid for comparing interpretive and positivist approaches. Such comparisons, it must be recognized, do not require a common, fixed grid of characteristics which is universally applicable: some comparison is possible even if one research program has characteristics without any analogue in another research program.

Comparisons between certain facets of positivist and interpretive research projects are not merely appropriate: they may also be useful. In particular, it is valuable to consider comparable -- though incommensurable -- components of positivist and interpretive research which have the potential to afford a practical linkage between projects grounded in the two research streams: the regularities sought in positivist research and the rules sought in interpretive research. Regularities and rules are analogous facets of positivism and interpretivism in that each represents the kind of knowledge sought under specific axiological commitments, as is explained below.

POSITIVIST REGULARITIES

Chief among the axiological commitments of positivism is a determination to explain causal regularities which are believed to underlie human

behavior. As described by contemporary philosophers of science, the form of argument used to assert causal regularities is characterized by the deductive-nomological model: if a number of conditions (C1, C2, etc.) are met, then any object (such as a person or system) that meets those conditions will have a certain property. That property is the outcome to be explained. For instance, consider the causal regularity posited in the relationship between a gift giver's ideal self concept and the type of gift chosen (Belk 1979). Given the task of choosing gifts for other people (the condition), gift-givers (the objects), choose gifts reflecting their own ideal self image more than their actual self image or their perceptions of the recipient (the outcome).

In positivist social science, perfect regularity is rarely if ever considered necessary for causal generalizations to be made. Probabilistic statements suffice as approximations of universal law-like statements in most instances. That is, causal regularities are often considered to exist in instances where the regularities do not hold in every instance, but do hold considerably more often than not. Causal regularities, then, may be loose regularities, but nonetheless be considered both causal and regular (Braybrooke 1987).

In some instances, casual regularities in social science may also be transitory. That is, regularities may not extend over time, or between cultures. For instance, while much research has documented as a regularity that women are more "communally" oriented and men are more "agentically" oriented (Bem 1974; Spence and Helmreich 1978), it is anticipated that it will become increasingly common for women and men to exhibit more equal degrees of communal and agentic orientations -- that is, for women and men to be relatively androgynous (see, for example, Rossi 1984). One way of explaining why a regularity may be transitory is to argue that the regularity was premised on conditions including the specific times and/or places in which the regularity was detected; the other option is to treat causal regularities as genuine even if transitory (Braybrooke 1987). The point is that positivist regularities in social science need not be immutable to qualify as causal explanations of practical value.

One other important characteristic of causal regularities is that they may express laws that apply at the individual or group level. The examples cited above refer to regularities which apply at the individual level. Consider, for example, studies of discord or unity in household purchasing decisions (such as Qualls 1987). In such studies, regularities detected in decision making patterns may be postulated to depend partially on individual differences in gender role attitudes, but they apply at the level of the couple: they cannot be construed merely as a conjunction of regularities governing individuals.

TANGENCIES BETWEEN REGULARITIES AND RULES

In contrast with the axiological commitment of positivism to explaining causal regularities is the axiological commitment of interpretivism to understanding settled social rules. Social rules may be tacitly understood or explicitly stated, but are generally amenable to verbal expressions containing a descriptive "is" or a prescriptive "ought" implication. For instance, a settled social rule detected by Caplow (1984) amongst residents of Middletown in the late 1970's was that Christmas gifts between spouses should be more valuable than any other gifts given by husband or wife, but that the husband's gift to the wife may be more expensive than the wife's to the husband (p. 1313). While Caplow explicitly uses the term "rules" to refer to his findings, it should be noted that many interpretive researchers do not. Other labels, such as "norms," "patterns," or "conventions," are common in the methodological discussions of interpretive approaches. Nonetheless, many types of interpretive research seek similar "rule-like" findings.

Ryan and Bristor (1987), following von Wright's (1971) arguments, stress that there is a symbiotic relationship between causal regularities and interpretive rules because the forms of arguments offered in support of regularities and of rules are essentially similar. They characterize the form of reasoning followed in interpretive research as a "practical syllogism," which consists of a major premise that entails some end or goal the actor has, a minor premise that is the rule or relationship comprehended by the actor as a means to that end, and a conclusion which suggests that since the actor apprehends the relationship between certain actions and specific goals or ends, the individual forms the intention to perform the action. For instance, the major premise in the example above might be that the actor wishes not to threaten the integrity of the spousal relationship. The minor premise would be the rule understood regarding the scaling of monetary expenditure to the closeness of the relationship. The conclusion would be that the actor spends more on the spouse's gift than on that for any other recipient.

The similarity between the practical syllogism of interpretive research and the deductive-nomological model of positivist research is so striking that Ryan and Bristor assert "the practical syllogism makes contact with the reasoning procedures already employed by the scientific model and is methodologically continuous with it" (p. 193). Indeed, the similarity between the logic underlying positivist regularities and the reasoning underlying interpretive rules is striking. The tangencies between rules and regularities, however, extend well beyond the logic which informs the two approaches. Other important ways in which causal regularities are tangent to interpretive rules can be gleaned from further comparison between the two.

Interpretive rules, like causal regularities, may be argued to exist despite the fact that there is

not perfect regularity or consistency observed in behaviors posited to be affected. One condition for ascribing a settled social rule to a given social unit is that, for the most part, individuals in the unit conform to the rule. However, rules may exist without widespread evidence of conformity since agents may attempt unsuccessfully to conform to social rules (Giddens 1984): for instance, the gift giving rule cited above would not be invalidated by observations that gifts were not exchanged between spouses in some families because of income constraints. Further, a rule may exist even when there are intentional lapses in conformity: evidence of the existence and persistence of a rule arises when instances of non-conformity are decried and instances of conformity rewarded. So, for instance, if an individual gave a friend of the opposite sex a gift more expensive than that given to a spouse, the persistence of the gift giving rule would be revealed by reactions of indignation on the part of the spouse.

As is true of causal regularities, interpretive rules may also be transitory over time or across geographic regions. It is a basic tenet of the philosophy underlying interpretivism that rules exist primarily as they are comprehended by actors, (though settled social rules may be codified into societal laws), and that these rules may or may not be shared by other individuals or groups. Rules are expected to vary across time and across groups, just as the laws reflecting settled social rules of one society at one point in time differ from the laws of the same society at other points in time, or from the laws of other societies. One reason rules might be transitory is that actors may come to conscious awareness of rules which underlie their behavior and choose to reject the rules or replace them. While interpretive philosophers argue about whether (or how much) conscious intention must be associated with actions presumed to be conditioned by rules, they recognize that actors may be conscious of rules, and have considerable potential for voluntary control over their rule-following behavior (Giddens 1984).

A final important similarity between positivist regularities and interpretive rules is that both may be posited to exist as either "person facts" or "group facts." While an interpretive finding may apply to the actions of individuals, it has the status of a group fact if the individual is likely to be sanctioned by other social actors for failure to follow a rule or rewarded by some reciprocal action for conformity in following the rule. Many of the rules with which interpretivists are concerned (such as the gift giving rule cited above) pertain to group facts since scientific interest often centres on understanding behaviors which are characteristic of more than one individual. Interpretive studies in marketing are particularly likely to focus on group facts because exchanges are focal behaviors, and exchanges characteristically involve understandings shared by more than one social actor.

Although settled social rules which illuminate group facts are arguably of greatest interest to

interpretivists, person facts may also be important. Biographies of important historical figures or case studies of individuals considered aberrant by society can offer insights into a particular individual's unique understanding of social rules. These types of interpretive research can illustrate how unusual or unacceptable behaviors, premised on rules not shared by a broader society, may affect or reflect on more widely shared societal rules. So, for instance, a case study of a consumer with unique rules regarding the ownership of goods offers novel insights into the nature of materialism in modern society (McCracken 1988.)

The foregoing list of similarities between rules and regularities suggests that, notwithstanding their incommensurability, there may be greater comparability and consistency between positivism and interpretivism than is typically imagined. An even stronger claim, moreover, may be advanced regarding this relationship.

MUTUAL PRESUPPOSITION OF RULES AND REGULARITIES

Braybrooke (1987) suggests it is not merely possible, but typical, that causal regularities provide a basis for inquiry into interpretive rules and that interpretive rules provide a basis for inquiry into causal regularities. He insists, in fact, that positivist and interpretive inquiry are not merely mutually supportive, but are often presupposing of one another.

Settled social rules are counterparts of causal regularities in that the rules lead to regularities for which the rule itself counts as a "cause." So, for instance, the rule about purchasing a more expensive gift for a spouse than for any other person "causes" this behavior to be an observable regularity. Note that this does not negate the fact that rules are brought into existence through the tacit understandings and interpretation of social actors, but merely asserts that while the rules exist, they act as causes of behavioral regularities. Thus it is characteristic of interpretive rules (at least settled social rules) that they will lead to regularities amenable to positivist inquiry.

At the same time, some regularities in social phenomena imply the existence of settled social rules. A causal regularity is likely to have a counterpart interpretive rule when the causal regularity applies to behaviors which an individual may voluntarily perform or not perform, and when some penalty for deviance from the regularity or reward for conforming to the regularity can be detected (Braybrooke 1987). Consider the regularity, cited by Belk (1979), that gift givers choose gifts which reflect their ideal self image more than their actual self image or their perceptions of the recipient. The degree to which gift givers choose gifts which reflect their ideal self image is, in general, under voluntary control. The reward individuals may experience as a result of conforming to the practice of choosing gifts reflecting their ideal self image is the recipient's acceptance and approval of the gift and, by

extension, of the gift giver. The deterrent associated with not choosing a gift reflective of ideal self image might be the recipient's tacit or explicit rejection of the gift. It seems reasonable to suggest that settled social rules relating to the "appropriate" symbolism for gifts are likely to be associated with this causal regularity. Moreover, it is likely that investigation of these rules could offer opportunities for further positivist inquiry into causal regularities pertaining to gift giving.

DISJUNCTIONS BETWEEN RULES AND REGULARITIES

While the foregoing discussion develops an understanding of the nature and significance of the tangency between rules and regularities, it is also important to recognize disjunctions between these facets of interpretivism and positivism. In order to proceed with due caution and sensitivity in either the dialectic or the relativistic approach to utilizing alternative means of seeking knowledge, it is critical that these disjunctions be understood and respected.

While many forms of interpretivism would focus primarily on rules which are held by a society or social group, some of the more solipsistic versions of interpretivism focus on interpreting rules so singular as to apply to only one or a few individuals (Burrell and Morgan 1979). Though they are viable forms of interpretive inquiry, such studies are not likely to yield knowledge claims about rules which are sufficiently consistent in effect to form a basis for study of positivist regularities. Thus some interpretive person facts may not be conducive to positivist inquiry regarding person facts or group facts.

A further disjunction between rules and regularities stems from the different ways in which regularities and rules are presumed to affect behavior. It appears that positivist regularities are assumed to operate in a rather mechanistic fashion. Interpretive rules are considered to affect behavior through the tacit apprehension and interpretation of social actors. Individuals are presumed to act according to rules because of their implicit assumptions about the purposes or interests an action serves within a given context (Packer 1985). An actor's assumptions regarding rules are typically tacitly held -- that is, the actor is not consciously aware of the social rules underlying a specific behavior. Thus gift-givers need not ever reflect on the "rules" affecting the amount spent on a gift to a spouse as opposed to a friend. Nonetheless, behavior occurring in conformity to rules is voluntary, since the actor has the potential to come to awareness of rules and to modify behavior or continue to follow rules.

Since interpretive inquiry is premised on the belief that individuals can modify their behavior because they become aware of and choose to modify rules, this approach has the potential to focus on situations where rules are in flux or in conflict. For instance, at a time when tacit societal rules are increasingly being seen to operate to the seeming disadvantage of women, rules relating to appropriate

behaviors for men and women are changing considerably (see, for example, Hoover-Dempsey, Plas and Strudler Wallston 1986). Interpretive inquiry into the emergence of new rules, then, is possible whereas positivist inquiry into the emergence of causes is less feasible.

On the other hand, positivist inquiry has considerably more to offer than interpretive inquiry when regularities occur which are the unintended consequences of human action or inaction. Consider, for instance, the regularity with which it happens that aggregate consumer demand for a product increases as the price of that product decreases. While an interpretive rule may underlie the behavior of independent actors who are separately seeking to make "wise" purchase decisions, it is not an intended consequence of any individual's behavior that the aggregate quantity of goods purchased should increase. In such situations, positivist science may offer more insight than interpretive inquiry.

CONCLUSIONS AND IMPLICATIONS

This discussion of points of tangency and divergence between positivist and interpretive science suggests that there is a significant relationship between the two. It demonstrates that for researchers who seek either a dialectic or a relativistic approach to dealing with divergent research streams, there is considerable potential for judicious interchange of research ideas between the streams.

The foregoing discussion also helps to clarify instances in which it is likeliest that tangencies will exist and that interpretive and positivist research streams have the greatest potential to complement one another. In cases where rules are extremely settled, are shared by groups of considerable size, and are not consciously being rejected by social agents, causal regularities are most likely to be associated with rules. In cases where regularities apply to behavior under the voluntary control of actors and where rewards or penalties are attached to conformity or nonconformity to the behavioral pattern in question, interpretive rules are likely to be associated with causal regularities.

This discussion also helps to explain the relationship between the regularities and rules which generate either person facts or group facts. It leads to an appreciation of how, for instance, positivist group facts such as might be derived from an socioeconomic study of spending habits, and a phenomenological case study of one consumer's "deviant" overspending might appropriately and fruitfully be conjoined. Greater insight into an issue noted by Anderson (1986), the examination of "the relationship between psychological/sociological explanations of behavior at an individual level and sociological/anthropological explanations at the group or cultural level" (p. 169), is also generated.

In summary, this paper lends momentum to the effort to move beyond a frustrating "either/or" debate on the merits of one research stream versus

another, and lays the foundation for a less fractious, more fruitful, search for knowledge.

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Eureka! And Other Tests of Significance: A New Look at Evaluating Interpretive Research

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ABSTRACT

The present paper discusses two broad approaches to evaluating interpretive research. The first, foundationalism, is an epistemological position motivated by the subject-object distinction. It is proposed that a foundationalist logic underlies the evaluative criteria offered by both positivists and humanists. Advantages and disadvantages of evaluating interpretive research in terms of foundationalist criteria are discussed. An evaluative approach not premised on the subject-object distinction, anti-foundationalism, is then described. The critical relativist program is noted as the major example of anti-foundationalist thought in consumer research. It is proposed that critical relativism is a hermeneutic enterprise which can not completely obviate the need for epistemic foundations. Perceptual criteria are suggested as providing non-dualistic, flexible bases for evaluating interpretive research and a description is given of one perceptually based criterion.

INTRODUCTION

Within the social sciences, there exists a vast literature discussing various methodologies and analytic procedures for conducting research. The field of consumer research is no exception as numerous books and articles have been dedicated to this topic. While discussions of applying quantitative or qualitative research methodologies are widely available, much less work has explicitly discussed *the evaluation* of research. When research evaluation has been discussed, the focus is often on the negative aspects of the journal review process. As examples, Gardner (1985) proposes that psychology's progress has been hindered by reviewers turning loose their "methodological zeal" on any new theory and Holbrook (1986) has proposed that marketing's own review process is often a sadomasochistic endeavor. The specifics of these two critiques aside, they do give some indication that research evaluation is not a straightforward, reflexive process.

With the case of qualitative research, it seems that the evaluation process (either performed by an interested reader or a journal reviewer) could become even more difficult because: 1) qualitative techniques are not staple methodologies in consumer researcher and, thus, evaluators are less likely to be familiar with relevant procedures and theoretical frameworks; 2) qualitative methodologies are not monolithic (Jacob 1987). Important methodological and philosophical differences underlie different qualitative approaches such as protocol analysis (Ericsson & Simon 1984), naturalistic inquiry (Lincoln & Guba 1985), or existential-phenomenology (Giorgi 1983; Thompson, Locander and Pollio 1989). An evaluator applying assumptions from one approach to another will, in

many cases, systematically misunderstand the research; and 3) in comparison to quantitative research, the evaluative criteria of qualitative methods often have less formalization and/or specification (Hudson & Ozanne 1988).

The present paper will discuss two broad approaches which can be taken in evaluating interpretive research: foundationalist and anti-foundationalist. This discussion has descriptive rather than critical aim. The basic tenets of the two evaluative approaches will be delineated and their respective advantages and limitations described. Finally, an evaluative approach based on perceptual criteria will be offered and a description given of what some of its properties might be.

Foundationalist Approaches

Foundationalist thought is characterized by a desire to ground human knowledge on a firm and indubitable archimedean point (Rorty 1979). The evaluative concern is primarily epistemological in seeking to identify procedures that can demarcate truth from non-truth and scientific from non-scientific knowledge. A common theme of foundationalism is an adherence to the subject-object distinction (Hekman 1986). With respect to interpretive research, foundationalism is embodied in both positivistic approaches, which emphasize "objectivity," and those versions of humanism emphasizing "subjectivity."

An explicit application of positivist criteria to qualitative research is given by Miles & Huberman's (1984) self-termed "soft-nosed positivism." In adopting a positivistic world-view, Miles & Huberman contend that knowledge must be firmly grounded on the objective side of the subject-object distinction. Their evaluative criteria are premised on the assumptions that: 1) there is an extant reality waiting to be discovered; 2) since "reality" is independent of human experience, people may have different subjective perceptions but they are perceiving the same objective entity; 3) "truth" is a correspondence between an interpretive (theoretical) term and a state of the world. This is a "soft-nosed" positivism because there is *no* requirement that the knowledge claims of qualitative research be of a hypothetico-deductive nature or validated by posthoc quantitative measures.

Miles and Huberman contend that qualitative research must address issues of verification (validity of conclusions), reliability, and generalizability. With this approach, an evaluator of qualitative research would want to see: 1) what procedures were used to assess the reliability and validity of an informant's statements. That is, did the informant express the same views over time and have sufficient knowledge to give a valid account of the phenomenon; 2) evidence of triangulation in which different sources of information are employed to

converge on the phenomenon being investigated; 3) a description of procedures used to minimize researcher biases in both data collection and interpretation; and 4) assessment of the study's generalizability, including a description of the studies sampling procedures for both informants and critical events.

Miles and Huberman's "objective" approach to evaluating qualitative research has an undeniable foundationalist logic. The need for epistemic foundations, however, is no less for researchers taking a more overtly "subjective" approach. As a case in point, Lincoln & Guba (1985) describe a naturalistic research methodology based on assumptions diametrically opposed to those of positivism. Operating on the "subjective" side of the subject-object distinction, they propose that: 1) reality is a "multiple set of *mental* constructions" for which there is no ultimate benchmark for justifying truth value; 2) these multiple mental constructions will inevitably diverge; 3) the knower and that which is known are inseparable; and 4) truth is defined by community consensus. (It should be noted that *social constructionists*, such as Berger and Luckman (1966) and Gergen (1985), avoid the subject-object distinction by viewing knowledge as product of an ongoing interpersonal discourse grounded in a socio-cultural context rather than as particular state of a private mental world).

In arguing for the efficacy of this subjectivist world-view, a lengthy and detailed critique is given of classic positivist assumptions and research criteria. In implementing naturalistic inquiry, however, opposition turns to analogy as Lincoln and Guba's evaluative criteria (credibility, dependability, transferability, and confirmability) bear a strong conceptual parallel to positivist criteria of internal validity, reliability, external validity, and construct validity (Hudson & Ozanne 1988; Thompson 1989). The major technique for establishing the confirmability of a naturalistic inquiry is a *confirmability audit* in which an independent auditor assesses the research process and the resulting interpretive results. The auditor looks for methodological procedures such as member checks, peer debriefings, triangulation, the keeping of reflexive journals (in which the researchers describe their own subjective mental processes) and then makes an evaluative judgment as to whether conclusions are logical, useful, adequate and firmly grounded in the data.

Despite their antithetical philosophical posturing, Lincoln and Guba's evaluative criteria are quite similar to those offered by Miles and Huberman. Both advocate triangulation, warn about potential sources of distortion and share a primary objective of providing foundations on which to base knowledge claims. For objectivists, the existence of epistemic foundations are simply a necessary background condition or core assumption. For subjectivists, epistemic foundations are needed to escape the philosophical quagmires of solipsism and skepticism. That is, if each person is *in* their own private subjective world (the solipsist assumption),

then there is no guarantee that a person can have any knowledge *outside* of his/her idiosyncratic realm (the skeptical conclusion). For those operating on subjective side of dualism, conventional recourses have been to seek epistemic foundations from either a theological (a supreme being guarantees consistency among private worlds), nativist (common genetic structures guarantee consistency), or methodological standpoint (adapting "objective" methodologies to "subjective" inquiries). Lincoln and Guba have taken the latter recourse.

Other, more pragmatic, benefits are gained by evaluating interpretive in terms of foundationalist criteria. These criteria are easily explicated, are based on fairly standardized methodological procedures, and provide a widely shared frame of reference for evaluating interpretive research. In sum, foundationalist criteria allow those not highly familiar with qualitative methodologies to act as competent evaluators and can be readily offered as conventionally acceptable evidence of an interpretive study's epistemological merit.

The negative consequence is that the implicit assumptions motivating foundational evaluative criteria are often inconsistent with the overt assumptions motivating interpretive research. As one example, Lincoln & Guba strongly advocate triangulation with multiple methods, sources, and, (in some cases) investigators, to "validate" information. Giving the strong argument that there exist multiple and divergent realities, it is difficult to see what purpose triangulation can serve. Why should different sources (i.e. different constructions), as a methodological principle, have to agree? In proposing that triangulated information reveals a central tendency or "consensus reality," the logic is strikingly similar to the much critiqued positivist distinction between true and error variances (Thompson 1989). As one other example, it seems inconsistent, given Lincoln and Guba's detailed arguments that understanding requires a prolonged engagement with the context being investigated, that the ultimate arbitrator of a naturalistic inquiry's trustworthiness is an "independent auditor," a disinterested party who ideally has *no* prior involvement in the study.

In sum, the evaluative criteria offered by Miles and Huberman (1984) and Lincoln and Guba (1985) are premised on dualistic assumptions, and therefore have an implicit foundationalist logic. While operating on different sides of the subject-object distinction, both seek to ground knowledge on methodological procedures and third party (objective?) verification. As increasing numbers of philosophers and social scientists are questioning the assumptions of dualism, the necessity of epistemic foundations is also being challenged. With respect to interpretive research, a very different set of evaluative criteria are offered by anti-foundationalist approaches (Rorty 1979).

Anti-foundational Approaches

Anti-foundational thought refers to philosophies rejecting the subject-object

distinction, notions of "absolute truth" and attempts to find an Archimedean point on which to ground knowledge claims (Hekman 1986; Hudson & Ozanne 1988). A common theme among anti-foundationalist philosophy is a movement away from epistemological concerns and toward ontological ones. That is, knowledge and understanding are conceived as ways of being-in-the-world and the relevant task of philosophy and/or social science is seen as describing the socio-cultural context in which knowledge is constructed (Gadamer 1976; Gergen 1985; Heidegger 1962; Wittgenstein 1953). Anti-foundationalist thought has been at the center of the "linguistic turn" occurring in philosophy, the social sciences, and the sociology of knowledge (Hekman 1986). For the major anti-foundationalist philosophers, to inquire into the nature of being is to inquire into the nature of language (Bleicher 1980). Thus, Gadamer (1976) states that "language speaks us." Heidegger (1962) describes that human beings are "thrown" into a language. Similarly, Wittgenstein (1953) discusses that language is not like a tool, which can be put down when not being used, because human forms-of-life are inherently linguistic.

For purposes of identifying evaluative criteria for interpretive research, Wittgenstein provides a sound starting point because 1) Wittgensteinian thought is central to the critical relativist program proposed for consumer research (Anderson 1986); and 2) Wittgenstein's philosophy has an explicit methodological focus in seeking to use linguistic analysis to clarify "pseudo-problems" passing as philosophical dilemmas. A prominent Wittgensteinian concept is that of *language game*. By postulating that words attain meaning from their relation in a given language game, Wittgenstein contextualized meaning. For this view, the "meaning of a word is its use in a particular situation" and it is due to a misguided "craving for generality" that philosophers seek out the one absolute meaning of a concept (Gier 1981; Wittgenstein 1953). Wittgenstein redefined philosophical problems as "grammatical fictions" arising from the assumption that a word used in different language games must have the same meaning.

With respect to consumer research, the critical relativist program is amenable to Wittgenstein's account of linguistic meaning. With language games, meaning is not simply a correspondence between word and object. With critical relativism, scientific knowledge is not simply a correspondence between a theoretical term and a state of the world but emerges from a system of metaphysical beliefs, value commitments, and cognitive aims (Anderson 1986). Thus, it can be said that what constitutes scientific knowledge depends on which language game is being employed. Just as no one ostensive definition describes the meaning of a word, no one set of methodological procedures describes the constitution of scientific knowledge. Critical relativism proposes that the evaluative criteria must vary according to the assumptions and cognitive aims underlying the

research. Researchers are required to explicitly state their assumptions, cognitive aims and also to provide appropriate evaluative criteria. The reader of the research is required to understand the study's aims and assumptions and faithfully seek to apply the relevant evaluative criteria.

Several advantages are readily seen with the critical relativist approach to evaluating interpretive research. First, and very pragmatically, the degree of explication required to specify the relevant paradigmatic assumptions, cognitive aims, and value commitments will improve the thoroughness and comprehensibility of an interpretive study. Second, the problem of applying inappropriate evaluative criteria is avoided because the researchers, themselves, provide the relevant criteria. Third, since critical relativism requires no specific set of methodological procedures, the approach facilitates methodological pluralism.

The one issue which anti-foundationalism has not fully accounted for, however, is how evaluative judgments can be made solely within the confines of a given conceptual system. Evaluation would seem to require that some criteria and beliefs transcend a specific context or conceptual system. For example, in arguing that a concept's meaning is given by its function in a language game, Wittgenstein's metaphor of *language is a game* transcended any specific linguistic usage. Similar transcendental assumptions can be seen in the works of other anti-foundationalist philosophers. Heidegger postulates the existence of "existential" categories that transcend all forms-of-being (1962). Gadamer proposes that *critical reason* can be used to distinguish between "legitimate" and "illegitimate" prejudices (1976). While anti-foundationalists made a move toward ontology (seeking only to describe the nature of being), the need for some form of an epistemological foundation was not completely obviated.

The critical relativist program also requires some foundational assumptions, albeit very broad ones. As with Gadamer, there seems to be some requirement for "critical reason." It is assumed that the evaluator, once provided with a set of criteria, will reasonably and fairly apply the criteria. Since critical relativism is devoutly non-nihilistic, the evaluator must also have some means by which to distinguish between legitimate and illegitimate cognitive aims, assumptions, and criteria. Third, it is assumed that incommensurability is not an issue in evaluation. That is, to implement the critical relativist program, the reader must be able to comprehend the intended meanings of the researcher and *use* the provided evaluative criteria in the intended fashion. The critical relativist contends that research is evaluated on the basis of the *researcher's* guiding theoretical program rather than on a "fusion of horizons" (to use Gadamer's terminology) between theoretical perspectives of reader and researcher. While arguing for the inherent theory ladenness of scientific observation, critical relativism grants an epistemic exemption to its own evaluative endeavors. The critical relativist, like the scientists

who conduct research, must adopt a perspective in evaluating research. For example, when assessing a research program's "methodological, ontological, metaphysical, axiological commitments" and its "realizable cognitive and social aims" (Anderson 1986), a hermeneutic process is being implemented. Rather than being monolithic, it would seem that critical relativism would be multi-perspectival so that disagreements might arise over the "realizability" of a given research program's cognitive aims or in specifying just what the cognitive aims are in the first place.

No charges of "self-refutation" are being levied against critical relativism or the anti-foundationalist philosophy on which it is based. The point is that the concerns of foundationalist philosophers are not so easily laid to rest. Anti-foundationalists also need some ground on which to base to their claims. The insight of critical relativism is that no one set of methodological procedures guarantees knowledge. The application of positivist criteria can be both limiting and philosophically inconsistent to interpretive research. Yet, the foundationalist insight that knowledge claims must be based on something which is, at least, *assumed* to transcend contextual variations also has descriptive merit. Out of this dialectic tension, a need can be seen for non-dualistic evaluative criteria that are not dependent on any one set of methodological procedures but that still allow for some grounding of knowledge claims.

Toward A Perceptual Approach

One foundation that might be used to ground the knowledge claims of interpretive studies, not premised on inherently dualistic notions, is perception. Perceptual experience often serves a root metaphor for anti-foundationalist, such as in Wittgenstein's contention that understanding is a process of "seeing as." The French phenomenologist Merleau-Ponty also suggests that conceptual knowledge has as its base pre-reflective perceptual experience (1962). As the following quote from the *Phenomenology of Perception* (1962) illustrates, Merleau-Ponty's view of perception is highly congruent with some of the more typical aims of interpretive research.

Our first task will be to re-discover phenomena, the level of living experience through which things and other people are given to us. We shall no longer hold that perception is an incipient science but conversely that classical science is a form of perception which loses sight of its origins and believes itself complete (p.57).

A common theme of interpretive research is to provide a thick description of lived experience, free from natural science prejudices (Belk, Sherry, & Wallendorf 1988; Hirschman 1986; Hudson & Ozanne 1988; Thompson, Locander & Pollio 1989). In this sense, evaluating interpretive research from perceptual criterion is philosophically consistent

with the aims underlying consumer research's use of interpretive methods.

Identifying an applicable set of perceptual evaluative procedures is no small task. Gestalt psychology, however, may serve as a fruitful starting point (Koffka 1935; Kohler 1947). Gestalt theory suggests that one important perceptual criterion is that the research affords insight into the phenomenon being explored. From this perspective, insight is not conceived as a mysterious, subjective experience but as a type of understanding that is-in-the-world (Kohler 1947; Merleau-Ponty 1962). For example, when a problem is solved by insight, an understanding emerges from grasping a pattern or organization (Kohler 1947). The problem and the pattern yielding a solution are not private, subjective entities but are rather public phenomena.

A demonstration of insight is provided in the following example taken from Kohler (1969). The problem is to comprehend the relationship between following three lines of integers:

- A) 0, 1, 2, 3, 4, 5, 6, 7, 8.....
- B) 0, 1, 4, 9, 16, 25, 36, 49, 64.....
- C) 1, 3, 5, 7, 9, 11, 13, 15

The solution pattern is that line A consists of a series of integers, line B consists of the squares of those integers, and line C is derived from subtracting each square from the preceding square in line B: a procedure which gives the series of odd numbers. When these relationships are grasped, one has experienced an insight.

There are at least three types of insight that interpretive research could afford:

- 1) Conceptual Gestalt- In this form of insight, the interpretation allows the evaluator to see a set of qualitative data as a coherent pattern or gestalt. What might have previously seemed a set of discrete and unrelated events becomes a good conceptual figure. As an example, Freud's interpretations allowed a wide range of neurotic behaviors to be seen as manifestations of the same general phenomena: unconscious repressions of sexual experiences and desires (van den Berg 1961).

In that conceptual gestalts are *not* dependent on empathy, the evaluator may disagree with the interpretation while still seeing how the interpretive pattern derives from the data. With a conceptual gestalt, the reader can grasp the proposed meaning of the phenomenon even if it does not directly relate to his/her own field of experience. As an example, one can comprehend Thomas and Znaniecki's (1958) ethnography of the Polish peasant without knowing what such an experience feels like. A well-known example of a conceptual gestalt is learning by insight, such as in the "Eureka" experience described in the myth of Archimedes (Pollio 1982).

2) Phenomenological Gestalt- In this form of insight, the interpretation resonates with the reader in such a way that a more personalized, first-person understanding of the phenomenon is gained. In this case, the interpretation is seen as describing a like pattern in the reader's own field of experience. The interpretation may even allow the reader to articulate some aspect of their own experience which had previously defied overt description. Phenomenological gestalts afford to the reader a heightened self-awareness and a personally relevant understanding of the phenomenon. Unlike the previous form of insight where the reader can see the interpretive pattern without necessarily agreeing with it, the reader feels there is something "right" about the interpretation in that it meaningfully relates to his/her own experience. A well-known example of a phenomenological gestalt is Dilthey's conception of "verstehen."

3) Paradigmatic Gestalt- With this form of insight, the interpretation has such a profound effect on the reader that the world is seen in an entirely new way. That is, the reader's previous world-view is replaced by a new organizational scheme. This form of insight has been described as a "paradigm shift" (Kuhn 1970). As one Kuhnian example, Einstein's theory of relativity gave rise to an entirely new understanding of space, time, and motion.

Paradigmatic gestalts have a different nature than those of the conceptual or phenomenological form. With the latter two, the interpretation affords an awareness of a novel pattern but this understanding is still within the reader's existing horizon of conceivability. With paradigmatic insight, this horizon altered in such a way that what had previously been inconceivable is now seen as a potential or actual state of the world. This is perhaps the most that could be asked of an interpretive study because it changes the horizons of what can be.

CONCLUSION

Two major approaches to evaluating interpretive research have been discussed. Foundationalism is described as a dualistically motivated epistemology seeking to ground knowledge on a firm, indubitable base. In accepting the subject-object distinction, positivist and humanist methods reveal a foundationalist logic. Anti-foundationalist approaches have a more ontological focus in seeking to describe understanding without dualistic categories. The critical relativist program is the major example of this approach in consumer research. It was noted that even anti-foundationalists cannot completely obviate the need for some epistemic ground on which to base their knowledge claims. Perceptually

based evaluative criteria were suggested as one means for a non-dualistic grounding of interpretive research's knowledge claims.

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Ritual, Ritualized Behavior, and Habit: Refinements and Extensions of the Consumption Ritual Construct

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ABSTRACT

The ritual construct offers great potential for interpreting many aspects of consumption phenomena. Ritual's potential can be best realized by a multi-layered view of the construct. We refine and clarify Rook's interpretation to provide such a perspective. We draw clear distinctions between the analytical classes of ritual, ritualized behavior, and habit. Theoretical and methodological implications are discussed.

INTRODUCTION

A number of consumer researchers have exhorted that the ritual construct affords great potential for conceptualizing and interpreting many aspects of consumption phenomena (Belk 1979; Kehret-Ward, Johnson, and Louie 1985; McCracken 1986, 1988; Rook and Levy 1983; Solomon and Anand 1985; Sherry 1983). Rook's (1984, 1985) contribution to our discipline's understanding of the ritual construct as a conceptual framework offers rich insights into the real, *experiential* lives of consumers and the types of symbolic meanings that they invest in the use of consumer products.

In this article, we attempt to build upon Rook's (1985) elaboration of the ritual construct by offering refinements, clarifications, and extensions of his work. As such, our undergirding objective is not to inculcate conceptual divisiveness or "hair splitting"; rather, we proffer a framework designed to incrementally sharpen our discipline's understanding of the ritual construct and its role in consumer behavior. Furthermore, we offer guidelines for the analytical exploration of consumption rituals and their constituent components.

RITUAL CONSTRUCT DOMAIN AND DEFINITION

We readily admit that Rook (1985) confronted a formidable analytical task in his effort to define the ritual construct in a manner most germane to the scope of consumption phenomena. Across the transdisciplinary morass of divergent interpretations of the term, Rook has abstracted a "mid-range" definition of ritual. It is not limited to the overly restrictive interpretation of ritual as "semicivilized" man's prescribed manner of comportment in religious contexts, the jingoistic Victorian-era definition predominately used until a generation ago (Kertzer 1988; Vizedom 1976). Neither does it subsume *all* forms of scripted human activity (e.g., facing forward in an elevator filled with strangers; snapping one's chewing gum). Instead, Rook's

definition of the term ritual is constructed to encapsulate the shared "structural and content elements" . . . of "both everyday, and extraordinary human experience:"

The term ritual refers to a type of expressive, symbolic activity constructed of multiple behaviors that occur in a fixed, episodic sequence, and that tend to be repeated over time. Ritual behavior is dramatically scripted and acted out and is performed with formality, seriousness, and inner intensity" (1985, p. 252).

Rook raised the question whether it is "reasonable to ask whether it is either possible or useful to derive a single definition of ritual" (1985, p. 252). We agree that it is *extremely* useful to attempt to capture a constructional domain which is appropriate for conceptualizing consumption ritual phenomena within our interdisciplinary framework. However, we believe that further refinements in a definition of ritual are necessary for crystallizing the construct's domain, and distinguishing that domain from those of the related constructs "habit" and "ritualized behavior". Although these constructs may indeed "represent overlapping sets" (Rook 1985, p. 252), greater discrimination between them may be "useful" or "appropriate" for analytical purposes. None of the constructs represent synthetic categories (Kant 1900 trans.; Bagozzi 1980); thus, there are no "right or wrong" definitions of them. Yet teasing out the distinctions between them may enhance our ability to develop a coherent framework for the different levels of symbolic meaning consumers may attach or associate with each form of behavior.

Before presenting our refined definition of ritual, we will discuss those characteristics which distinguish habit (or custom) from ritual and those which distinguish ritual from ritualized behavior (Erikson 1977, 1982).

Habit/Custom Versus Ritual

Habits or customs constitute *routinized* behavior (Howard 1979). Several characteristics best distinguish habits from rituals. First, the scripts for habitual acts may be *either* created by the individual consumer (e.g., the sequence of breakfast-making acts) or prescribed by society (rules for standing in line at the supermarket checkout counter). The second distinguishing characteristic is the level of *conscious awareness*, or cognitive processing, associated with the elicitation of the behavior sequence (Douglas and Isherwood 1979; La Fontaine 1985; Peter and Olson 1987; Turner 1985). Admittedly, this difference is a matter of *degree* rather than type, and is thus dependent upon

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individual and/or situational characteristics. For example, arranging a place setting according to the rules of decorum may be a *completely* routinized behavior on a mundane basis, with the "rules" followed in order to save time/cognitive processing. On the other hand, one may be more cognizant of prescribed norms for place setting when preparing for an important social occasion, but engage in the *same* behavioral sequence. Thus, one's level of involvement (e.g., Celsi and Olson 1988) distinguishes habit from ritual, rather than the intricacy of the behavioral script.

The third characteristic distinguishing habit from ritual concerns their communicative function (La Fontaine 1985; Turner 1985; Lewis 1980). Analogous to language, habit or custom has been suggested to transmit (through behavioral signals) a more circumscribed message (e.g., if one offers a hand upon introduction, one has no overtly hostile intentions). Ritual, with its more intense symbolic properties and components, communicates or expresses a more condensed, multivocal and ambiguous web of meaning (Kertzer 1988; Munn 1973; Turner 1967). Therefore, participation in habitual or routinized behaviors is not likely to stimulate the same level of affective response as does participation in ritual (Warner 1959).

Finally, intransigence or resistance to change may serve to discriminate between habit and ritual. Although rituals *can* undergo procedural changes that diverge from an "ideal type" or "stereotyped script" due to either short term contingencies, or, on a more permanent basis, due to changes in the distribution of resources in society (La Fontaine 1985; Kertzer 1988), habits *in general* are more amenable to modification or extinction when they no longer fulfill their instrumental and/or expressive functions.

Ritual Versus Ritualized Behavior

In his definition of ritual, Rook (1985, p. 252) explicitly aggregates the constructs "ritual" and "ritualized behavior." This approach is attributable to Rook's sociopsychological theoretical perspective, which is founded upon Erikson's (1951, 1977, 1982) theories of intrapsychic development. According to this theoretical perspective, "*both* everyday ritualized behavior and larger public rituals" (Rook 1985, p. 257) are "energized" by the nature of the conflicts between intrapsychic and social forces uniquely associated with each of Erikson's (1951) eight universal stages of human development. Diurnal ritualized activities are seen to serve as *reinforcement* (through repetition) for status changes which are publicly "announced" by means of symbolic public ritual activities (Rook 1985, p. 257).

Although we agree that ritualized behavior may serve to *reinforce*, through mundane repetition, the role/status transitions around which many rituals are focused, we suggest that "ritualized behaviors" and "ritual" are not subsets of the identical constructional domain. Upon the basis of the socioanthropological theoretical perspective to which we subscribe, we aver that these two

constructs may be more appropriately viewed as distinct, albeit related in a nomological network. The major properties and characteristics which we believe discriminate between "ritualized behavior" and "ritual" are summarized in the Table. Our discussion will highlight those characteristics we believe are most critical for discriminating between the constructs.

Our major rationale for distinguishing between ritual and ritualized behavior concerns the notion that ritual 'instantaneously' accomplishes its purported objectives of status transition and social maintenance (Radcliffe-Brown 1952; Vizedom 1976; Turner 1985; La Fontaine 1985). This perspective is eloquently expressed by La Fontaine (1985, pp. 35-36):

Ritual is *purposive*; the participants believe that they are accomplishing their aim in what they do . . . this *cannot be ignored* . . . Day to day social life is perpetually changing; what is relatively constant in it is the part played by ideas and beliefs through which individuals both perceive events and evaluate their own and others' behavior -- what has been referred to has the moral order. To refer to it [moral order] as false, and the untidy process of living as real, is to make a judgement of value by comparing *non-comparable entities*, which cannot be helpful.

It may be tautological to state that ritual effects its purported objectives (i.e., the maintenance of, and/or change of individuals' status within the social order) because that is what the ritual process is designed to do. However, grounded in our aforementioned theoretical perspective, we aver that we (as "scientists") *must* believe this, or take this "leap of faith," because the participants of rituals espouse that *they* do so. Here we stand in contrast to Rook (1985) and Erikson (1977), who imply that mundane ritualized behaviors are *necessary* to fulfill ritual's "unfinished business." But is this is not an imposed view on the part of the "enlightened scientist"? Whose statement or interpretation should be taken as veridical: that of the "detached, objective scientist", or that of the ritual participant (the "crazy native")? We (as "crazy scientists"?) side with the perspective of the participant. Thus, we conceive of ritual and ritualized behaviors as "apples" and "oranges"; they are both in the same "angiosperm," or construct class, but are non-comparable "species."

Ritual's 'instantaneous' transitions are most evident in public events marking or celebrating either a change in an individual's or group's *status* (e.g., baptism, sorority initiation, marriage, communion, naturalization, Bastille day, Independence Day) or a transition through natural and/or "supernatural" or aesthetic cycles (e.g., the "primitive" vestiges and extant religious versions of Christmas, Easter, May Day, the Wagner "Ring" Cycle). Ritualized behaviors may be more closely associated with conditions in which roles or

TABLE
RITUALIZED BEHAVIOR CHARACTERISTICS VERSUS RITUAL CHARACTERISTICS

Ritualized Behavior	Ritual
"tidies up" ritual's "unfinished business"	accomplishes transition and maintenance objectives
'private' enactment (self and "looking glass self")	public enactment (\geq dyad)
elements intrapsychically determined	elements socially prescribed
mundane repetition across time and place	bracketed in time and space; repetition over cycle of time
role assimilation	'instantaneous' status transition
behavior-affect-cognition sequence of change	affect-cognition-behavior sequence of change
emphasizes the idiosyncratic representation	emphasizes the collective representation
occurs in self time	occurs in social time
maintain/change one's self conception	maintain/change status within a social, knowledge, or natural system
constrained by idiosyncratic tradition	constrained by social mores
confluence of actor and individual	distinction between actors and individuals

interaction patterns are *gradually* assimilated, such as divorce and other relationship disengagements (Baxter 1984; Lee 1984), landing the first post-MBA job (Solomon and Anand 1985), or 'fitting-in' as a new assistant professor on the faculty. Clearly, ritual is most closely linked to the maintenance of and/or change within systems of society, knowledge, and nature (Vizedom 1976; Van Gennep 1960 trans.; Radcliffe-Brown 1952; Durkheim 1974 trans.; Aron 1970); ritualized behaviors are more likely to be associated with the maintenance and/or change in one's self-perception (e.g., Solomon 1983; Mead 1956; Goffman 1959).

The *public* enactment of ritual requires the participation of at least two actors in a socially prescribed, standardized sequence of events (Durkheim 1974 trans.; La Fontaine 1985; Turner 1985; Kertzer 1988). The transformative, symbolic effects of ritual occur in social time (Warner 1959) which is bracketed from mundane life (Turner 1985; Wolff 1978). Turner (1985) and Vizedom (1976) view the bracketness of ritual as an essential prerequisite for affective and cognitive changes to 'instantaneously' occur; these changes permit the transition (of an individual) to a new status (within the social system).

Ritualized behavior, on the other hand, requires only a *private* enactment of a script whose elements are intrapsychically orchestrated. The sequence of events and artifacts employed may thus be guided by idiosyncratic tradition (a question

raised by Rook 1985, p. 262) as well as social norms. The mundane repetition of ritualized behavior occurs in self time (Warner 1959).

Definition of Ritual and Its Components

Our preceding summary of the qualities or characteristics of ritual *vis a vis* its related analytic constructs, habit and ritualized behavior, provides us with a foundation for abstracting a refined, interdisciplinary interpretation of the ritual construct:

Ritual is defined as an analytical class of purposive, socially standardized activity sequences. Ritual is designed to maintain and transmit both social and 'moral' order: to reaffirm social interdependency, by evoking and communicating a network of condensed, multivocal and ambiguous affective *and* cognitive meanings to which members of the collectivity may jointly subscribe. Ritual's meanings are conveyed through the use of symbolic or metaphorical artifacts (objects, language, actors, and behaviors) that are orchestrated into a structured, dramatic complex (episode or script) often repeated over time. Ritual is enacted in bracketed social time and/or place, wherein time and/or place themselves have meaning.

A cursory reading of our interpretation of ritual and its components may indicate that it varies from Rook's (1985) definition only along a few dimensions. However, these dimensions are substantial (i.e., they have important theoretical and methodological implications), and serve to recast ritual as a distinct analytical category. We highlight critical points below:

- * Ritual is an *analytic category*.
- * Ritual is *purposive behavior*; it accomplishes its objectives of transition and maintenance of both social and moral order (e.g., La Fontaine 1985; Radcliffe-Brown 1948; Gluckman 1965).
- * Ritual is *socially standardized*. Its enactment requires the organized cooperation of individuals to fulfill all necessary roles (La Fontaine 1985). Ritual is also socially standardized in that the script prescribes roles and associated rules of conduct for actor compartment (Durkheim 1974 trans.).
- * Ritual evokes and communicates *more than one specific meaning* (e.g., Kertzer 1988; Munn 1973; Turner 1967); it evokes a network of both cognitive and affective meanings. Thus, it does not evoke immediate, identical behavioral responses from *all* actors (Rook 1985, p. 253). However, consistency would be expected across actors fulfilling similar roles.
- * Ritual occurs in *bracketed social time and/or place* (Warner 1959; Turner 1985). This does not necessarily imply that ritual encompasses only "extraordinary" human experience (Rook 1985, p. 252); it encompasses human experience that celebrates *significant* social or natural transition events.
- * The socially standardized rules for ritual performance consist of both explicit and implicit conventional requirements. Implicit rules, as part of "hidden culture" (Garfinkel 1963; Hall 1977) exert an extremely powerful influence on behavior. Deviation from these rules can elicit scorn, alienation, or outright hostility, as illustrated by the following apocryphal passage:

"It was just about then that somebody noticed my 'press' tag was attached to my shirt by a blue and white McGovern button. I'd been wearing it for three days, provoking occasionally rude comments from hotheads on the convention floor and in various hotel lobbies -- but this was the first time I'd felt called on to explain myself. It was, after all, the only visible McGovern

button in Miami Beach that week -- and now I was trying to join a spontaneous Nixon Youth demonstration that was about to spill out onto the floor of the very convention that had just nominated Richard Nixon for reelection, against McGovern . . .

They seemed to feel I was mocking their efforts in some way . . . and at that point the argument became so complex and disjointed that I can't possibly run it all down here. It is enough, for now, to say that I was finally compromised: If I refused to leave without violence, then I was damn well going to have to carry a sign in the spontaneous demonstration -- and also wear a plastic red, white, and blue Nixon hat. They never came right out and said it, but I could see that they were uncomfortable at the prospect of all three network TV cameras looking down on their spontaneous Nixon Youth demonstration and zeroing in -- for their own perverse reasons -- on a weird looking, 35 year old speed freak with half his hair burned off from over-indulgence, wearing a big blue McGovern button on his chest, carrying a tall cup of 'Old Milwaukee' and shaking his fist at John Chancellor up in the NBC booth -- screaming: 'You dirty bastard!' . . . I politely dismissed all suggestions that I remove my McGovern button, but I agreed to carry a sign and wear a plastic hat like everyone else. 'Don't worry', I assured them, you'll be proud of me' . . ." (Thompson 1973, pp. 355-356).

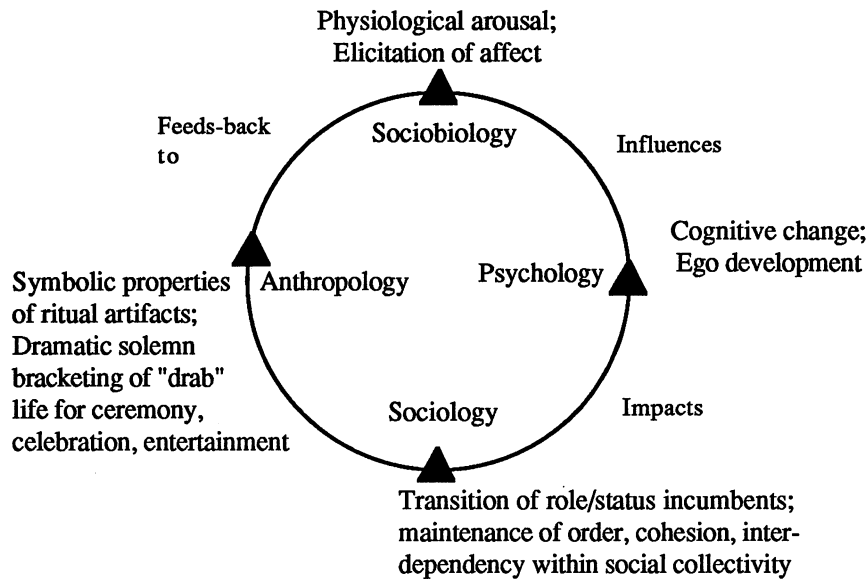
To further explore this analytical category, ritual, we next explicate threads of the interdisciplinary fabric which inculcates ritual with so much power.

THE POWER OF RITUAL: AN INTERDISCIPLINARY PERSPECTIVE

The power of ritual as an analytical category for consumer research is two-fold. First, it describes a system of which consummatory behavior is an important component. As such, ritual provides an analytically tractable microcosm within which the consumption systems of the larger culture are condensed and brought into relief -- thus facilitating their identification and analysis. Second, ritual emphasizes the integrated nature of psychological and social structural phenomena. As Kertzer (1988, p. 10) observes:

"The power of ritual stems not just from its social matrix, but also its psychological underpinnings. Indeed these two dimensions are *inextricably linked*. Participation in ritual involves physiological stimuli, the arousal of emotions; ritual works through the

FIGURE
THE POWER OF RITUAL: AN INTERDISCIPLINARY PERSPECTIVE



NOTE: This cyclical depiction of the power of ritual is most evident for those rituals celebrating social change (e.g., rites de passage, national holidays, initiation rites). However, the effects are assumed to inhere in rituals celebrating changes in the natural world (e.g., Easter, May Day, Circleville Pumpkin Festival), as the distinctions between rites de passage and calendrical rites (Gluckman 1965) is an artifact of Western ontology.

senses to structure our sense of reality and our understanding of the world around us".

This "inexorable linking" of phenomena -- generally investigated by researchers from disparate research traditions -- led us to reconceptualize Levy's (1978) typology of ritual behavior into our Figure depicting the cyclical power of ritual. This reconceptualization is in the spirit of Van Gennep's (1960 trans.; cf. Vizedom 1976) insistence that analytical power is focused, rather than diminished, by emphasizing the *similarity* among ritual's elements.

We reconceptualized Levy's (1978) five ritual types -- human biology, individual aims and emotions, group learning, cultural values, and cosmological beliefs -- into their corresponding research traditions: sociobiology, psychology, sociology, and cultural anthropology. The nonrecursive feedback loop linking these elements emphasizes that each contributes to ritual. A researcher could begin study of ritual from any of these perspectives; however, s/he should strive to capture the Gestalt (La Fontaine 1985). The study of ritualized behavior (Rook 1985) can be represented as investigation of the "slice" of the ritual cycle surrounding psychology.

For expository purposes, and to elucidate some of the myriad activities enacted within ritual, we now tour the ritual cycle one "slice" at a time. However, to analyze ritual in such a manner (i.e.,

investigate only one or two of the "slices") would strip much of the phenomenon's vitality. Sociobiology, as Barash illustrates, provides the foundation from which all ritual springs:

"Sociobiology will probably have little to tell us about why we select a blue necktie or a red one, but a great deal about why we choose to adorn our bodies in the first place; very little about why we vote Democratic or Republican, but a great deal about why we choose to have leaders in the first place; very little about the details of our lives, which are largely determined by learning, by chance, or by the whims of custom, but a great deal about why, underneath it all, we act like human beings" (Barash 1979, p. 14).

Sociobiology thus concerns the most fundamental, evolutionarily refined human tendencies which predispose humans toward not only ritual, but also certain types of ritual.

Ritual phenomena pertinent to psychological analysis include individuals' (idiosyncratic) meanings ascribed to ritual artifacts, ego development, and belief system changes which may include changes of the individual's perception of his/her environment (social or natural) and of self. Also pertinent phenomena are the content and elaboration of individuals' ritual scripts.

Sociological inquiry of ritual emphasizes not individuals, but the roles designated by a ritual's script, and the social structure within which those roles are embedded. The effects of ritual on group cohesion and status (i.e., role) transitions of ritual actors are also salient. Emphasis is placed on the role ritual serves to reaffirm the extant social order and build solidarity through the joint action of ritual participants (Durkheim as interpreted by Kertzer 1988, p. 76).

The complex texture of ritual artifacts' symbolism is of vital interest in anthropological analysis of ritual (Turner 1985; Vizedom 1975). Also emphasized are the use of ritual artifacts' symbolic properties to bracket the ritual both in time and space and to indicate social inclusiveness/exclusiveness among ritual actors.

Analytically, we can distinguish ritual phenomena characteristic of sociobiological, psychological, sociological, and anthropological modes of inquiry. However, the power of ritual resides not in the fact that this diversity of phenomena occur within the boundaries of ritual. The power of ritual emerges from the fact that traditional disciplinary boundaries dissolve. The result is the seamless interplay of individuals' emotional, cognitive and affective responses to their idiosyncratic interpretations of the enactment of socially defined roles which are demarcated one from another by cultural artifacts that become condensed symbols to facilitate ritual enactment. Consequently, ritual provides a vehicle through which consumption behavior, with all its multi-sensory, hedonic, affective, cognitive, social, and cultural qualities are fully recognized. However, the power of ritual comes not without challenges to consumer researchers. The most notable challenge is methodological, to which we now shift our attention.

METHODOLOGICAL IMPLICATIONS OF RITUAL

How does the researcher approach the challenge of understanding and capturing the meaning, power, and outcome of consumption ritual? As consumption ritual represents a complex Gestalt, embodying a multivocal latticework of manifest and implicit meanings derived from ritual actors' participation and interaction among themselves and with the ritual's symbolic set of artifacts, ritual presents the researcher with a formidable, but enticingly variegated "multivariate" analytical task.

The corpus of ritual literature is replete with expositions that disaggregate and taxonomize the outcomes and components of ritual -- e.g., Grimes' programmatic bibliography (1985); Moore and Myerhoff (1977). As we recapitulate that these phenomenal components are inexorably linked, we maintain that the exploration of consumption ritual should ideally be approached using methods of inquiry subsumed within the holistic, interpretive, hermeneutic paradigm(s) of ethnography (e.g., Denzin 1989; Geertz 1973; Goodenough 1971; Hirschman 1986; Hudson and Ozanne 1988;

O'Shaughnessy and Holbrook 1988). Approaches which proffer a continual interplay between individual actors' scripts or meaning systems (D'Andrade 1986) for particular ritual "texts" and the systemic ritual complex "text" (itself embedded within a sociocultural totality) -- a hermeneutic circle -- would provide a strong foundation of interpretive understanding of consumption ritual phenomena from the perspectives of the participants (the "crazy natives").

The consummation of interpretive modes of inquiry, although devoutly to be wished, may be difficult for many consumer scholars to achieve in the short run. The production of "thick description" (Geertz 1973) requires not only the implementation of an orchestrated set of ethnographic tools; it requires an "artistic sensibility" which our discipline's predominant patterns of "scientific" socialization neither promulgate nor invariably reward (e.g., Calder and Tybout 1987; Tetreault 1987). Furthermore, the exegistical conjoining of individual and systemic units of analysis contradicts our discipline's bias/affinity toward a reductionist, atomistic perspective.

Yet short run straits should not be bewailed. Exemplars of the use of interpretive paradigms in consumer research exist (e.g., Belk, Wallendorf, and Sherry 1989; Holbrook and Grayson 1986; Sherry and McGrath 1989), and may inspire scholars interested in consumption ritual to "take arms against a sea of troubles" (Shakespeare 1603) and rigorously journey beyond "thin description" (Ryle 1968).

Moreover, incremental insight into the "meaning" of particular consumption rituals may be gleaned through the application of extant research approaches/ techniques concerned with eliciting informants' meaning or belief systems (e.g., Fiske and Taylor 1984; Olson and Reynolds 1983; Reynolds 1983; Smith and Houston 1985). The use of field observation techniques in tandem or conjunction with the elicitation and analysis of protocol data will afford a broadened understanding of the meanings that consumers attach to rituals of consumption.

Finally, the use of sociocognitive network analysis for examining consumption rituals offers great promise for capturing both individual actors' "operating culture" and the collective "public culture" (Goodenough 1971) associated with consumption ritual events. As this set of analytical techniques addresses both individual and sociostructural units of analysis in the formation and transmission of belief systems, it is well-suited for elucidating the social interdependencies which shared networks of meanings ascribed to symbolic artifacts reaffirm and reinforce. If applied within the naturalistic context of ongoing ritual consumption activity, results from this approach may well mirror the holistic insights provided by hermeneutical paradigms of ethnography.

CONCLUSION

Rook's (1985) sociopsychological approach for conceptualizing the ritual dimension of consumption provides a strong foundation for exploring the symbolic meanings individual consumers invest in their everyday behaviors. By refining the ritual construct and recasting it into a multi-disciplinary perspective, we have illustrated that the construct weaves a multihued, complex fabric of meaning. We hope that our discussion both challenges and inspires consumer researchers to approach the examination of rituals' meaning(s) with a broader interpretation of appropriate research methodologies. We hope also that our reconceptualization of ritual focuses researcher's attention on the joint and interactive nature of consumption phenomena.

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An Abstract of
"To Everything There Is a Season:" A Photoessay of a Farmers' Market
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THE PROJECT

On June 28, 1986, three researchers embarked upon their own Odyssey along a two block strip in a midwestern city, as they spent the first Saturday of the selling season at the Midville Farmers' Market. This first day of the market was the first step in an ethnographic journey that would last nineteen weeks. They would witness the emergence of a variety of recurring themes, the reinforcement of several theoretic constructs specific to marketing, and the development of relationships with vendors, customers, and city representatives. They constructed a richly documented natural history of the market from participant observation, directive and nondirective interviews of customers, development of key informants, reflective journal entries, audio recordings, photographs and audio/video recordings.

One thousand three hundred and seventy seven photographs were made during the project. This photoessay includes 47 of those photographs. Captions and field notes supplement these photographs to provide a richer understanding of the visual insights provided by the photographs. Due to its heavily photographic nature, only an abstract of this photoessay will be included in these proceedings.

THE PHOTOESSAY

The essay focuses on three cycles: the market day, the season, and a cycle of long term field immersion. The market day is marked by vendor, consumer and city representative's rituals. A consumer typology is developed. The growing and selling season is characterized by increasing complexity and abundance over spring, summer and fall. The third cycle is habituation, through which the researchers gain trust and access to informants and acquire deeper holistic understanding of the market and its participants.

THE CYCLE OF THE MARKET DAY

A market day's cycle, especially customer and vendor behaviors, as it proceeds from set up to close, is illustrated and documented with photographs and accompanying field notes from the first market day. The essay carries the reader

through arrival, set-up, display, vendor interaction, consumer interaction, consumer-vendor interaction, peripheral activities, stock depletion, and the end of the market. Consumer segments are differentiated by the time of day they visit the market, giving a distinctive cycle to the day.

**DIFFERING PERCEPTIONS OF
ABUNDANCE AND COMPLEXITY**

Photographs of the first market of the season document the transformation of an empty street into what may appear to be a cornucopia of abundance. While researchers perceive bounty and abundance in the marketplace, the vendors speak of anticipated bounty nearer the late summer and fall harvest time. The researchers better understand the significance of vendors' remarks through observations of abundance and more complex assortments and displays at the late summer and autumn markets. A series of photographs visually documents significant changes in assortment, abundance, and complexity of display.

**HABITUATION OF KEY INFORMANTS
TO RESEARCHERS' PRESENCE**

As the market season matured, and the vendors' wares ripened and increased in bounty and variety, the relationships between the researchers and key informants developed from cautious exchanges to comfortable, sometimes humorous and teasing, interactions. Several vendors and customers became key informants during the course of the study. Journal entries and photographs of the informants on the first day of the market are contrasted with ones made near the conclusion of the study. The comparisons reflect the levels of trust that developed between participants and researchers, that in turn led to a negotiated or collaborative interpretation of marketplace behavior.

CONCLUSIONS

While the researchers observed and recorded a myriad of happenings on June 28, true understanding and insight into these events came later, as familiarity with the Midville market became more intimate. In retrospect, the first market is exceptional in that customers and vendors appear to know and act out a script without question after an eight month hiatus. It is the researchers who do not fully understand the plot and significance of the activities unfolding. After several months of building trust in relationships with informants, the researchers are able to document and interpret this script. It is this longer term orientation that sets the ethnographic approach employed in this local study apart from the naturalistic approach of the

¹The authors are listed in alphabetical order. The first two researchers spent each Saturday, with the exception of three, from June 28 through November 1, 1986 in attendance at the Midville Farmers' Market. The third author made occasional visits to the site, served as a resource and sounding board for the ideas of the other two authors, and audited the research process.

Odyssey umbrella project. The ability to compare and contrast findings on various days, and to document findings over time, became a notable benefit of long term field immersion.

This essay illustrates how impressions formed early in an ethnographic study can, when viewed later in context, provide useful insights into the processes of interest to researchers. The changing relationships with key informants clarified and enhanced several of the initial impressions formed by the researchers. These established bonds helped produce a negotiated interpretation of marketplace behavior. That ethnographic research is a labor intensive process that emerges over time is demonstrated in this essay.

An Exploratory Study of the Effects of Imagery Processing and Consumer Experience on Expectations and Satisfaction

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ABSTRACT

Research was conducted to investigate whether imagery processing and consumer experience interact to affect consumer expectations and satisfaction, and to explore some individual and situational antecedents of naturally occurring imagery processing. Results revealed the use of elaborated imagery is a prevalent part in the anticipation of vacation activities, particularly for consumers who plan to invest more time and money. As predicted, imagery processing and experience affected the positivity bias of expected outcomes. Confidence that spring vacation would turn out as expected was affected by experience, and the interaction of experience and imagery processing, but not imagery processing alone. Imagery processing and the interaction between experience and imagery processing were related to confirmation of expectations. Contrary to predictions, imagery processing had a positive effect on satisfaction and experience had a negative effect. Of all the groups, low experience individuals who engaged in imagery processing were most satisfied with their spring vacation. Finally, consumers who engaged in higher levels of elaborated imagery were more satisfied with their vacation outcomes, whether or not the event unfolded as imagined.

IMAGERY, PLANS, AND SATISFACTION

Recent theory has suggested that imagery processing may affect a wide range of outcome variables, including consumer expectations, affect, intentions and satisfaction (MacInnis and Price 1987). Despite the important implications of this processing on consumer behavior, almost no research has explored imagery effects on consumer intent (for an exception see Mitchell 1989), and no research has explored the relationship between imagery processing, consumer expectations and satisfaction.

The purpose of this research was to investigate naturally occurring imagery processing and explore its relationship to consumer expectations and satisfaction. Two questions were of substantial interest: 1) Do imagery processing and consumer experience interact to affect consumer expectations and satisfaction? 2) What are the individual and situational antecedents of naturally occurring imagery processing?

THE ROLE OF IMAGERY PROCESSING IN CONSUMER EXPECTATIONS

In their 1987 article, MacInnis and Price propose that elaborated imagery processing can have a powerful role in influencing consumer expectations

and satisfaction. Specifically, imagery processing is hypothesized to lead to systematic biases in expectations, with attendant implications for satisfaction. MacInnis and Price (1987) argue that imagery processing will affect both the probability and the valence assigned to purchase outcomes. These biased expectations, in turn, may lead to greater discrepancies between actual and imagined outcomes culminating in higher levels of consumer dissatisfaction (Anderson 1973; Oliver and DeSarbo 1988).

Some research supports that imagining future events leads to a conjunctive bias because a probability is assigned to an entire or imagined scene rather than being assigned to the individual set of elements that comprise the scene. This leads to an overestimation of the likelihood that a sequence of events will unfold as imagined (Einhorn and Hogarth 1984, Kahneman and Tversky 1982). Other research indicates that elaborated imagery not only biases probabilities assigned to contingent events, it also affects more directly consumers' expectations that imagined events will occur. The very act of creating a sensory analogue of the outcome (via imagery), makes the outcome appear more real and hence, more likely (Anderson 1983; Carroll 1978; Sherman, Cialdini, Schwartzman and Reynolds 1984). For example, Sherman et al (1984) found that students who imagined the symptoms of a given disease rated the likelihood that they would contract the disease as higher than students who did not engage in imagery.

As noted in MacInnis and Price (1987), elaborated imagery may also lead to a valence bias in imagining future events (see O'Neal 1974). Specifically, individuals are more likely to focus on positive imagined future outcomes than negative ones. Again, the sensory analogue properties of imagery processing are an important envoy for this bias. The fact that imagery provides a sensory analogue makes it natural for consumers to focus on outcomes that feel good.

The likelihood and valence biases associated with imagery processing have potentially negative implications for resultant consumption satisfaction. If consumers imagining purchase outcomes focus only on positive ones, and assess upwardly biased probabilities that the imagined event will unfold as imagined, there is a good chance that the actual purchase outcomes will fall short of the expectations formed through imagery. Disconfirmation of expectations has been noted in the satisfaction literature as a major factor influencing consumer dissatisfaction (Oliver and DeSarbo 1988; Tse and Wilton 1988). There is some suggestion that even favorable outcomes, if different than expected, may give rise to dissatisfaction (Anderson 1983). Thus, elaborated imagery, by biasing perceived

likelihoods, contingent probabilities and the positivity of future events may reduce consumers' satisfaction with the experienced event.

THE ROLE OF CONSUMER EXPERIENCE

MacInnis and Price (1987) postulate that imagery processing and consumer experience and expertise in the product category may interact to affect purchase satisfaction. In the case of discursive processing, product experience and knowledge are related to important differences in memory and cognitive structure that affect information search and processing (Alba and Hutchinson 1987). However, almost nothing is known about the effect of consumer experience on imagery processing. MacInnis and Price (1987) speculate that consumers who are product novices are likely to have a relatively modest store of information in memory from which to build scenarios of purchase outcomes. Because knowledge stores are impoverished, individuals with little or no product experience may imagine relatively few purchase outcomes. Moreover, given the positivity bias expected with imagery processing, novice consumers are likely to imagine these few scenarios as being positive in nature. Finally, because imagery processing heightens expectations that the positive events constructed from the limited storehouse will actually unfold as planned (a likelihood that is actually quite slim), there is considerable opportunity for dissatisfaction on the part of the novice consumer.

In contrast, MacInnis and Price (1987) argue that a different set of conditions may operate for more experienced consumers. Because of their richer knowledge base, experienced consumers may imagine the anticipated event as unfolding in many ways. Moreover, although experienced consumers too are likely to favor positive outcomes in their imagining, their past experiences may prompt them to consider negative outcomes as well. By imagining many different outcomes, and incorporating both favorable and unfavorable outcomes, their expectations for any one event occurring are likely to be lower than those for novices. Consequently, for experienced as compared to inexperienced consumers, there is a greater probability that at least one of the imagined events will unfold as planned (compared to the single event imagined for novices). Moreover, because experienced consumers incorporate into their imagery potentially negative outcomes, they may also engage in behaviors that reduce the probability that negative events will occur or affect their plans. Lowered expectations for a single positive event, along with imagery of negative events and risk reduction actions, may simultaneously reduce expectations for a single event, and increase ultimate satisfaction with the imagined event.

Examining the role of imagery processing and experience on consumer expectations and satisfaction suggests a main effect of imagery processing, and an interaction of imagery

processing and consumer experience on a positivity bias in expected outcomes, confidence in expectations, expectancy-disconfirmation and satisfaction. Specifically, based on extant theory, imagery processing when combined with low levels of experience should result in more positivity bias, more expectancy-disconfirmation, and less satisfaction. In contrast, imagery processing when combined with high levels of experience should result in less of a positivity bias, less expectancy-disconfirmation and more satisfaction.

ANTECEDENTS OF IMAGERY PROCESSING

The limited consumer research exploring imagery processing has generally manipulated task stimuli to induce imagery processing (see discussion MacInnis and Price 1987). This provides valuable insights into the separate effects of discursive and imagery processing, and the ability of specific variables (such as pictures, instructions to imagine, etc.) to induce imagery processing. However, such research does not provide exploratory insights into naturally occurring imagery processing and its antecedents.

Some research has supported individual differences in preferences for imagery processing and the use of imagery in everyday life (Childers, Houston and Heckler 1985; Rossiter and Percy 1978; Singer and Antrobus 1972). For example, Singer and Antrobus (1972) suggest that individuals may differ in both the level and content of their imagery. Thus, individuals will differ in their tendency to engage in vivid imagery, use imagery in anticipating the future and solving problems, and/or use imagery to fantasize.

Several characteristics of the consumption experience may also motivate imagery processing. Although the relationship of preconsumption imagery to hedonic consumption activities has not been explored, some research has suggested substantial levels of imagery when engaged in hedonic consumption activities (Hilgard 1978). Playful consumption has been proposed as a domain where imagery appears to play a particularly important value-enhancing role (Holbrook, Chestnut, Oliva, and Greenleaf 1984). In addition, stimuli high on perceived novelty may stimulate imaging of applications and outcomes (Oliver, Robertson and Mitchell 1989). Finally, large expenditures for events of limited duration (such as weddings, proms, and special vacations) may invite preconsumption imagery as a way of enhancing their valuation beyond the typically conceived duration of the event (MacInnis and Price 1987).

EXPLORATORY STUDY

Research was conducted to investigate whether imagery processing and consumer experience interact to affect consumer expectations and satisfaction in a hedonic consumption context, and to explore some individual and situational antecedents of naturally occurring imagery processing. One hundred ninety three undergraduate

TABLE 1
Correlation Among Use of Imagery Measures

	Imagery Processing (1)	Spent Time Imagining (2)	Generated Multiple Scenarios (3)
(1)	1.00	.63	.60
(2)		1.00	.64
(3)			1.00

n= 193

students from a large western university responded to two questionnaires about spring break. The sample was comprised almost equally of men (51%) and women (49%), with the majority (67%) between the ages of 21 and 24. Twenty three percent were between 18 and 20, and about 10% were over 24. Most of the respondents spent less than \$300 on spring break (78%), spent spring break with friends (66%), and considered it to last 6 days or more (62%).

Prior to spring break students were asked to indicate what activities they expected to engage in over spring break, and what they hoped spring break would offer (i.e., rest and relaxation, adventure, etc.). After spring break, these same students were again asked to recall what activities they planned to engage in, and also asked what activities they did engage in. A content analysis of the planned activities between the first and second questionnaires revealed very high consistency in reports of expected activities before and after spring break.

The results reported in this study focus on an analysis of the second questionnaire. This survey asked about the use of imagery prior to spring break, individual differences in imagery processing, experience with and expectations regarding the planned event, and spring break outcomes (i.e. whether it turned out as expected and satisfaction). Several descriptors of spring break were also included (i.e., amount of money spent, number of days away, activities engaged in). Finally, basic demographic information was collected.

Measures

Use of Imagery. The primary measure of imagery processing was a four item scale ($\alpha=.84$, mean= 4.54) to assess the extent to which consumers generated imagery about spring break (unless otherwise indicated, means are reported on a 1 to 7 scale). For example, "When I thought about spring break, my thoughts included the sights, smells, and/or sounds of the activities I would be engaged in." A five item scale ($\alpha=.85$, mean = 4.20) was designed to assess the extent to which they imagined many different scenarios. For

example, "In my mind, I played out many different scenarios of what I was going to do." A single item measure of time spent imagining (i.e., "I spent considerable time imagining what I would do," mean= 4.2) was also included. Standard deviations on these measures ranged from 1.27 to 1.65, indicating substantial variation between consumers in their use of imagery prior to spring break. Relationships between these measures of imagery use are provided in Table 1. As indicated, consumers who generate imagery also seem to spend a great deal of time imagining, and seem to imagine many different scenarios. Based on average levels of the primary measure of imagery processing, respondents were divided into a Low Imagery (n=99, mean=3.5) and High Imagery (n=94, mean=5.6) group.

Experience. A four item scale ($\alpha=.78$, mean = 4.4) was used to assess whether consumers were familiar with the activities and events they would be engaged in over their spring break. For example, "My spring break plans included activities I've done many times before." The standard deviation was 1.6 suggesting considerable variability. Based on the average experience level, respondents were divided into a Low Experience (n=91, mean=2.9) and High Experience group (n=102, mean= 5.7). The low and high experience groups did not differ in imagery processing (4.6, 4.5), the extent to which they imagined multiple scenarios (3.8, 3.6) or time spent imagining (4.3, 4.1).

Consumer Expectations. The item "My images of what I would do included only positive experiences," (mean= 4.20) was included to assess whether consumers considered only positive events when imagining their spring break. Confidence in expectations was assessed by a single item "How confident were you that it would happen just as expected?" (mean= 5.4). The relationship between these two items was positive (.12, $p < .05$), but small.

Spring Break Outcomes. Single items measured the extent to which spring break happened as expected (mean= 5.0), and the extent to which it included many new experiences (mean= 4.0). In

TABLE 2
Means for Expectations, Expectation-Confirmation and Satisfaction by Experience and Imagery Processing

Dependent Measure	High Imagery		Low Imagery	
	High Experience	Low Experience	High Experience	Low Experience
Positivity Bias	4.37	4.76	3.52	4.20
Confidence in Expectations	5.54	5.67	5.72	4.85
Expectation Confirmation	5.04	5.56	5.21	4.32
Satisfaction	4.47	5.63	4.07	4.53
n	52	42	50	49

addition, a seven item scale ($\alpha = .88$, mean = 4.6) asked how satisfied consumers were with their spring break. For example, "Compared to other spring breaks, my spring break was not that good." (reverse scored). Standard deviations on these measures ranged from 1.39 to 1.78. The correlations between satisfaction with spring break and both the inclusion of many new experiences (.39) and it turning out as expected (.35) were positive and significant. The relationship between spring break turning out as expected and including new experiences was non-significant (.06).

Individual Differences. The three scales developed to measure individual differences in imagery processing were based on modification of the Imaginal Process Inventory (Singer and Antrobus 1963, 1972; Huba, Singer, Aneshensel and Antrobus 1982). One was a seven item scale ($\alpha = .83$, mean = 4.7) designed to assess consumers' tendency to engage in vivid imagery. For example, "Compared to most people I believe my dreams and fantasies are more vivid." A second individual difference measure was a seven item scale ($\alpha = .78$, mean = 5.4) assessing consumers' use of imagery to plan future events/activities. For example, "I find my daydreams are useful for planning things in the near future." Finally, a five item scale ($\alpha = .56$, mean = 4.2) assessed consumers' tendency to engage in fantasy imagery. For example, "Lots of times, even in the middle of my work, I'll find myself fantasizing about something." Standard deviations for these three individual difference measures ranged from .89 to 1.1, and correlations between the three measures ranged from .31 to .57.

Results

The major purpose of this study was to test whether experience and imagery processing interact to affect a positivity bias in imagined outcomes, confidence in expectations, expectation-confirmation and satisfaction. A series of ANOVAs were performed to test the central hypothesis that experience and imagery processing interact. The results are given in Table 2. As predicted, imagery processing and experience affect the positivity bias of expected outcomes. Specifically, experience leads to less positivity bias ($F = 5.3$, $p < .05$) and imagery processing ($F = 9.0$, $p < .005$) to more. However, contrary to predictions, the interaction effect is not significant.

Confidence that spring vacation would turn out as expected was affected by experience ($F = 3.8$, $p < .05$), and the interaction of experience and imagery processing ($F = 6.6$, $p < .01$), but not imagery processing alone. Specifically, consumers with low experience who generated very little imagery about the experience were significantly less confident that things would turn out as expected, and they were right. That is, Table 2 also reports a significant interaction between experience and imagery processing on whether the vacation turned out as expected ($F = 7.6$, $p < .01$). Surprisingly, experience did not have a significant main effect on confirmed expectations, but imagery processing had a marginally significant main effect ($F = 3.9$, $p < .05$). (The belief that imagining can make it so may have some truth to it.) Finally, as indicated in Table 2 there is a significant main effect of imagery processing ($F = 15.2$, $p < .001$) and experience ($F = 18.4$, $p < .001$) on satisfaction. In addition, the interaction of imagery and experience is marginally significant ($F = 3.58$, $p < .06$). However, contrary to expectations, imagery processing had a positive

TABLE 3
Predictors of Imagery Processing

Independent Measure	Imagery Processing		
	B	t	p
Individual Differences			
Anticipatory Imagery	.13	1.53	ns
Fantasy Imagery	.04	.63	ns
Vividness of Imagery	.07	.88	ns
Gender	.04	.55	ns
Age	.05	.75	ns
Situational Variables			
Experience	.05	.72	ns
Money Spent	.13	1.76	.08
Days Away	.28	3.48	.001
Adjusted R2 .14			
n=193			

effect on satisfaction and experience had a negative effect. Thus, of all the groups, low experience individuals who engaged in imagery processing were most satisfied with their spring vacation.

One possible explanation for this finding is that, at least in this context, new experiences contribute to satisfaction and low experience individuals engaged in many more new experiences than high experience individuals. Results are consistent with this explanation. New experiences contribute to satisfaction ($F=6.6$, $p<.01$), but new experiences do not interact with experience or imagery in affecting satisfaction. However, low experience individuals reported many more new experiences (5.0) than high experience individuals (3.4) ($t= 6.3$, $d.f.= 191$).

An interesting implication of the pattern of results on the relationship between imagery processing and satisfaction is that imagery enhances satisfaction whether the break conforms to expectations or not. An analysis of variance using imagery processing and outcomes as expected or not as the independent variables, and satisfaction as the dependent variable, indicated only main effects for imagery processing ($F=12.9$, $p < .001$). The pattern of means revealed that consumers who engaged in imagery were more satisfied with the outcomes of their spring break (mean = 4.99) than consumers who did not engage in imagery (mean = 4.30), whether their break conformed to expectations or not.

A related purpose of this research was to explore the antecedents of imagery processing. Regression analyses were conducted to identify the predictors of imagery processing. The independent variables in the model included individual difference measures (use of anticipatory imagery, fantasy

imagery, vividness of imagery, gender and age), and situational variables related to spring break (prior experience with planned trip, money spent, number of days away). The results are reported in Table 3. Surprisingly, individual differences in imagery had virtually no impact on imagery processing. The novelty of the stimuli, as captured by prior experience with the planned break, also had no impact on imagery processing. However, the amount of investment (both in terms of money and time) was a significant predictor of preconsumption imagery.

DISCUSSION

We deliberately chose a hedonic consumption activity to explore naturally occurring preconsumption imagery. The present research suggests that consumers engage in imagery processing in anticipation of such activities. Moreover, individual difference variables seem to play a relatively small role in predicting imagery. Situational variables such as the duration of the vacation and money spent seem to be better predictors of imagery. The importance of these variables is consistent with the expectation that preconsumption imagery has value-enhancing properties. Such value-enhancement may be more important in the case of significant investments.

Results on the interaction of imagery and experience in affecting expectations, expectation-disconfirmation and satisfaction were interesting, but surprising. Although, as expected, imagery processing leads to a positivity bias, and leads to greater confidence that events will unfold as expected, it does not lead to greater expectancy disconfirmation, and leads to higher (rather than lower) levels of satisfaction. What's especially

provocative is that imagery has a direct effect on satisfaction, whether or not the event unfolds as imagined. This finding supports the argument that a satisfaction model based on extent of disconfirmation of a pre-experience comparison standard is too limited to capture a diversity of consumption experiences (Tse and Wilton 1988). Specifically, when learning, adventure, and novelty motives are important, a consumer may be satisfied regardless of the levels of pre-experience comparison standard and disconfirmation (Cohen and Houston 1972, Price and Fisher 1989).

Especially for low experience individuals, imagery leads to higher levels of expectancy confirmation and satisfaction. That is, despite a positivity bias, imagery appears to help low experience individuals predict what to expect. Low experience individuals were able to generate just as many scenarios as high experience individuals, and use of imagery, and time spent imagining did not differ between the two groups. Thus, contrary to predictions, imagery processing seems to be a positive decision tool for low experience consumers, helping them to play out various outcomes.

In general, experience had an unexpected relationship to satisfaction that is perhaps partially a function of the context. As expected, experience lead to less positivity bias. In addition, experience increased confidence that spring vacation would turn out as expected, although it did not lead to more expectancy confirmation. Moreover, experience contributed to lower levels of satisfaction. Perhaps because spring break is viewed as an adventure, and new experiences are highly prized, the expected relationship between experience and satisfaction was not supported.

The reported study is obviously exploratory and is perhaps most useful when viewed as an invitation to engage in further research. The study explored only one imagery domain-- one that, students would be quick to offer, invites the imagination. Although the design incorporated pre-spring break and post-spring break measures, the results of the reported study relied on retrospective reporting. Finally, measures were developed for this study. Inadequate measurement of individual differences may partially account for their poor predictive ability.

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Generalization of the Market Maven's Information Provision Tendency Across Product Categories

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ABSTRACT

Market mavens are individuals who are thought to possess and provide information about the marketplace to other consumers. Previous research has demonstrated that market mavens provide information to other consumers on nondurables. The current study shows that market mavens provide information on a broad variety of goods, services and marketplace characteristics. The potential use of market mavens as promotional targets is explored and research implications are considered.

Market maven is a term introduced to the marketing literature by Feick and Price in 1987. They state that market mavens are, "individuals who have information about many kinds of products, places to shop, and other facets of markets, and initiate discussions with consumers and respond to requests from consumers for market information." The market maven concept describes a person who has an active interest in the marketplace. The concept is consistent with previous research which has identified certain types of consumers who seem to be more generally interested in the market than average consumers.

For example, Bellenger and Krogaonker (1978) describe "recreational shoppers" as enjoying shopping and engaging in active shopping as a means of obtaining market information. Thorelli and Engledow (1980) identify "information seekers" as making up ten to twenty percent of the population and being opinion leaders, innovators and market vigilantes. Raju (1980) has shown that consumers who have high optimal stimulation levels engage in more exploratory behaviors in the marketplace than other consumers including: information seeking, interpersonal communication and innovation. In addition, Slama and Tashchian (1983; 1985) have demonstrated that certain consumers are more generally "involved" in the marketplace than others. They distinguish this type of marketplace involvement from product involvement and show that it leads to greater shopping effort. Finally, Lesser and Hughes (1986) have identified "active" information seeking consumers as being one of the most commonly appearing groups in psychographic market segmentation studies.

Thus, there is ample support for the notion of active, information seeking consumers. One type of these is the market maven. In fact, being a "smart shopper" seems to be a role played by the market maven along with the information provision role. Support for this comes from findings that market mavens are more likely than other consumers to: use shopping lists, plan grocery shopping with

advertisements, budget for groceries, and use coupons (Price, Feick and Guskey-Federouch 1988).

Some of the other characteristics of market mavens which have been documented relate to possession and provision of market place information, search activities and enjoyment of shopping. Market mavens have been shown to be more aware of new products and brands in the food and drug product categories than other consumers. They are also active providers of information on these product categories to other consumers. With regard to search activities mavens place more importance on all advertising media than other consumers and can be effectively reached through direct mail advertising and local direct mail classified papers. The tendency to be a market maven is also significantly correlated with the enjoyment of shopping (Feick and Price 1987; Higie, Feick and Price 1987).

What makes market mavens particularly interesting to marketers is their impact on other consumers through innovation and interpersonal communication. In this respect market mavens are similar to both early purchasers of products and opinion leaders, however, their influence is more general. Marketers have traditionally been interested in opinion leaders as information providers who seek information from the media and provide it to the public. An opinion leader's interest in a specific product category appears to be a major motivation for their opinion leadership (Bloch 1986; Jacoby and Hoyer 1981) and therefore opinion leadership is thought to be product specific as opposed to the market maven's information provision tendency which is thought to span many product categories. Early purchasers also provide information to the public by using and talking about new products, however, their expertise arises from early purchase of a specific product and their influence pertains primarily to that product as opposed to the more general influence of market mavens. In validating their market maven scale, Feick and Price (1987) were able to show that the tendency to be a maven, the tendency to be an opinion leader and the tendency to be an early purchaser are three related but distinct concepts.

The general influence of market mavens makes them particularly attractive promotional targets for retailers who carry many products and wish to convey information to the public about sales, low prices, product variety and other aspects of store operations in addition to information on specific products. It is unlikely that early purchasers and opinion leaders would provide much promotional leverage in delivering such a broad range of information to the public. Research has shown that market mavens are valuable in transmitting information about retailers. Mavens

talk significantly more than other consumers about the attributes of grocery stores, department stores and discount stores than do other consumers. The attributes most discussed include: special sales, usual prices, product quality and product variety (Higie, Feick and Price 1987).

The purpose of the current research is to extend on the notion that the market maven is a general provider of marketplace information by examining the market maven's tendency to provide information to other consumers for a variety of products and marketplace characteristics. Feick and Price (1987) have shown that mavens provide more information than average consumers on nondurable products (food and drug items) but it is not known how much mavens talk about an array of products including durables. In the Feick and Price (1987) study opinion leadership (operationalized as product knowledge and influence over others) was correlated with the market maven scores for nondurable goods, but, not for durable goods. This suggests that the information provision of the maven may not be even across product categories. The present study examines the market maven's information provision for: Durables, nondurables, services, and market characteristics in order to extend on previous research findings and determine the extent to which the market maven is a "general" marketplace information provider.

METHODOLOGY

In order to determine how information provision varies with a person's tendency to be a market maven a survey was conducted. The respondents in this survey were married couples chosen randomly from the telephone directory of a western city. The interviewing procedure involved the personal delivery and collection of self-administered questionnaires. This technique is a variation of the "drop off" method described by Sudman, Greeley, and Pinto (1965). The difference between this procedure and the drop-off method is that the interviewer waits for the respondent to complete the questionnaire rather than returning to pick it up at a later date.

Lovelock, et al. (1976) recommend the use of lightly trained interviewers as an effective and cost-efficient method for the personal delivery of self-administered questionnaires. The interviewers used in this research were undergraduate marketing students who underwent a two-hour training session regarding the method of data collection.

The interviewers were given a list of randomly selected respondents and asked to contact each household marked on the list. If the selected households could not or would not participate, interviewers were instructed to contact the next person on the list until a quota was obtained. Only households where both the husband and wife agreed to participate were included in the survey. If husband and wife were not both home during the initial call, the interviewer would make an appointment to return and have the couple complete the questionnaire during the return visit. A sample

of 306 couples was obtained from the sampling process. A demographic profile of the sample is presented in Table 1. The questionnaire for the survey included the market maven scale, measures of information provision and other psychographic and demographic questions.

The Market Maven Scale

The market maven scale measures a person's tendency to be a general provider of many types of market information to others on an informal basis. It is a six item, seven point, Likert Scale developed by Feick and Price (1987). In validating the scale they obtained a Cronbach's alpha of .82. They also demonstrated the nomological validity of the scale by obtaining significant correlations between its scores and measures of opinion leadership, innovativeness, possession of market information, provision of market information, and information seeking.

Measures of Information Provision

In order to determine how often respondents provide market related information to other people, five point scales were used. The stem of the scales said, "Please rate the indicated items on how often you tell others about them." The responses were rated from one (never) to five (very often). Intermediate response categories were almost never, not very often, and somewhat often. There were twenty one items including: prices, sales, product quality, store personnel, store location, new products, food products and items relating to fourteen product categories (Table 2). This method of assessing information provision is similar to that used by Feick and Price (1987). It differs from the market maven scale in that the questions address specific products, services and market characteristics while the maven scale items do not.

Design

Following the practice of Feick and Price (1987) respondents were divided into three categories based on their scores on the market maven scale. The top scoring one third of respondents were designated as market mavens or the high scoring group, the next two thirds were the medium and low scoring groups. MANOVA was used to determine whether the information provision scores differed between the low, medium and high scoring groups. Univariate F-tests were also examined. Separate analyses were made for men and women because the market maven tendency is more common among women and may have a different impact depending on gender.

RESULTS

For both men and women the overall MANOVA results indicated a statistically significant difference between the information provision score centroids for low, medium and high scorers on the market maven scale. In almost all cases the respondents who scored higher on the market maven scale also scored higher on the information

TABLE 1
Demographics of the Sample

	<u>Percent</u>	
AGE	Husbands	Wives
Less than 25	24.3	32.4
26 - 35	32.8	28.5
36 - 45	14.8	14.6
46 - 65	20.7	19.5
66 +	7.4	5.0
EDUCATION		
8 yrs. or less	1.8	.4
9 - 11 yrs.	1.4	3.4
12 yrs.	13.7	21.6
1 yr. college	14.4	18.9
2 - 3 yrs. college	23.6	28.0
College grad.	26.1	18.9
Masters	11.3	7.8
Doctorate of professional	7.7	1.0
FAMILY INCOME		
	<u>Percent</u>	
Under 5,000	1.5	
5,000 - 9,999	4.1	
10,000 - 14,999	9.7	
15,000 - 19,999	10.9	
20,000 - 24,999	10.9	
25,000 - 34,999	26.2	
35,000 - 49,999	18.3	
50,000 - 74,999	14.7	
75,000 - 99,999	2.6	
100,000 +	1.1	

TABLE 2

Information Provision Scores for Men Scoring Low, Medium and High on the Market Maven Scale

	<u>F</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Overall</u>
Product Quality	50.6	3.000	3.305	3.990	3.426
Restaurants	31.4	3.135	3.500	3.927	3.511
Auto Repairs	30.3	3.019	3.488	3.792	3.418
Automobiles	22.9	2.981	3.341	3.656	3.316
Prices	67.4	2.433	3.037	3.594	3.004
Sales	62.8	2.452	2.951	3.573	2.979
Stereo and TV	41.5	2.519	3.037	3.427	2.979
New Products	65.3	2.250	2.549	3.365	2.716
Food Products	35.3	2.269	2.463	3.083	2.603
Store Personnel	19.8	2.452	2.561	3.052	2.688
Store Location	28.5	2.288	2.427	3.010	2.574
Clothing	29.1	2.240	2.537	3.000	2.585
Banks	28.7	2.212	2.537	2.969	2.564
Furniture	29.9	2.144	2.476	2.917	2.504
Gifts	25.8	2.144	2.220	2.813	2.394
Investments	21.6	2.135	2.439	2.792	2.447
Real Estate	17.7	2.125	2.549	2.698	2.443
Small Appliances	31.2	1.865	2.256	2.656	2.248
Medical Services	1.7 ⁿ	2.490	2.671	2.625	2.589
Over the Counter Drugs	10.7	1.856	2.183	2.302	2.103
Personal Grooming Aids	10.2	1.788	1.988	2.240	2.000

ⁿ not significant at alpha = .01

TABLE 3

Information Provision Scores for Women Scoring Low, Medium and High on the Market Maven Scale

	<u>F</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Overall</u>
Sales	40.3	3.050	3.600	4.035	3.575
Restaurants	6.0 ⁿ	3.563	3.830	3.930	3.782
Product Quality	31.9	3.038	3.330	3.895	3.425
Clothing	16.6	3.150	3.580	3.767	3.511
Prices	43.2	2.725	3.300	3.744	3.271
New Products	53.0	2.563	2.970	3.674	3.075
Food Products	35.7	2.738	3.280	3.663	3.241
Medical Services	23.8	2.738	3.360	3.419	3.192
Gifts	21.2	2.687	3.210	3.372	3.105
Personal Grooming Aids	36.6	2.425	2.980	3.360	2.936
Store Personnel	29.2	2.538	2.710	3.326	2.857
Store Location	17.9	2.575	2.811	3.220	2.872
Furniture	33.0	2.325	2.930	3.198	2.835
Over the Counter Drugs	20.1	2.275	2.560	2.965	2.605
Stereo and TV	16.0	2.300	2.670	2.919	2.639
Auto Repairs	19.3	2.263	2.780	2.907	2.665
Small Appliances	18.6	2.225	2.590	2.895	2.579
Automobiles	16.4	2.263	2.750	2.849	2.635
Banks	8.9 ⁿ	2.188	2.430	2.651	2.429
Real Estate	9.9 ⁿ	1.838	2.170	2.314	2.117
Investments	9.6 ⁿ	1.650	1.940	2.128	1.914

ⁿ not significant at alpha = .01 .pa

provision variables. The only exception was for medical services in the men's sample. For medical services the medium scorers on the market maven scale reported the most information provision, but the differences between groups were insignificant.

In the women's sample the most talked about aspects of the market place for market mavens were (in order from most to least talked about): sales, restaurants, product quality, clothing, prices, new products, and food products. For each of these items the mean score was above 3.5 meaning that the market mavens tended more toward talking about these "somewhat often" (coded 4) than "not very often" (coded 3).

In the men's sample the most talked about items for market mavens were (in order): product quality, restaurants, auto repairs, automobiles, prices and sales. These items all had mean scores above 3.5. The next three items were stereo & TV, new products, and food products. The new products and food products scores were relatively high on information provision in both the men's and women's samples.

The notion that information provision for durable goods and nondurable goods would be differentially related to the market maven tendency is not implied by the results. In Table 2 significant differences are reported between the male market maven groups for food products, automobiles, personal grooming aids and furniture.

These products represent a mix of durables and nondurables. In fact, in the men's sample the

only insignificant differences are for medical services. This may be due to a lack of interest, infrequency of use or knowledge. In the women's sample (Table 3) the market maven tendency is also associated with significant differences in information provision for a mix of durable and nondurable goods. For example, significant differences occur for food products, clothing, furniture and personal grooming aids.

DISCUSSION

Some of the findings of this study are remarkably consistent with the findings of previous maven studies. Feick and Price (1987) found that mavens provide greater amounts of information concerning food products to consumers other than nonmavens. Mavens were also found to possess greater amounts of information about new products. The current findings that mavens provide more information than nonmavens about new products and food products coincide with the previous findings. Higie, Feick and Price (1987) found that mavens provide more information on store prices, sales and product quality than nonmavens. These findings also emerge in the current study. Thus, the high absolute amount of information provision and the relatively large differences between mavens and nonmavens for information provision on prices, sales, product quality, food products and new products are reassuringly similar to the findings of previous studies.

The current study extends on the findings of previous studies, however, by showing the generalizability of the information provision tendency of the market maven across product classes. In the men's sample twenty out of twenty one of the information provision variables were significantly different across the high, medium and low scoring market maven groups. For the women seventeen out of twenty one were significantly different. Clearly the market maven provides information on a variety of product offerings to other consumers.

Previous research by Feick and Price (1987) left some doubt as to whether market mavens would provide information for durable goods as well as nondurable goods to other consumers. The current findings show that mavens provide information for durables, nondurables, and services.

The few insignificant differences in information provision among the market maven groups occur for products which are not often discussed including medical services for men and banks, real estate, and investments for women. The one exception to this is restaurants which are discussed a substantial amount by all of the groups of women. Given the general nature of the market maven's influence, future research should consider the interaction among market mavens, early purchasers and opinion leaders as suggested by Feick and Price (1987). It would seem that, because of their general knowledge, mavens would be more regularly sought out by information seekers than either early purchasers or opinion leaders. Perhaps for inexpensive purchases only a maven would be consulted. For more expensive purchases the maven may play an information gatekeeping role, referring others to the appropriate opinion leaders and early purchasers with more specific information.

Finally, little is known about whether market mavens provide negative as well as positive information about the marketplace. Future research should also examine the impact of market mavens on negative word of mouth advertising and complaining behavior.

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An Assessment of the Moderating Effects of Market Mavenism and Value Consciousness On Price-Quality Perception Accuracy

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Conceptual definitions of market mavenism and value consciousness found in the consumer behavior literature suggest that consumers who possess higher levels of these two traits should be more informed regarding marketplace prices and quality than consumers who possess lower levels of these two traits. On this premise, hypotheses regarding the relationship between market mavenism, value consciousness, and price-quality perception accuracy are offered and tested. Contrary to the hypotheses, however, support was not found for the contention that consumers who possess higher levels of market mavenism (H1) or higher levels of value consciousness (H2) perceive price-quality relationships with more accuracy than consumers who possess lower levels of these two traits

A topic that has received great attention in the consumer behavior literature is the relationship between price and consumer quality perceptions. While many studies have found evidence of a positive price-perceived quality relationship (e.g., Lichtenstein, Bloch, and Black 1988; Lichtenstein and Burton 1989; Peterson and Wilson 1985), research evidence suggests that this relationship is person and product-dependent (i.e., it varies across individuals and products being judged (e.g., Lichtenstein and Burton 1989; Monroe and Krishnan 1985; Peterson and Wilson 1985; Zeithaml 1987)).

Another stream of research dealing with the topic of price and quality concerns the relationship between price and "objective" quality (i.e., quality as it "actually" exists in the marketplace). These studies have relied almost exclusively on quality ratings from *Consumer Reports* magazine for their measures of objective quality. Findings from this research suggest that the overall relationship between price and objective quality is low, but that it varies from strongly positive to strongly negative across product categories (cf. Gerstner 1985; Morris and Bronson 1969; Oxenfeldt 1950; Riesz 1978, 1979).

As part of a large data collection designed to integrate the price-perceived quality and price-objective quality research streams (i.e., assess how well consumers' price-quality perceptions correlate to price-objective quality relationships) that is reported in Lichtenstein and Burton (1989), it was of interest to ascertain if price-quality perception accuracy was moderated by the degree of market mavenism (Feick and Price 1987) and value consciousness (Lichtenstein, Netemeyer, and Burton 1989; Zeithaml 1988). Although research evidence suggests that the relationship between price and perceived quality varies across individuals (e.g., Peterson and Wilson 1985), little research has assessed if the *accuracy* of these perceptions also

varies across individuals (i.e., do the price-quality perceptions of some individuals correspond to price-objective quality relationships more strongly than the perceptions of others?) Based on conceptualizations of market mavenism (Feick and Price 1988) and value consciousness (Lichtenstein et al. 1989; Zeithaml 1988), it seems plausible to suggest that consumers who are market mavens or value conscious perceive price-objective quality relationships with greater accuracy than those consumers who are not market mavens or value conscious. Peterson and Wilson (1985) suggest that if individuals who differ on variables related to price-perceived quality relationships can be identified and segmented from one another, perhaps more of the variance in the relationship between price-perceived quality and price-objective quality can be explained. The present study represents an attempt to accomplish this goal.

Market Mavenism

Market mavens have been defined as "individuals who have information about many kinds of products, places to shop, and other facets of markets, and initiate discussions with consumers and respond to requests from consumers for market information" (Feick and Price 1987, p. 85). Feick and Price state that characteristics of market mavens include possession of a wider variety of marketplace information, more attentiveness to the marketplace in general, more engagement in generalized, as opposed to product-specific search, and a higher propensity to use a variety of sources to find out about new products in the marketplace, e.g., readership of *Consumer Reports* magazine. Because price and product quality are two of the most salient pieces of marketplace information, it seems plausible to suggest that, relative to those of lower market mavenism, *across product categories* those of higher market mavenism should possess more, and more accurate, price and quality information, and hence, be in a position to more accurately assess the relationship between the two.¹

¹Hypotheses are tested by assessing the degree to which respondents' rankings (perceptions) of the strength of individual product category price-quality relationships (across 18 product categories) correlate to the rankings of the strength of price-quality relationships across the 18 individual product categories. It is *explicitly* recognized that because market mavenism manifests itself in higher levels of *generalized* marketplace knowledge, the market maven may not hold more accurate price-quality perceptions *within* a particular product category. However, across product categories, those of high market

H1: The correlation between price-perceived quality and price-objective quality across product categories is higher for those of higher market mavenism than for those of lower market mavenism.

Value Consciousness

Definitions of value appear to focus on two factors: price and quality. For example, Monroe and Petrosius (1981) define value as the ratio of quality to price. Zeithaml (1988, p.14) defines perceived value as "the consumer's overall assessment of the utility of a product based on what is received and what is given" in a purchase transaction. If one assumes that price and product quality are the most salient "give and get" components in a purchase transaction, then Zeithaml's definition of value is consistent with that of Monroe and Petrosius in their focus on price and quality. Because of this focus on price and quality for the value conscious consumer, high value conscious consumers should be in a better position to perceive price-objective quality relationships more accurately than low value conscious consumers.

H2: The correlation between price-perceived quality and price-objective quality across product categories is higher for those of higher value consciousness than for those of lower value consciousness.

METHOD

Product Selection

One limitation of previous price-perceived quality studies is that only a limited range of products has been investigated and justification for products chosen is usually not provided (Monroe and Krishnan 1985). The present study was conducted using eighteen product categories. The product categories were chosen based on the following criteria: (1) an equal split of durable and nondurable products; (2) for both durable and nondurable product categories, three products have a positive price-objective quality correlation shown to be stable over time, three have a zero price-objective quality relationship shown to be stable over time, and three have a negative price-objective quality relationship shown to be stable over time²; and (3) substantial variation in the price range across the product categories (cf. Monroe and Krishnan 1985).

Based on these criteria, the eighteen product categories shown in the Table (column B) were selected. As indicated in column C, nine of the

product categories were durables and nine were nondurables. As can be seen in column D (ignore for the moment the values in the parentheses in column D), for both the durables and nondurables, three of the product categories had stable positive price-objective quality relationships, three had stable (essentially) zero price-objective quality relationships, and three had stable negative price-objective quality relationships.

Description of Sample and Measures Used

Respondents in the study were 152 shoppers at a supermarket in a medium-sized midwestern SMSA. Specifically, two research assistants were positioned at different exits of a large supermarket. As shoppers exited the store, they were asked to participate in a survey by taking home a questionnaire to complete and return in a postage-paid envelope. Of the 700 surveys distributed, 152 were returned (response rate = 21.7%). Sixty-four percent of the respondents were female, the median age category was 35-44, the median education category was some college, the median household size was two people, and the median income category was \$25,000-\$34,999.

For each of the eighteen product categories, respondents' price-quality perceptions were assessed by their level of agreement with the statement "The higher the price of the product, the higher the product quality" (7=strongly agree, 1=strongly disagree) (Lichtenstein and Burton 1989; Peterson and Wilson 1985). Market mavenism was operationalized using the six-item scale developed by Feick and Price (1987). Example items include "People ask me for information about products, places to shop, or sales," and "My friends think of me as a good source of information when it comes to new products or sales" (7=strongly agree, 1=strongly disagree) (scale mean=23.48, standard deviation=8.84, range=6-39, alpha=.87). Value consciousness was operationalized using the seven-item scale of Lichtenstein et al. (1989). For example, two of the items were "When purchasing a product, I always try to maximize the quality I get for the money I spend," and "I always check prices at the grocery store to be sure I get the best value for the money I spend" (7=strongly agree, 1=strongly disagree) (scale mean=41.96, standard deviation=6.43, range=19-49, alpha=.77). Finally, a single seven-place scale item was used to assess perceptions of the usefulness of information provided by *Consumer Reports* magazine ("The information provided in *Consumer Reports* magazine is useful" (7=strongly agree, 1=strongly disagree) (mean=5.5, standard deviation=1.57)). Although no hypothesis was offered concerning this item, because *Consumer Reports* magazine is considered to be among the most reliable sources for product quality and price information (Gerstner 1985), and because the measures of price and quality employed in this study were based on *Consumer Reports*, it appears plausible to suggest that those who consider this information more useful should have more accurate price-quality perceptions.

mavenism are expected to hold more accurate price-quality perceptions than those of low market mavenism.

²In order to find product categories which satisfied these criteria, correlations between price and quality ratings for over 100 product categories rated at least twice by *Consumer Reports* magazine within the last 10 years were computed.

RESULTS

Results comparing price-perceived quality relationships with price-objective quality relationships are shown in the Table. In columns A and B of the Table, the price-perceived quality rankings from highest (10-Speed Bicycle) to lowest (Club Soda) are presented. The product type, either durable or nondurable, is shown in column C. The Spearman rank-order correlation between price and objective quality (computed from *Consumer Reports* magazine data) for each of the product categories is shown in column D³. For purposes of hypothesis testing, these price-objective quality correlation values were recoded to a 3-2-1 rank-order format. Positive price-objective quality correlations were recoded to a 3, near zero correlations were recoded to a 2, and negative correlations were recoded to a 1. These recoded values are reported in the parentheses in column D. The rationale for this recoding is that many of the product categories have very similar price-objective quality correlations, and small differences in these correlations would be inappropriately accentuated given the use of rank-order correlations. Hence, the more conservative approach employing the recoded values was used. The mean perceived price-quality scores across the total sample of respondents for the eighteen product categories are reported in column E. (These mean scores in column E are the basis for the order of rankings in columns A and B.) Mean price-perceived quality ratings based on median splits of the market mavenism, value consciousness, and *Consumer Reports* perceived usefulness scales are reported in columns F, G, and H, respectively. Spearman rank-order correlations between price-objective quality (using the recoded values in column D) and price-perceived quality rankings (columns E through H) are reported in rows A, B, and C in the bottom portion of Table 1 for the total sample of respondents (under column E) and for the subsamples of respondents based on the median splits (columns F through H).

The hypotheses are tested in two different ways. First, the correlations at the bottom of the Table 1 are assessed for their consistency with the hypotheses. (Higher positive correlations mean a stronger relationship between price-objective quality rankings and price-perceived quality rankings, and, hence, more accurate price-quality perceptions.) Next, results of t-tests between mean price-quality perceptions of the subsamples produced by the median splits are examined for each individual product category to assess their consistency with the hypothesized relationships.

For the total sample of respondents, the Spearman correlations at the bottom of the Table (under column E) suggests that respondents did perceive price-quality relations with a modest degree of accuracy.⁴ Further, nondurables were perceived with a slightly higher degree of accuracy than durables.

The first hypothesis postulates that the correlation between price-perceived quality rankings and price-objective quality rankings across product categories is higher for those of higher market mavenism than for those of lower market mavenism. The correlations at the bottom of Table 1 (under row F) do not provide support for H1. To further assess H1, the direction and significance of mean differences was examined. Support for H1 is provided when those of high market mavenism have higher mean price-quality perceptions than those of low market mavenism for product categories which have a positive price-objective quality relationship, and lower mean price-quality perceptions for product categories that do not have a positive price objective-quality relationship. By looking at the consistency of direction of means with that hypothesized for the market mavenism scale (see superscript e), only 6 of the 18 mean differences were in the hypothesized direction. Upon further inspection of the direction of mean differences, those of high market mavenism perceived stronger price-quality relationships than those of low mavenism across all eighteen product categories. It appears that the only reason that 6 were in the hypothesized direction was because there were six product categories that had positive price-objective quality relationships. Contrary to expectations, these results indicate that the degree of mavenism is totally unrelated to price-quality perception accuracy.

By looking at the correlations at the bottom of the Table relevant to value consciousness (under column G), it also appears that these data offer no

³These objective price-quality correlations reported in the Table are actually average correlations based on two different years of ratings by *Consumer Reports*. The individual correlations which comprise these averages, and the years from which the correlations were calculated, are reported in Lichtenstein and Burton (1989).

⁴The correlations in Row A at the bottom of the Table represent the rank-order correlations between the mean price-quality perceptions and the price-objective quality relationships (using recoded values), and hence, are based on a sample size of 18. Consequently, the power of the statistical tests are very low, and therefore statistical significance is not used here as a criterion for testing hypotheses. Similar procedures have been followed in price-objective quality research where the number of brands tested in product categories usually ranges from about 5 to 20, and these small sample sizes normally lead to nonsignificant results. Consequently, even though significance levels associated with the correlation coefficients are sometimes provided in these studies, as a rule, researchers have not relied upon them in evaluating results (cf. Gerstner 1985; Geistfeld 1977; Morris and Bronson 1969; Oxenfeldt 1950; Riesz 1979; Sproles 1977).

TABLE

THE RELATIONSHIP BETWEEN PERCEIVED AND OBJECTIVE PRICE-QUALITY RELATIONSHIPS

Price-Perceived-Quality Rank	Product	Product Type	Price-Objective Quality Relationship	Price-Perceived Quality Relationship ^a (Total Sample)	Market Mavenism		Value Consciousness		Consumer Reports Usefulness	
					High	Low	High	Low	High	Low
A	B	C	D	E	F	G	H			
1	10-Speed Bicycle	D	.84(3)	5.36	5.44	5.31 ^e	5.30	5.43	5.44	5.23 ^e
2	Cooking Range	D	-.28(1)	5.10	5.17	5.00	5.04	5.17 ^e	5.04	5.21 ^e
3	10-Inch Saucepan	D	.61(3)	5.08	5.14	5.04 ^e	5.10	5.06 ^e	5.06	5.16
4	Compact Disc Player	D	-.07(2)	5.07	5.23	4.93	5.10	5.03	5.04	5.30 ^e
5	Washing Machine	D	.51(3)	5.05	5.17	4.85 ^e	4.90	5.23	5.14	4.91 ^e
6	Half Gallon of Vanilla Ice Cream	ND	.60(3)	5.01	5.13	4.90 ^e	5.29	4.68 ^{e,c}	5.23	4.95 ^e
7	Stereo Speakers	D	-.21(1)	4.93	5.03	4.82	4.87	4.97 ^e	5.00	4.81 ^e
8	Blender	D	-.26(1)	4.54	4.74	4.28	4.79	4.39	4.56	4.63 ^e
9	Gas Barbecue Grill	D	-.01(2)	4.45	4.63	4.25	4.50	4.37	4.49	4.42
10	Box of 100 Tea Bags	ND	-.26(1)	4.40	4.41	4.33	4.25	4.62 ^{e,d}	4.33	4.33 ^e
11	Drip Coffee Maker	D	-.01(2)	4.39	4.77	3.92 ^e	4.52	4.28	4.25	4.54 ^e
12	12-Inch Frozen Sausage Pizza	ND	.51(3)	4.11	4.25	3.94 ^e	4.04	4.22	4.13	4.26
13	Facial Tissues	ND	.62(3)	4.04	4.13	3.97 ^e	3.86	4.25	3.91	4.19
14	Fabric Softener	ND	-.06(2)	3.42	3.64	3.16	3.59	3.22	3.47	3.42 ^e
15	Spray Cleaner	ND	-.53(1)	3.31	3.48	3.12	3.46	3.13	3.35	3.45 ^e
16	Oven Cleaner	ND	-.30(1)	3.24	3.55	2.91	3.42	3.05	3.33	3.34 ^e
17	Laundry Bleach	ND	-.04(2)	3.16	3.36	2.98	3.23	3.06	3.15	3.40 ^e
18	Club Soda	ND	.01(2)	3.10	3.38	2.84	3.46	2.70	3.20	3.02

Spearman Rank-Order Correlations Between Price-Objective Quality (Column D) and Price-Perceived Quality (Columns E-H)

(A) For all product categories (n=18)	.24	.28	.29	.34 ^d	.25	.35 ^d	.24
(B) For durable products only (n=9)	.32	.33	.29	.33	.35	.46 ^d	.16
(C) For nondurable products only (n=9)	.37	.42	.42	.45	.47 ^d	.61 ^c	.26

^a For all price-perceived quality means (column E-H), larger numbers reflect stronger price-perceived quality relationships.
^b D=durable, ND=nondurable.
^c $p < .05$.
^d $p < .10$.
^e Means in hypothesized direction (e.g., for the vanilla ice cream, which has a positive price-objective quality relationship, those of high value consciousness perceived a stronger price-quality relationship than those of low value consciousness)

support for H2. High value conscious consumers did perceive price-quality relationships across all 18 product categories slightly better than those of low value consciousness (.34 as opposed to .25), but the difference is too small to be taken as support for H2. Further, only 5 of the 18 mean differences are in the hypothesized direction (2 of these 5 differences were significant, one at the 0.05 level and one at the 0.10 level).⁵

Although no hypothesis was offered for the effect of the perceived usefulness of information provided in *Consumer Reports* magazine on price-quality perception accuracy, similar analyses to those reported above were conducted for this single-item scale (see bottom of Table under column H). From the Spearman correlations, it appears that those who perceive *Consumer Reports* magazine as providing more useful information do perceive price-quality relationships with greater accuracy than those who perceive the information as less useful. When the correlations are segmented by product type (durable vs. nondurable), support for this contention appears stronger. However, inspection of the 18 mean differences reveals that only 10 are in the hypothesized direction, a finding which can be explained by chance alone. Further, even though the correlations may suggest that those who perceive *Consumer Reports* magazine as providing more useful information do perceive price-quality relationships with more accuracy than those who perceive the information as less useful, this finding must be strongly qualified. The price-quality objective correlations were based on *Consumer Reports* data, and, hence, consumers who perceived the information as more useful may have read the information, and therefore been presensitized to the study stimuli. Had the price-objective quality ratings been taken from some other source, it is unknown how those who perceive *Consumer Reports* data as more useful would have fared vis-a-vis those who perceived it as less useful.

DISCUSSION AND LIMITATIONS

The purpose of this paper was to assess if market mavens and value conscious consumers hold more accurate perceptions of the relationship between price and quality than other consumers. Hypotheses postulating higher degrees of price-quality perception accuracy for higher levels of these two traits were not supported by the data.

To our knowledge, this is only the second study which investigates possible moderating relationships of person-related factors on price-quality perception accuracy. In the first such study,

Lichtenstein and Burton (1989) investigated whether price-quality perception accuracy varied as a function of if the respondent held a "price-perceived quality schema" or a "no price-perceived quality schema" or not, the degree of product involvement, product experience, perceived product knowledge, and a range of socioeconomic and demographic factors. Although measures of some of these variables were of unknown validity (e.g., the involvement, product experience, and perceived knowledge measures were single-item scales), none of the person-related factors showed any moderating impact on price-quality perception accuracy. Findings from the present study augment the findings of Lichtenstein and Burton (1989) by adding market mavenism and value consciousness to the list of person-related variables for which a moderating relationship on price-quality perception accuracy has been hypothesized and assessed, but with negative findings.

The failure to find a moderating relationship may be due to any of several factors. First, market mavens and value conscious consumers simply may not hold more accurate price and/or quality perceptions. While market mavens may be aware of new products and brands earlier, more apt to provide marketplace information to others, more apt to use diverse sources for providing information, more apt to enjoy shopping, more apt to pay attention to advertising, more apt to use (Feick and Price 1987) and swap coupons (Price, Feick, and Guskey-Federouch 1988), these characteristics simply may not translate into more accurate perceptions of marketplace prices and quality. Another possibility is that market mavens and value conscious consumers do hold more accurate price and quality perceptions, but they do not (or cannot) perform the cognitive algebra required to estimate product category price-quality relationships. In any event, results of this study suggests that the characterization of Price et al. (1988, p.354) of market mavens as "smart shoppers" may deserve some qualification.

Particularly interesting was the finding that market mavens perceived stronger price-quality relationships across all 18 product categories than did non-mavens. Perhaps market mavens have a higher degree of trust in the marketplace and believe in the old adage "you get what you pay for." Whatever the reason, given the preponderance of evidence which suggests that, overall, the relationship between price and quality in the marketplace is very weak (cf. Gerstner 1985), if the purchase behavior of mavens is consistent with their perceptions, there is a good chance that they will make many poor purchases.

Certain caveats are in order regarding interpretation of the findings of this study. First, as noted by many researchers (cf. Curry and Faulds 1986; Gerstner 1985; Lichtenstein and Burton 1989; Riesz 1978; 1979; Sproles 1986), to the degree that taste and preferences differences across consumers result in consumers valuing different attributes, the

⁵Because the hypotheses are directional, these significance levels reflect a one-tailed test of significance. Consequently, large differences in the means that are in the unhypothesized direction, which would normally have been significant for a two-tailed test, are not reported as significant for the present analysis.

validity of any quality rating as applicable across consumers can be questioned. However, Curry and Faulds (1986, p. 143-144) conclude that, based on a review of the objective quality ratings for 385 product categories over a six year period, "the empirical evidence presented in this article suggests that published quality scales have not been affected substantially by a particular agency's (e.g., *Consumers Reports*) choice of (attribute) weights . . . (consequently) although quality is a complex construct and its measurement is difficult, academic research should continue to integrate this construct into (its research)." Further, Gerstner (1985) notes that although there are limitations in using any measure of quality as "objective," *Consumer Reports* is the leading consumer magazine and its quality ratings are considered reliable by many people. Finally, others have argued for the validity of the measures of "objective quality" (cf. Oxenfeldt 1950; Riesz 1978) while still others have relied on *Consumer Reports* price-quality ratings for choosing products to serve as experimental stimuli (cf. John, Scott, and Bettman 1986; Rao and Monroe 1988).

Other limitations include the use of single-item measures for the price-quality perceptions measure and the use of a convenience sample. However, it should be noted that the convergent validity of the single-item price-perceived quality measure employed in this study with a very dissimilar measurement method was recently supported (cf. Burton and Lichtenstein 1989). The product classes employed in the present study were chosen from those rated by *Consumer Reports* magazine. Because *Consumer Reports* does not rate certain types of products (e.g., jewelry, perfume), the generalizability of these product categories to others is unknown. Finally, because of the possible bias brought about by presensitization of readers of *Consumer Reports* magazine to the specific product categories employed in this study, no formal hypothesis was offered for the moderating effect of the *Consumer Reports* variable. That is, it is recognized that because price-objective quality relationships used in this study were based on price and quality ratings from *Consumer Reports* magazine, to the degree that consumers who believe the information provided by *Consumer Reports* magazine perceive price-quality relationships more accurately, there is a potential confound. That is, they may only perceive price-quality relationships for the *particular products rated by Consumer Reports* more accurately, and not price-quality relationships in general (i.e., product categories not rated by *Consumer Reports* magazine). Hence, even though study results suggest that those who find *Consumer Reports* information useful perceive price-quality relationships more accurately, no generalizations are made from these data.

FUTURE RESEARCH

In summary and in light of the above noted limitations, a question that still remains is "are there certain groups of consumers who can assess price-quality relationships more accurately than

others?" If such a group exists then, relative to other consumers, these individuals should be in a position to make purchases which represent better values for the money. From a consumer welfare perspective, identification of such a group, and determination of factors underlying their greater price-quality perception accuracy, may provide insight into education programs which aid consumers in becoming better shoppers.

It is assumed that those with greater levels of product knowledge assess price-quality relationships more accurately because their assessments are based on this knowledge rather than on price level. The present study attempted to identify two groups of consumers who had higher levels of product knowledge, and thus, more accurate price-quality perceptions. The negative findings may be due to the fact that these two groups did not have higher levels of confidence knowledge (Cox 1962), or, alternatively, the negative findings may have been due to measurement problems. Regarding the former, knowledge is a complex construct. To know that a stereo has certain specs is one type of knowledge (predictive knowledge), to know how to use those specs to evaluate stereo quality requires a deeper type of knowledge (confidence knowledge). Future research should focus on differentiating these two types of knowledge in price-quality perception studies.

Regarding price-quality perception measurement, issues arise regarding the validity of measurement procedures employed in this and other price-quality perception studies. Like knowledge, quality is a very complex construct and means different things to different consumers (Zeithaml 1988). Future research may attempt to assess the basis for quality perceptions for the target population prior to investigating if these consumers believe price and quality are related. For example, we may find that variations in price-quality perceptions across segments of consumers are partially a function of the way consumers define quality. Another issue regarding price-quality perception measurement pertains to the issue of if product quality is best measured on an attribute level basis (cf. Lichtenstein, Bloch, and Black 1988), or on a global basis as done in the present paper. Taking this issue one step further, if product quality is best assessed on an attribute level basis, how should the measure be treated with respect to its relationship to price? Should the attributes be combined into a single quality score and then related to price, or should price-quality perceptions be calculated on an attribute by attribute basis. Research addressing these and similar issues should further our ability to assess the accuracy of consumers price-quality perceptions.

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Opinion Leadership, Enduring Involvement and Characteristics of Opinion Leaders: A Moderating or Mediating Relationship?

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ABSTRACT

Recently it has been recognized that enduring involvement plays an important role in opinion leadership. However, the specific nature of this relationship has largely been ignored. Previous research suggests two different relationships; *moderating* and *mediating*, between enduring involvement and opinion leadership. This paper uses the Baron and Kenny framework to determine whether the relationship is a moderating or mediating one. Based on the movie viewing behaviors of 317 undergraduate students, it finds that opinion leadership mediates the relationship between enduring involvement and activities such as information sharing.

INTRODUCTION

A significant body of research has examined the relationship between the opinion leadership scale (Childers 1986; King and Summers 1970; Rogers and Cartano 1962) which essentially measures the trait of opinion leadership, and specific manifestations of this trait such as product class knowledge, influence, information sharing and innovative behavior (Feick and Price 1987; Robertson, Zielinski and Ward 1984). Studies have found that scores on the opinion leadership scale have significant positive relationships with characteristics of opinion leaders such as knowledge and information sharing (e.g. Summers 1970) and innovative behavior (e.g. Robertson and Myers 1969). These findings suggest that the trait of opinion leadership motivates activities such as information sharing, but the question is what drives opinion leadership?

There is growing evidence that enduring involvement which is the "on-going concern with a product that transcends situational influences" (Richins and Bloch 1986; p. 280) plays a critical role in opinion leadership (Bloch and Richins 1983; Feick and Price 1987; Richins and Root-Shaffer 1988). However, the nature of enduring involvement's relationship with opinion leadership and opinion leader characteristics is not clearly understood. On one hand, based on the involvement literature, it is argued that involvement is a *moderator* (Gatignon and Robertson 1985; Laurent and Kapferer 1985), or it is expected that the relationship between opinion leadership and its characteristics is stronger for the people who are high on enduring involvement as compared to

people who are not as enduringly involved (Refer Figure 1). On the other hand, it is argued that an opinion leader's enduring involvement with a product class may drive their desire for knowledge, information sharing and innovative behavior (Bloch and Richins 1983; Feick and Price 1987; Richins and Root-Shaffer 1988). In other words, enduring involvement may motivate opinion leadership which in turn results in information sharing and innovative behavior, which means that opinion leadership *mediates* the relationship between enduring involvement and opinion leader characteristics (Refer Figure 2).

Although moderating and mediating relationships have often been confused with each other, they are very different. According to Baron and Kenny (1986), a moderating relationship helps us understand when certain effects occur, and a mediating relationship helps us understand how and why such effects occur. If we find that the relationship between opinion leadership and its characteristics is moderated by enduring involvement and is stronger for people who are high on enduring involvement, then this finding has practical significance. It means that to effectively and efficiently influence the opinion leadership process, it is critical to identify people who are high on enduring involvement and concentrate marketing communication and information to this segment. This communication is likely to stimulate opinion leadership activities amongst those enduringly involved consumers who have opinion leader tendencies.

On the other hand, if the relationship between enduring involvement and opinion leadership is a mediating one - enduring involvement is a motivating force that drives opinion leadership activities - then we have an explanation that helps us understand why opinion leaders manifest the behaviors associated with opinion leadership. Although the practical implications of this finding are less immediate as compared to moderating relationships, it is important due to its contribution to theory building efforts in the area of opinion leadership. In summary, the moderating and mediating relationship between enduring involvement, opinion leadership and opinion leader characteristics have different implications and the objective of this paper is to determine which model, moderating or mediating, best fits the relationship.

LITERATURE REVIEW

Moderating versus Mediating Relationships

Moderating role of enduring involvement. A moderator is a variable that affects the form and/or strength of the relation between an independent or

¹I would like to acknowledge the helpful comments of Terry Childers and N. Venkatraman on an earlier version of this paper. I am also very grateful to Dick Harmer for his extensive help with measure development and data collection.

FIGURE 1
MODERATING MODEL

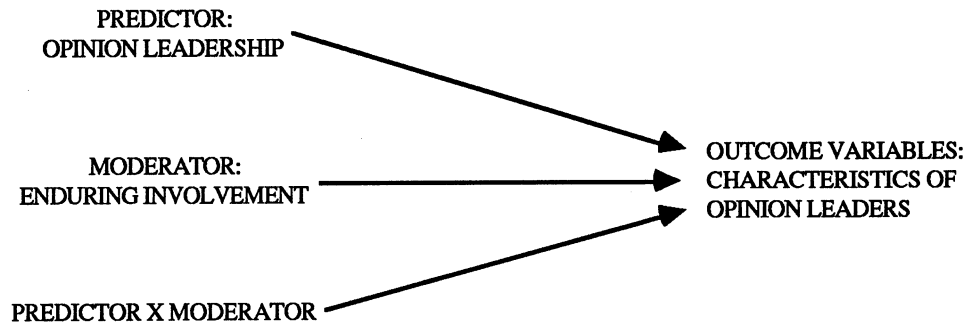
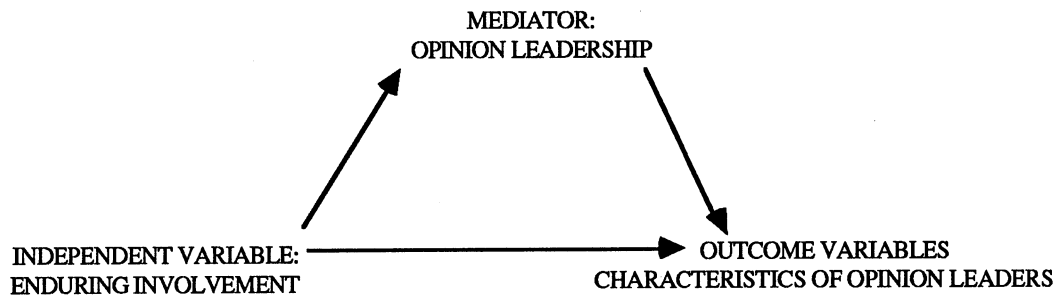


FIGURE 2
MEDIATING MODEL



predictor variable and a dependent or criterion variable (Arnold 1982; Baron and Kenny 1986). Moderation implies that the relation between two variables changes as a function of a moderator variable. Some research suggests that in the opinion leadership context the relationship between opinion leadership and its characteristics will be stronger for consumers who are high on enduring involvement as compared to those who are not, or enduring involvement moderates the relationship between opinion leadership and its characteristics (Bloch, Sherrell, and Ridgway 1986; Richins and Bloch 1986).

People who are high on enduring involvement for a product class seek information about this product class on an on-going basis (Richins and Bloch 1986), - their information seeking activities are not restricted to purchase related search, they are continuously seeking information from ads, magazines and friends. Due to this information seeking they gain considerable information and knowledge about the product and may also become aware of new products relatively earlier than others. Due to their ongoing concern with the product class, they are likely to buy these new products and therefore exhibit adoptive behavior

(Bloch, Sherrell and Ridgway 1986). As compared to the highly enduring involved consumers, consumers who are low on enduring involvement are less likely to: (1) seek information on an on-going basis; (2) engage in product related conversations; and (3) buy new products relatively earlier than others. Therefore, it follows that for consumers who are high on enduring involvement there may be a strong positive relationship between the trait of opinion leadership and its characteristics, while for those who are low on enduring involvement the relationship may be weaker. In other words, enduring involvement may moderate the relationship between opinion leadership and its characteristics.

Mediating role of opinion leadership. A mediator is a variable that accounts for the relationship between a predictor and a criterion variable, in other words it is a mechanism through which the independent variable is able to influence the criterion or dependent variable of interest (Baron and Kenny 1986). In the opinion leadership context, it has been suggested that enduring involvement drives opinion leadership, which in turn results in opinion leader activities such as information sharing and innovative behavior (Dichter 1966; Feick and Price 1987; Richins and Root-Shaffer 1988).

Corey (1971) proposes that the unique involvement of opinion leaders with a product class distinguishes them from non-leaders. Similarly, Ditcher (1966) argues that an opinion leader's involvement with a product category motivates product related conversations, knowledge and influence. According to Ditcher, this involvement may be product related which means that people may find themselves so pleased or so disappointed by a product that they simply must talk about it. Involvement may also be other related which means that product related conversations may be expressions of friendship, neighborliness or love. In support, Summers (1971) found that involvement with womens' clothing fashions is the strongest of five variable sets that influence opinion leadership. The other variables are demographics, sociological variables, personality, media exposure and attitudes and values. Also, in a study among women opinion leaders, Myers and Robertson (1972) found that interest in 12 product categories including entertaining at home and cosmetics is related to opinion leadership. Therefore, there is some empirical evidence that a strong interest in a product is related to opinion leadership and its characteristics, although much of this research focuses on constructs that are similar to enduring involvement and not enduring involvement per se.

METHODOLOGY

Sample

The sample consisted of 317 students at a leading northeastern university. The data was collected by students enrolled in an undergraduate Marketing Research class. At the beginning of the semester, each student was instructed to ask 10 non-class students to participate in a project which involved responding to four questionnaires over the entire semester. These questionnaires focused on opinion leadership, innovativeness and other related topics with respect to movie viewing behaviors. The objective, from the students' point of view, was to create a data base that would be useful for testing relationships using analytical techniques available in SPSSX.

Extreme care was taken to ensure data quality. The students were committed to the project both because they were interested in the results and because their grade was at stake. They impressed upon the 'panel' members their responsibility to carefully fill out the questionnaires or not do so at all. The instructor checked questionnaires for nonsense answers, systematic response patterns and any other signs of deliberate falsification. The questionnaires turned in by two students were not included due to suspect data quality.

Product Class

Movies were selected as the product class of interest for several reasons. First, undergraduates' enduring involvement with movies is expected to vary over a relatively wide range. Second, movies are inexpensive enough that the chances of income

confounding the results is reduced. Third, since new movies are released every week this provides ample opportunity for the purchase of this continuous new product. Lastly, word of mouth and interpersonal influence play very important roles in influencing movie-going behavior (Wall Street Journal 1984).

Measures

Childers' (1986) version of the opinion leadership scale was used to measure this characteristic. He revised the response format of the King and Summers (1970) opinion leadership scale and used constructs such as creativity/curiosity to examine its convergent and discriminant validity. He found that the revised scale has better reliability and construct validity properties as compared to the original scale. Psychometrically valid measures of other constructs of interest in this study such as enduring involvement and opinion leader characteristics for movies were not available. Consequently, scales were developed to measure constructs such as knowledge and information sharing with respect to movies. The items selected for the scales (refer Appendix), were based on previous theoretical and empirical research. Agreement with these items was measured on a five point response format where '1' is 'Strongly disagree' and '5' is 'Strongly agree.'

The scale developed to measure *enduring involvement* with movies is based on research by Bloch and Richins (Bloch and Richins 1983; Richins and Bloch 1986). They argue that enduring involvement is an on-going concern with a product class that transcends situational influences. This interest is deep-rooted, strong and has a hobby-like quality that sometimes is obsessional in nature. Therefore, the enduring involvement scale was designed to capture this strong interest and concern with the product class movies. The *influence* scale measures the extent to which the respondents influence other peoples' opinions about movies and their choice of movies. While the *knowledge* scale measures subjective knowledge (Brucks 1985) or a respondent's perception of their knowledge about movies and movie stars and the *information sharing* scale was designed to measure the extent to which respondents talk to friends about movies, discuss and listen to other people's opinions and share their opinions with others.

As regards *innovative behavior*, scales vary from measuring specific behaviors, such as relative time of adoption of a new product, to capturing the trait of innovativeness (Midgley and Dowling 1978). Since, this study is interested in new movie viewing behavior and not in innate innovativeness tendencies, it was decided to develop a measure that captured behavior with respect to new movies, without asking about whether or not the respondent had seen specific movies.

TABLE 1
Constructs, Sample Items and Reliability Coefficients

Construct	# of Items	Confirmatory Factor Analysis			
		Alpha	Chi-Square ^a	df	GFI ^b
Opinion Leadership	7	.77	28.36	14	.98
Enduring Involvement	10	.80	99.63	35	.94
Influence	6	.76	36.51	9	.97
Knowledge	5	.76	19.41	5	.98
Information Sharing	8	.71	101.32	20	.91
Innovative Behavior	4	.71	26.36	2	.96

^aThe p-values associated with the chi-square statistics are less than .05

^bAll individual indicators, except one, have t-values greater than 4.46

RESULTS

Reliability Analysis

Three reliability statistics were estimated for each of the scales used in this study. These are: (1) Cronbach's alpha; (2) Goodness of Fit Index (GFI) for the confirmatory factor model; and (3) the t-values associated with individual indicators of constructs for the confirmatory factor model (Bagozzi 1980; Bentler and Bonett 1980). As reported in Table 1, the alpha values range from .71 to .80, therefore all scales satisfy Nunnally's minimum alpha criterion of .70 (Nunnally 1978). The GFI values range from .91 to .98, therefore the scales also satisfy the Bentler and Bonett (1980) Goodness of Fit criterion of .90. Finally, with the exception of 2 items, the factor loadings range from .31 to .87, and only one item (item 5 for the opinion leadership scale), has a t-value less than 4.46. In summary, the scales used in this study are reliable.

The Moderating Effect of Involvement

Arnold (1982) differentiates between variables that 'moderate the degree' and those that 'moderate the form' of a relationship between two other variables. The 'degree' of a relationship is measured by the correlation coefficient and the 'form' is measured by coefficients in the regression equation. "Comparison of correlations answers the question 'does X account for as much variance in Y in group E as it does in group F?' Comparison of regression coefficients answers the question 'does a change in X make the same amount of score difference in Y in group E as it does in group F?'" (Arnold 1982; p. 146).

Accordingly, if the correlations between opinion leadership and its characteristics are different between low and high enduringly involved respondents, then enduring involvement moderates the 'degree' of the relationship (Arnold 1982; p.

151). Again, if the interaction ($x \cdot z$) between OL (x) and involvement (z) is a significant predictor of an opinion leader characteristic such as influence (y), in addition to the main effects of opinion leadership and enduring involvement, then enduring involvement moderates the 'form' of the relationship.

This analysis reveals that enduring involvement does *not* moderate the relationship between opinion leadership and each of its characteristics. As reported in Table 2, the z-statistic (Arnold 1982) that measures differences in correlation coefficients between opinion leadership and its characteristics for low and highly involved respondents is not significantly different at the $p < .05$ level of significance. Therefore, enduring involvement does not moderate the 'degree' of the relationship. Again the interaction between enduring involvement and opinion leadership is not a significant predictor of any of the characteristics, therefore, enduring involvement does not moderate the 'form' of the relationship studied here.

The Mediating Role of Opinion Leadership

According to Baron and Kenny (1986) to establish the mediation of opinion leadership between enduring involvement and opinion leader characteristics, such as influence, the following conditions must be met:

- (a) Enduring involvement should have a significant effect on opinion leadership.
- (b) Enduring involvement should have a significant effect on influence.
- (c) Opinion leadership should have a significant effect on influence over and above the effect of enduring involvement. The effect of enduring involvement on influence will be diminished as compared to condition b.

TABLE 2
TESTING FOR THE MODERATING ROLE OF ENDURING INVOLVEMENT

Testing for moderation of the 'degree' of the relationship						
Correlation between Opinion leadership and..	Enduring Involvement		z statistic			
	Low (n=164)	High (n=153)				
Influence	.58	.53	.45			
Knowledge	.43	.23	1.80			
Information Sharing	.47	.38	.81			
Innovative Behavior	.07	.26	1.72			

Testing for moderation of the 'form' of the relationship						
Dependent Variable (y)	Variable added					
	OL (x)		EI (z)		OL*EI (x*z)	
	R sq. change	F-Value	R sq. change	F-Value	R sq. change	F-Value
Influence	.38	191.86*	.10	57.06*	.00	1.03
Knowledge	.18	69.87*	.26	144.24*	.00	1.47
Information Sharing	.21	85.25*	.02	6.51	.01	3.59
Innovative Behavior	.09	30.52*	.29	144.26*	.01	3.48

* F-Value significant at p <.01

These conditions are tested for each opinion leadership characteristic separately using multiple regression analysis. Two regression equations are estimated for each mediating relationship tested. In the first, opinion leadership is regressed on enduring involvement (condition a). In the second, influence is regressed against enduring involvement and opinion leadership, which are entered in a step wise manner (condition b and c). The results of this analysis are reported in Table 3.

Condition (a) is satisfied - enduring involvement has a significant effect on opinion leadership. Condition (b) is also satisfied for all four opinion leader characteristics, - enduring involvement has a significant effect on these characteristics (p < .01). Finally, condition (c) is satisfied for influence, knowledge and information sharing, - the relationship between opinion leadership and these characteristics is significant (p < .01) when these characteristics are regressed against both enduring involvement and opinion leadership. Therefore, opinion leadership mediates the effect of enduring involvement on knowledge, influence and information sharing. However, it does not mediate the effect of enduring involvement on innovative behavior, which means that enduring involvement has a direct effect on innovative behavior.

Table 3 also reveals that as expected the effect of enduring involvement on influence,

knowledge and information sharing decreases when opinion leadership is entered in the equation, although it does not become insignificant. This indicates that while opinion leadership mediates the effect of enduring involvement on these three opinion leader characteristics, it is not the only mediator. According to Baron and Kenny (1986), "from a theoretical perspective...(this) demonstrates that a given mediator is indeed a potent, albeit not both a necessary and sufficient condition for an effect to occur" (pp. 1176).

DISCUSSION

Despite the appeal of the thesis that enduring involvement moderates the relationship between opinion leadership and its characteristics, this paper finds that the relationship between enduring involvement, opinion leadership and its characteristics is a *mediating* one. The analysis reveals that opinion leadership mediates the relationship between enduring involvement and opinion leader characteristics of influence, knowledge, and information sharing. This supports the model -Enduring involvement-> Opinion Leadership-> Opinion Leader Behaviors - that has only recently been explicitly tested (Richins and Root-Shaffer 1988). According to this model enduring involvement drives opinion leadership, which in turn accounts for behaviors such as

TABLE 3
TESTING FOR THE MEDIATING ROLE OF OPINION LEADERSHIP

		R Sq. Change	F- Value
I. OL mediates the effect of EI on Influence			
Condition a	$OL = (.44*)EI$	.19	76.29*
Condition b	$Influence = (.55*)EI$	.30	135.92*
Condition c	$Influence = (.34*)EI + (.46*)OL$	.17	103.09*
II. OL mediates the effect of EI on Knowledge			
Condition a	$OL = (.44*)EI$	.19	76.29*
Condition b	$Knowledge = (.64*)EI$	.41	222.68*
Condition c	$Knowledge = (.57*)EI + (.18*)OL$	.03	14.01*
III. OL mediates the effect of EI on Information Sharing			
Condition a	$OL = (.44*)EI$	.19	76.29*
Condition b	$Information\ Sharing = (.32*)EI$	.10	35.24*
Condition c	$Information\ Sharing = (.14*)EI + (.40*)OL$	.13	52.27*
IV. OL mediates the effect of EI on Innovative Behavior			
Condition a	$OL = (.44*)EI$	.19	76.29*
Condition b	$Innovative\ Behavior = (.61*)EI$	.37	188.53*
Condition c	$Innovative\ Behavior = (.60*)EI + (.03*)OL$	.00	.46

* F-value significant at $p < .01$.

exerting influence, gaining knowledge and sharing information and experience.

The analysis also shows that opinion leadership is not the only mediator. Other personal constructs that may mediate the relationship between enduring involvement and behaviors such as influence and knowledge are personal experience with the product, extent of information seeking activities especially ongoing information seeking behaviors, and extent of media exposure. Finally, the analysis reveals that opinion leadership does not mediate the relationship between enduring involvement and innovative behavior. This means that as suggested in the innovative behavior literature (Gatignon and Robertson 1985), enduring involvement with a product class has a strong direct effect on influencing purchase of a new product in that product class.

LIMITATIONS AND EXTENSIONS

Conclusions about the mediating role of opinion leadership must be tempered by the limitations of this study. One limitation is its use of a student sample. This study uses students due to the relatively low cost of obtaining cooperation from a relatively large sample of respondents. However, the student sample has obvious demographic differences from the general population and may also differ from it on some of the constructs used in this study such as innovative behavior. This suggests the need to replicate the study with other populations of interest.

Another limitation of the study is its use of previously unvalidated scales to measure constructs such as influence and information sharing. Consequently, this study needs to be replicated using both measures developed here and other measures in order to assess the robustness of its findings.

A third limitation is its use of a single product class to examine the moderating/mediating nature of the relationship between opinion leadership, enduring involvement and other characteristics of opinion leaders. This study should be extended to other products, both where word-of-mouth communication is important such as restaurants and where word of mouth communication is not so important such as consumer consumables.

SUMMARY AND CONCLUSIONS

This paper makes several important contributions to the research on opinion leadership. It goes beyond the direct main effect relationships that have dominated opinion leadership research, to examine more complex interactive relationships that are better models of the complicated phenomena of opinion leader activities. It does so by empirically examining the relationship of enduring involvement with opinion leadership and opinion leader activities. By exploring the role of enduring involvement it tests a relationship, which although recognized in the literature, has not been given the attention it deserves especially in empirical research. Finally, it uses the Baron and Kenny (1986) framework to distinguish between moderator

APPENDIX
Scale Items

Enduring Involvement

... Please indicate how well each of the statements below describes you.

1. If I don't go to a movie at least once a week, I feel I have missed something.
- 2.* With all of my schoolwork, movies are not high on my list of priorities.
3. Movies are more than mere entertainment to me. They are like a hobby.
4. Seeing a movie is a regular part of my schedule.
5. I will often go to see the same movie more than once.
6. I take a close interest in the technical aspects of a movie (camera work, special effects, etc.)
7. I can almost always find time to see a good movie.
8. I consider myself a movie buff.
9. I often go to movies as a treat to myself.
10. I follow the careers of specific actors and directors.

Influence

...Please indicate the extent of your agreement or disagreement with the following statements.

1. I'm usually the one in my group who suggests going to a movie.
2. I'll often steer friends away from movies I didn't like.
3. I often persuade friends to go see a movie I really liked.
4. My friends often ask me to recommend which movie they should see.
5. Friends seek information from me regarding the latest movies.
6. My friends ask me about movies that I have seen.

Knowledge

1. I generally know the showtime schedules of the theaters I go to.
2. I usually know what my favorite actors and directors are working on.
3. Among my circle of friends, I'm one of the "experts" on movies.
4. I often know quite a bit about movies before they are released.
5. I feel confident recommending movies to my friends.

Information Sharing

1. I regularly ask friends for their opinions of movies I'm thinking about seeing.
2. I usually talk to friends about a movie before I go to see it.
3. My friends and I often discuss what movies are worth seeing.
4. I often compare my opinion of movies with others.
5. I often discuss and listen to other's opinions about movies I have recently seen.
6. I often talk about movies at parties.
7. I usually rely on friends' recommendations of movies.
8. Usually before going to a movie, I'll ask my friends what they thought of it.

Innovative Behavior

1. I often try to see sneak previews of movies before they are officially released.
2. I often try to attend movie premiers.
3. I often try to see a movie during the first week after it is released.
- 4.* I usually wait to see a movie until it has been out for several weeks.

(Items marked with an * are reverse coded)

and mediator relationships in the context of opinion leadership, thereby introducing a framework which will have value for testing many different consumer behavior theories and frameworks.

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The Imperial Self

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INTRODUCTION

The three papers presented in the session on The Extended Self appropriately enough attempt to extend prior work on the Self in consumer behavior to the domains of, respectively, our sense of the past (Belk 1990), our pets (Sanders 1990), and gifts we bestow on ourselves (Mick and DeMoss 1990). All three were influenced by Belk's (1988) recent paper on the Extended Self.

It is indeed heartening to witness the reemergence of the Self as a research topic. This trend represents another important acknowledgment of the need to extend our view of consumer behavior well beyond the traditional confines of the individual as a mechanistic buyer of goods. These papers help us to continue to move toward the embrace of the phenomenological individual who actively *uses* goods -- and even relies on them -- to construct and maintain his/her social reality.

Indeed, William James' discussion of the Material Self a century ago anticipated this long-overdue recognition (James 1890). As the commentator on these papers, the gift I grant to myself is the luxury of raising some issues prompted by these thoughtful papers without necessarily providing resolutions to such questions.

When is an Effect Not an Effect?

The foremost conceptual issue that emerges from these papers is a definitional one: When is an effect not an effect? While I laud the idea of extending our notion of Self beyond its corporeal confines, we run the risk of *overextending* the construct and in so doing obviating its usefulness. Some objections to the contrary (cf. Cohen 1989), there does appear to be a theoretical role for the Extended Self, but we also must acknowledge the construct's limitations.

To wit, in the present papers: When is a pet not a pet? When is a gift not a gift? And, perhaps most importantly: When is the Self not the Self?

Self Versus Not Self

In thinking about what I have termed the Imperial Self, two somewhat similar (and admittedly rather tacky) images come to mind. The first is the old macho myth of the lusty sailor who boasts of children bearing an uncanny resemblance to him in ports around the world. The second (perhaps inspired by Sanders' paper), is of the dog who "marks" his territory by leaving traces of himself along its perimeter.

These two "consumers" have in a sense expanded the empire of Self by imbuing external objects with their Selfhood. Do we do something similar as we leave a trail of significant objects in our paths? And, is this wake truly a part of the Self?

Belk's propositions about the use of objects to (re)construct the past are valid and useful. Clearly, any object is transformed

(phenomenologically and sometimes literally) from the time it leaves the "factory" to the time it is consumed -- that is the basis for the personalization process whereby a commodity is turned into a prized possession.

My concern (and one raised as well by Cohen 1989) is that in future work we try to make a distinction between objects that happen to possess some mnemonic value and those that clearly are a component of Extended Self. Belk's emphasis on such dimensions as type of attachment (functional versus emotional) and degree of control over an object (Belk 1989) is a first step in this direction, but this important issue has yet to be fully resolved.

And, as in the case when two dogs lay claim to the same territory, this distinction gets particularly dicey when an object serves as Extended Self for more than one person. A good example might be a married couple's treasured photograph of themselves in bygone days -- can an object do double duty, selfwise?

Pet Versus Not Pet

Sanders' paper provides a nice corrective to our neglect of the (non-dietary) "consumption" of animals. In providing a symbolic interactionist perspective on animal ownership, he has moved away from the notion of the animal as possession and toward the animal as companion. This raises some interesting issues about the precise relationships between people and animals. More often than not, animals appear to "own" their owners more than *vice versa*! So, when is a pet not a pet?

While the term "pet" is usually taken to refer to a domesticated animal, a secondary definition is a cherished individual (e.g., "teacher's pet"). If one adopts the interactionist notion of the Self deriving from interactions with others, the animal may be closer to a friend than to a possession. Parenthetically, the tendency of people to come to look like their pets over time provides anecdotal support for this dynamic.

So, it seems there are many instances where a pet is not a pet (in the primary sense of the word). Indeed, Sanders' preliminary delineation of "excusing tactics" implies that the Self is reflected in the conduct of the pet.

Of course, there are other domains where an animal is neither a pet nor a companion. Here we may find a relationship that more closely resembles slavery; the animal's output is harnessed to provide benefits to the owner.

Many "pets" are in fact income-generating devices, whether they are milk cows, pit bulls, fighting cocks, or racehorses. The "performance" of these animals may also help to constitute the owner's Self, much as the records of race cars or baseball teams reflect on the character of their owners. Finally, as the "animal rights" movement appears to gather momentum, it remains to be seen

to what degree (non-laboratory) animals will be treated as commodities in the future. Perhaps a litmus test of the person/animal relationship would be provided by studying owners' reactions/rationalizations when deciding to put their pets to sleep.

Gift Versus Not Gift

Mick and DeMoss' paper on self-gifts integrates the Extended Self with prior work on gift-giving. Again, the issue for future work here is to delineate what is essentially meant by a gift. There is a tautological danger here that is acknowledged by the authors. If we broadly define a gift as some creation or delivery of positive affect initiated by an individual, then virtually anything can be a gift. As noted in the paper, gifts to other people can be seen as gifts to ourselves, since we usually derive pleasure from the act of giving (whether instrumental or not). So, is doing any good act (or refraining from a bad one) targeted to ourselves and others a gift? What is not a gift?

In contrast to other-gifts which are often initiated by some structural requirement (e.g., we learn to give and expect gifts on birthdays, Christmas, etc.), self-gifts appear to often be initiated by some state of polarized affect. This can be positive (e.g., a celebration) or negative (to alleviate stress or depression). The role of affect in such gifting raises some questions:

- Can we identify differences in the type of self-gift given in "up" versus "down" situations?
- Are there differences between spontaneous and premeditated self-gifts?
- Since self-gifts often appear to occur during times of high arousal, is their receipt thus more impactful? Do they play a role as significant past markers in the manner described by Belk? Or do gifts mean less to us in the long run when we had to give them to ourselves?

THE MASS-MEDIATED SELF

The three papers (at least indirectly) raise questions about the role of society in providing input to the Extended Self. Our culture may, for example, sanction self-gifts and pampering to a greater degree now than in the past (e.g., ads that proclaim "I use it because I'm worth it"). As current values appear to be evolving somewhat away from self-indulgence and crass materialism, will this license to reward oneself change in the post-yuppie, more altruistic world some project we are headed toward?

We have also experienced an increase in fears about personal safety. As Sanders implies, this in turn appears to have accelerated the use of pets (and even *recorded pets*) as security devices; a way to fortify threatened personal space. Perhaps an analysis of the names people give to their pets or

longitudinal changes in the types of pets favored by consumers would tell us something about the qualities people have projected on to their companion animals.

Belk notes that objects are used to preserve our past. This past is, of course, more than an individual one. The "collective collecting" of past markers also creates the informal archives from which the history of popular culture is culled. In analyzing the role of objects as repositories of memories, we must also address the semiotic issue of the correspondence between the object and the actual event it is intended to memorialize. Belk, in fact, correctly notes the distortion process that frequently occurs in nostalgic behavior.

Indeed, it is not unusual to observe a sort of semiotic fraud, a "phenomenological short-cut" whereby objects can be substitutes for experience in addition to markers of it. As Belk and his colleagues have observed in their Odyssey work, museum gift shops and other purveyors of souvenirs contribute to this process.

Thus we can now purchase past markers without the bother of experiencing the past. Some examples include companies that sell college T-shirts -- removing the need to actually *visit* the college -- or collections of matchbooks from a city's restaurants that are now available in airport gift shops.

If one endorses the claim that ours is an increasingly anomic society intent on destroying its past, we can expect such manifestations of synthesized experience to escalate. For this reason, Belk's emphasis on the importance of authenticity may not always apply. Our desire to recapture the "good old days" (if these in fact existed) has fueled the acquisition of "reproductions" or even the consumption of imagery that never existed at all (or is idealized).

Thus, we can buy faded jeans without having to wait for them to be "worn in." Or, consider the fantasy WASP world created by Ralph Lauren. This designer, who was originally a poor Jewish boy from Brooklyn, has succeeded in creating an upper-class world of graceful manners and aristocratic bearing that has been internalized by many. As a result, many consumers "plug in" to common images of nostalgia and yearning -- they are acquiring the markers of someone else's imagined past.

Another illustration is in the realm of music. Certain songs function as past markers in that they often are associated with specific events or times of one's life. As a result, we often feel somewhat proprietary toward these "objects" even though they are in the public domain. However, even these experiences increasingly are synthesized and mass-mediated.

While a rendition of "Under the Boardwalk" might bring a salacious smile to one person while "My Girl" or "Feelings" might bring back precious memories to others, MTV has abrogated these unique connections. The imagery prompted by Dire Straits' "I Want My MTV" or Madonna's "Like a Prayer" is likely to be *shared* (at least by MTV viewers) rather

than idiosyncratic. Similarly, songs like "Revolution" or "I Heard It Through the Grapevine" are more likely to evoke images of sneakers or raisins than they are to initiate individual recollections.

Since some "custom-made memories" are not really customized at all, perhaps we should focus more attention on the intermediaries who create these images. For example, how does a music video director choose the images to be associated with a song? How does a museum curator decide what objects should be enshrined as part of our collective past?

THE EXTENDED SELF OR THE MEDICATING SELF?

A final issue raised by all three papers is the overlooked *therapeutic* value of objects. Because many artifacts are so tied to the Self, they can also help to stabilize the Self. Belk alludes to the importance of possessions in anchoring the Self, as in times of role transition. Objects can also be used in therapy to elicit buried responses, as when a childhood object triggers a memory. Some therapists are even developing an approach known as aromachology, where familiar smells are used to break down mnemonic barriers. The use of objects to inspire fantasy or nostalgic recollection has barely been explored.

The role of objects in regulating affect also has not been adequately addressed by consumer researchers. Sanders' work promises to tell us more about the role of animals in alleviating loneliness, teaching love, and perhaps even inspiring fear. Mick and DeMoss' study strongly implies that people use self-gifting as a form of self-medication. Ironically, popular culture has known this for a long time: A common antidote to "the blues" is the purchase of a new article of clothing, a record, etc. While this compensatory purchasing is familiar to many, we do not know much about its effectiveness: Is shopping, as some claim, superior to therapy?

THE SELF AND ITS MARKERS

The focus on the Extended Self underscores the many "empires" we build as we accumulate and distribute objects. A basic question, still to be resolved, is whether the Self is communicated or constituted through its satellites. An interactionist approach would tend to endorse the latter: Our core Selves are largely instantiated by the external symbols with which they are aligned (cf. Solomon 1983). A final, somewhat Zen-like question thus arises: Just as an Empire cannot exist without subjects, can the Self exist without its markers?

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Beauty and Joy in Metaphorical Advertising: The Poetic Dimension

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The author examines "art" in advertising by micro-level focus on the single advertisement to analyze *metaphor* in terms of Aristotle's *Poetics*. Aristotelian definition of literary metaphors and three classes -- single, extended, open-ended -- are discussed. Harmony and imitation as sources of pleasure in language are analyzed, and related to consumer research. Influence of harmony on enjoyment and memorability of metaphors and influence of representational style of metaphor on inference-conclusion drawing and consumer evaluation of "goodness/badness" discussed.

But the greatest thing by far is to have a command of metaphor. This alone cannot be imparted by another; it is the mark of genius, for to make good metaphors implies an eye for resemblances (Aristotle, *Poetics*, XXII.9)

Advertising has been called an "art" by practitioners (Ogilvy 1985), marketing researchers (Holbrook 1987; Pollay 1985), and social critics (Berman 1981; Schudson 1984; Wicke 1988). Their usual focus is on the macro-level cumulative effect of the numerous messages that daily bombard consumers. This paper takes a different view, and focuses on the micro-level analysis of a single advertisement. The goal is a new approach, beginning with the question, "Why is an advertisement categorized as art?" One clue is that an advertisement may entertain as well as inform and persuade. This suggests that it may be perceived as enjoyable as a result of dimensions shared with other aesthetically satisfying works, such as poems, plays, or movies. Central to the concept of advertising as entertainment -- something to be enjoyed by the perceiver -- are literary elements as sources of beauty, joy, and pleasure. This paper thus turns to literary criticism -- the discipline specializing in "defining, classifying, analyzing, interpreting, and evaluating works of literature" (Abrams 1988, p. 38) -- for a theoretical framework to analyze an advertisement.

One enjoyable element that advertising language shares with all other verbal art is the use of *metaphor*, a figure of speech (for bib., see Shibbes 1971) analyzed by rhetorical classifiers (Connors 1984), philosophers (Black 1962; Ortony 1979; Ricoeur 1977; Searle 1979), and literary critics (Abrams 1953; Wellek and Warren 1973). Metaphor is the basis of *figurative* or "ornamental" language, fundamental not only to traditional literature, but also to other modes of discourse such as everyday speech, political propaganda, and religious sermons (Abrams 1988). Much research interest concentrates on the use of metaphor to persuade consumers, historically traceable to Aristotle's *Rhetoric*.

But advertising writers are like poets (Brooks 1947) as well as propagandists in the creation and

use of metaphors. This creativity connects advertising to literature, and allows investigation of *how* an advertisement's text relates to Aristotelian literary theory. Thus, this paper draws on Aristotle's *Poetics* (Fergusson 1961) -- the earliest *literary* theory of metaphor -- to discuss the pleasure-value of language and the concept of an advertisement as consumer entertainment. The paper proceeds as follows:

- 1: Definition of metaphor: comparison, analogy, transference of attributes
- 2: Three classes of metaphor: single, extended, open-ended
- 3: Metaphoric pleasure: harmony and imitation
- 4: Aristotelian theory and consumer research

ARISTOTELIAN DEFINITION OF METAPHOR: COMPARISON, ANALOGY, TRANSFERENCE

Metaphors are one category of *figurative language*, or *figures of speech*. These are words or phrases used in a way that departs from the standard or *literal* meaning of the words (see Searle 1979) to achieve some special effect. Aristotle regarded metaphor as the basis of poetic language, and somewhat elliptically defined it as "*the application of an alien name by transference...by analogy*, that is, proportion" (Italics mine, Fergusson 1961, p. 99). The Aristotelian metaphor thus has three elements: *comparison* ("resemblances") by *analogy* to enable *transference* of qualities to one thing (subject of the metaphor) from another (object, also called "the metaphorical term"). Another set of terminology (Richards 1936) uses "tenor" = subject, "vehicle" = object, and "grounds" = properties transferred to the subject from the object.

Comparison

The Aristotelian metaphor is an *implied indirect comparison* or similarity between a literal object and a metaphoric object, in which the reader has to supply the omitted comparative term (Brooks and Warren 1960). A frequently-used poetic example (see Barnet 1979; Brooks and Warren 1960), is Spenser's compliment from a man to his lady-love: "She is a rose." The analogy between a rose and a lady is based on transference of qualities such as beauty, softness, fragrance, and fragility (Barnet 1979). Literary critics say that it means that "the girl is fragrant; her skin is perhaps like a rose in texture and (in some measure) color; she will not keep her beauty long" (Barnet 1979, p. 181). The analogy allows the suggestions of "rose" to be transferred figuratively (rather than literally) to the lady.

In this sense, metaphor is an elliptical form of simile. A simile -- X is *like* Y -- is an *overt direct comparison*, in which two things are

associated by means of "like" or "as." Spenser's line rewritten as a simile is, "She is *like* a rose." But the metaphor leaves out the comparative word, and simply says, "X is Y." Its implicitness leaves the reader to infer that "is" means "is like in some way" rather than literally "equals" or "is identical to." The reader is expected to supply the omitted comparative word *and* understand the phrase connotatively as an analogy. The implicitness of the comparison allows metaphor to assert an *identification* of the two terms (they are not merely LIKE each other; they ARE each other). The metaphor, in sum, acts as a kind of shorthand that condenses bits of information about its subject into a single literal comparison accepted by the reader as literary, not literal, truth.

Analogy

The comparison of things that are literally unlike by finding analogical resemblances took firm root in Western literature as a result of the medieval lore of analogy in Dante's *Divine Comedy* and the voluminous body of literary criticism generated by it (Culler 1981; Spurgeon 1965). Aristotle defines comparison by *analogy* as follows (Fergusson 1961, p. 99):

Analogy or proportion is when the second term is to the first as the fourth to the third. We may then use the fourth for the second, or the second for the fourth.

An analogy of proportion requires four terms, two of which have a common factor or similarity. In notational form, this reads: 1:2::3:4, or A:B::C:D, a juxtaposition in which terms 4 and 2 can replace each other. The comparison can be stated in words as follows: If A is to B as C is to D, then B and D can be interchanged, and A can be said to be like (similar to) C. Frye illustrates the analogy using the expression "the hero was a lion," in which courage is the common factor, and the analogy is, "the hero is to human courage as the lion is to animal" (1973, p. 124). Analogical metaphors seem to control the structure of many advertisements as well, and can be analyzed on the basis of literary criticism (see Stern 1988, 1989).

An advertising example is, "Among the riches of Beverly Hills, a little gem of a hotel ... The Beverly Pavilion Hotel." This is an elliptical metaphor, for the verb "is" is omitted, but implied by the comma, often used in formal written prose to indicate ellipsis (Watkins, Dillingham, and Martin 1974). In notational form, the metaphor is shown in Figure 1. The common factor is distinctiveness: just as a little gem stands out even among many jewels, the little hotel stands out even amidst the riches of Beverly Hills dwellings.

Transference

The point of analogy is the *transference* of attributes from the object of the comparison to the subject (Brooks and Warren 1960). The subject and object are sandwiched side by side for ease of

comparison, and marketing metaphors, like poetic ones, encourage consumers to transfer characteristics of an object to the subject. In our example, the image of a small gem that stands out among an abundance of jewels is transferred to the notion of the Beverly Pavilion as the most distinctive small hotel in a geographic area remarkable for affluence. The advertisement's metaphor thus involves *the application of an alien name* [gem] to a hotel by *transference* [the quality of distinctiveness] by *analogy* [the resemblance between the gem's and the hotel's uniqueness].

THREE KINDS OF METAPHOR: SINGLE, EXTENDED, OPEN-ENDED

The concept of attribute *transference* has been further refined by post-Aristotelian literary critics into three metaphorical classes based on *number* of resemblances (attributes) and *degree of similarity* (subject and object). The classes were characteristic of various kinds of poetry popular in earlier centuries, and enter modern advertising language with differences based on historical convention. The classes are differentiated on the basis of two questions: How many attributes are shared by the items compared? and How similar are the subject and object? The three classes are single (one resemblance, dissimilar s/o); extended (many resemblances, dissimilar s/o); and open-ended (indefinite number of resemblances, similar s/o).

Single Metaphor

The *single* metaphor compares a subject and object that are quite dissimilar for the sake of emphasizing one main shared quality (Korg 1962). Single metaphors present what Samuel Johnson called "a combination of dissimilar images, or discovery of occult resemblances in things apparently unlike" (Abrams 1988, p. 31). Their ancestry is traceable to the seventeenth-century metaphysical poets (especially John Donne) who used analogy to create startling comparisons in which "the most heterogeneous ideas are yoked by violence together" (Johnson in Abrams 1988, p. 31). Transference is restricted to one limited and unambiguous -- though frequently far-fetched -- comparison that controls the text narrowly.

The metaphysical poets fell out of favor in the Romantic era, but were rediscovered by twentieth century poets, who rely even more on "occult resemblances" than did their forebears. The presence of single metaphors in advertising suggests that commercial art freely adapts whatever literary techniques are in the current cultural mainstream. An advertising example is a classified ad ("Summer Entertaining" 1989, p. 94) for a telegram-delivery service: "STRIPPER-GRAMS The only gift that unwraps itself." The specialty telegrams delivered for "bachelor parties, showers, birthdays" are compared to strip-tease artists ("gorgeous girls...great guys") based on the single quality of undressing as a form of public entertainment -- a "gift" of oneself to an audience. Although a message on paper and a live stripper are apparently quite dissimilar (in action --

FIGURE 1

Beverly Pavilion Hotel : riches of Beverly Hills :: little gem : many jewels
 A B C D

verbal vs. physical; in medium -- static vs. dynamic; in nature -- abstract vs. concrete, and so forth) they are similar in one respect: each is a "gift that unwraps itself." Hence, their comparison is a single metaphor.

Extended Metaphor

A second category also derived from metaphysical poetry is the *extended* metaphor, in which a dissimilar subject and object share *parallel points of resemblance*. The burden is on the writer to ensure that everything he says is as true of the subject as of the object (see Ciardi and Williams 1975) and to create a coherent point-by-point analogy emphasizing the one area in which two different things are alike. Extended metaphors often use comparison for shock value in that they yoke dissimilar things together as the basis for ingenious and elaborate figures, sometimes judged artificial by critics who object to a poetic straining for likenesses where none appears to exist (see Ruthven 1969).

An advertising example is Chanel's tag-line, "We don't say LIFT-SERUM is a miracle. You may think otherwise." Here, the points of resemblance between the cream and the miracle of renewed youth deal with time, place, and circumstance: [what happens] -- "up to 45% reduction in the appearance of visible lines and wrinkles"; [when] -- "after just one month's regular use"; [where] -- on a woman's face. Just as a miracle achieves instant results by means of complex simultaneous changes (Cinderella turns from a scullery maid into an aristocratic lady dressed for a ball at the stroke of midnight), so too is this cream miraculous. The parallelism among a number of resemblances linking two unlike entities makes this an extended metaphor, as elaborate a figure as any found in poetry. Interestingly, the grammatical context places it within a negative statement of fact ("we don't say it is a miracle"). It is not clear whether this is done for the sake of literary ingenuity -- to present the metaphor in a novel setting -- or in order to avoid legal problems.

Open-Ended Metaphor

A third type of metaphorical transference is *open-ended*, the heritage of the Romantic nineteenth century poets who reacted against the forced and unusual juxtapositions created by their metaphysical forefathers (see Wimsatt 1972). An open-ended metaphor entails an indefinite number of shared resemblances between two things that are more similar than dissimilar. These allow the reader to figure out the transferable qualities, alluded to rather than stated, and in so doing generate a many-sided meaning in his/her mind (Korg 1962). They give the

reader leeway to fill in numerous possible relationships between a subject and object seen as more alike than not, and to find clusters of resemblances on his/her own. The metaphors have "polysemous" meaning (see Frye 1973) and are richly ambiguous (Empson 1947) in that they permit multilayered, complex, and connotatively wide-ranging interpretation.

Open-ended metaphors are now considered the most significant and common kind, thought to evoke a strong impression precisely because they do NOT force a comparison on the reader (Korg 1962). By leaving a reader free to put in his/her own ideas, they engage his/her participation in the creative process. An example of an open-ended metaphor is found in an ad for New York's Shinbashi restaurant: "Owner Fumiko Hosoda welcomes you...Dining at Shinbashi is spending an evening in Japan." The restaurant qualities transferred are never spelled out, but merely linked by association with "an evening in Japan." The ad requires the reader to fill in the outlines of "evening in Japan" with whatever positive images s/he selects, and transfer those attributes to dining at the restaurant. Indefiniteness is thought to stimulate a reader's imagination by encouraging him/her to supply the points of resemblances that coalesce into one personally rich meaning. A reader's imagination is said to add comparisons implied by the original one (Brooks and Warren 1960), in a process itself metaphorically comparable to the widening circle of ripples (layers of meaning) that occur when a pebble is thrown into a pond.

Thus, three kinds of Aristotelian metaphor have been identified based on number of resemblances among attributes (single versus open-ended/extended) and degree of similarity between subject and object (single/extended versus open-ended).

ARISTOTELIAN METAPHOR AND PLEASURE: HARMONY AND MIMESIS

Aristotle suggested that poetry -- the "language embellished" characteristic of choral odes in the Greek tragedies -- originated in human enjoyment of language "harmony" (pleasing sounds) and "imitation" (representation of reality). "Harmony" refers to enjoyment of words and word groups as a result of their sound, rhythm, and rhyme (Fergusson 1961). Literary critics study *prosody*, the discipline of versification, to analyze metre, rhyme, and stanzaic structure (see e.g. Fussell 1979; Wimsatt 1972) as elements governing a text's musicality. Metaphorical harmony (see Crane 1953; Wellek 1963) refers to the meter, sound patterns,

FIGURE 2

/ ◡ / ◡ / ◡ / ◡
 Bombay sapphire. Pour something priceless

and rhyme scheme found in even short phrases. One way that metaphors are thought to induce pleasure, then, is by the way they sound.

Harmonious language is found in an ad for Bombay Sapphire Gin -- "Bombay Sapphire. Pour something priceless." The brand name states the metaphoric terms: Bombay is compared to a sapphire, and the qualities of blueness, icy sparkle, and costliness are transferred from object to subject. The tag-line uses alliteration (underlined "p" and "s" sounds) and rhythm (iambic, accent on the first syllable in word group) (Figure 2). The extent to which harmony positively affects enjoyment has not yet been measured (see below), but critical comments about lack of harmony suggest that sounds are important. A slogan in a recent Aetna Life & Casualty ad -- "We give new meaning to the word diligent" -- was criticized on the grounds of poor rhythm. Garfield wrote, "If ever a slogan failed to roll off the tongue, this is it. Ditto for the commercials themselves, which are full of promise but oddly out of sync" (Garfield 1989, p. 38). This implies that Aristotle's theory of harmonious sound patterns as a source of pleasure may be relevant to advertising as well as to poetry.

Imitation or *mimesis* refers to pleasure derived from meaning rather than sound. It does not imply superficial copying, but rather, a poem's representation of life by re-creating some aspect of it in the new "medium" of words. All verbal art is in this sense mimetic, for it re-creates the "real" world of human experience in word-imitations (see Nuttall 1983; Alter 1984). An advertisement, too, represents a specific kind of human action (associated with use of a product or service) in words (and also in pictures, sounds, music, and movement, although non-verbal art lies beyond the scope of this paper).

Aristotle felt that humans derive pleasure from metaphoric representations because of what they learn: "...to learn gives the liveliest pleasure....Thus the reason why men enjoy seeing a likeness is that in contemplating it they find themselves learning or inferring" (Fergusson 1961, p. 55) something about their own lives and that of others. The reader is thought to experience "a leap of the imagination, a shock of surprise" (Brooks and Warren 1960, p. 89) in apprehending a comparison that encourages fresh views of a commonplace object, idea, or event. A metaphor reveals something beautiful and new even when the domain is painful or unpleasant (as in Greek tragedy), for people are said to delight in recognizing a thing "reproduced with minute fidelity" (Fergusson 1981, p. 55). When audiences recognize the representation of an analogical transference, their satisfaction is

said to be that of enhanced understanding: they now see the subject in a new light.

Aristotle analyzed enhanced understanding in terms of the sight/blindness metaphors dominant in *Oedipus Rex*. Modern advertising also finds a similar comparison useful, as evidenced in a Kodak ad for products targeted to health care professionals. X-ray films are called "Eyes for what a doctor cannot see," in an ad that is part of the campaign's theme, "The New Vision of Kodak." The comparison of x-ray film to human eyes demonstrates how technology imitates the human body: x-rays are to medical sight as eyes are to human sight. The metaphoric play on visibility/invisibility teaches the reader that the complex and mysterious entity of diagnostic apparatus can be understood in terms of the more familiar human body. Reader pleasure, in Aristotelian terms, is thought to stem from understanding what the new technology is about as a result of its representation in terms of something already known: the bodily eye.

Thus, poetry is said to have originated in man's enjoyment of harmony and imitation, and metaphoric language said to satisfy the "natural and universal" human desire to hear pleasurable sounds and understand oneself and the world. Metaphors serve the purpose of stimulating enjoyment to the extent that they please the ear and present reality faithfully.

ARISTOTELIAN METAPHOR AND CONSUMER RESEARCH

Since advertisements create and use metaphors in ways that are traceable to Aristotelian theory, some insights may also be found there to shed light on consumer responses. The relationship of metaphorical effects to consumer responses has not yet been clearly translated from humanistic criticism to the social sciences, nor has it been extensively considered in terms of what the consumer enjoys or finds entertaining. There are many opportunities for original consumer research on the relationship of metaphors to enjoyment of advertisements, recall of messages, inference-drawing, and global evaluation.

Harmony: Enjoyment and Recall

One virtually untouched area of study is the degree to which *harmony* affects an audience's enjoyment of an ad. Prosody has barely been tapped as a useful source of antecedent variables to answer the question, "To what extent do sound and rhythmic effects influence consumer perceptions of metaphors as entertaining?" Many sound-based variables can be identified as small-unit variables (sound patterns or rhyme, for example) capable of inclusion in MacInnis and Price's processing model (1987). Other

larger-unit ones (metrical or stanzaic form) also not well-explored probably should be tested to ascertain whether and how they elicit favorable/unfavorable consumer responses. The degree to which people are entertained by pleasing sounds in advertisements is not known. It is also not clear whether different sound patterns -- "beat" -- may be appropriate for different purposes (reminder ads versus new-product introductions, for example).

In addition to pleasure, harmony is also associated with recall, for mnemonics similar to those advertisers use have long been said to enhance memorability. Since Anglo-Saxon times (see Hulbert 1961; Wrenn 1966), alliteration and assonance have been used to impress verses on non-literate mass audiences. One advertising study (Vanden Bergh, Adler, and Oliver 1987) suggests that the memorability of Coca Cola (alliterative "c" sounds, assonant "o" and "a" sounds, beginning and end rhyme) in part results from its sound-qualities. The extension of this research from brand names to metaphors seems necessary to determine whether sound effects do lead to greater recall, and if so, what the optimal combinations of sounds are. Additionally, the relationship between memorability and *displeasure* should also be investigated, for some rhythms are likely to be annoying because they are overly insistent or too regular.

Imitation: Inference-Conclusions and Evaluation

Another area of research where Aristotelian theory seems useful is inference and conclusion drawing. Literary critics say that metaphorical transference of attributes facilitates understanding in an unconscious process called by a variety of names: burst of insight (Brooks and Warren 1960) sudden perception (Ciardi and Williams 1975), vivid dramatic experience (Barnet 1979), and so forth. These descend from Aristotle's comment that humans experience a moment of truth when they perceive that one thing resembles another in a poetically created likeness. In advertisements, the transference seems designed to encourage readers to infer that the subject possesses the attributes of the object (for rev., see Sawyer 1988).

Social science research suggests that this transference may be almost automatic (Glucksberg, Gildea and Bookin 1982), but many questions remain about the process and end result. First, how does transference of attributes occur in *advertising* messages? It seems unwarranted to assume that people read ads the same way that they read literature, newspapers, or other media communications. Second, how does the transference mechanism work in single versus extended versus open-ended metaphors? There is little reason to think that the process is exactly the same, for single metaphors seem more conclusive, and may be less likely to stimulate inferences, while open-ended ones seem more *inconclusive* and place the burden of interpretation on the reader. Extended metaphors present a somewhat different mental task, in that the reader has to work out a point-by-point comparison

to understand transference of an attribute bundle from object to subject. Inference research may benefit from awareness of different kinds of metaphors analyzed by literary critics, for the process of drawing conclusions may be related not only to how much the text tells a reader, but also to how it does the "telling."

Literary critics have also expended a good deal of effort in evaluating metaphors as "good" (original, creative, expressive of universal truth and psychological insight) or "bad" (trite, incomprehensible, mixed). Consumer researchers need to capture these judgments in measurable terms, and then begin to ascertain how an advertisement (as opposed to a poem or classical tragedy) is evaluated. The definition of "good/bad" in literary metaphors is itself controversial, and it is by no means clear that even if there were agreement, it would be transferable to commercial language. Aristotle himself put forth the notion of different criteria for language appropriate to different purposes (Fergusson 1961, p. 111):

There are also many modifications of language which we concede to the poets. Add to this that the standard of correctness is not the same in poetry and politics, any more than in poetry and any other art.

Some linguists and psycholinguists measure metaphorical goodness based on the similarity or dissimilarity of the attributes compared (see e.g. Chomsky 1964; Katz, Paivio, and Marschark 1985). Others, following Richards's (1936) theory of interaction, focus on the nature of subject and object, and suggest that the best metaphors employ close resemblances between attributes of a subject and object from different categories of being (Tourangeau and Sternberg 1981). Whether consumer evaluation is based on number and similarity of attributes or relationships between the subject and object, or some combination of the two, is not yet clear. Literary criticism provides an enlarged framework for evaluation of metaphors on additional dimensions that may illuminate the nature of the transferral process. Some evaluative dimensions that seem related to advertising language are as follows (Brooks and Warren 1960, p. 272):

- degree of explicitness
- degree of ingenuity or creativeness
- shock-value in the terms compared
- degree of beauty: "unpoetic" (ugly or unpleasant comparison)
- degree of comprehensibility
- degree of economy (elaboration or condensation)

These add subtle considerations -- economy of expression, for example -- to evaluative criteria currently studied, and may lead to clearer understanding of what is meant by a "good" advertising metaphor.

Questions for consumer research concern how consumers evaluate advertising metaphors in terms of a "good/bad" rating. Do they evaluate metaphors based on the number and similarity of attributes they can transfer from object to subject? That is, do they judge by means of a quantifiable dimension of attribute transference? Or does something else occur, in which consumers experience both attribute transfer *and* the joyous feelings generated by the process (an "imaginative leap")? This comes closest to what literary critics say occurs when people read (or see) great imaginative works, but it is not clear that a "leap" or "burst of insight" can be empirically demonstrated. Nor is it clear that if it does exist (and this author thinks it does) whether and to what extent it applies to an advertisement. Little is known about perceptions of the language of commerce as entertaining or artistic in its own right. What consumers of novels or movies might consider "good" metaphors may not be the same as what consumers of advertisements think are "good," for the context may interact with the content in ways not yet understood.

Thus, additional research is necessary to understand how consumers enjoy, remember, draw inferences from, and evaluate advertising metaphors. Aristotelian theory suggests some directions this research can take. The areas of sound and meter in relation to enjoyment and memory, and analogy and transference in relation to inference-conclusion drawing and evaluation have begun to be explored. The view of advertisements as artistic creations opens up research possibilities by offering humanities theory as a source of insights for social science applications. Beauty as a quality conventionally thought to be inherent in poetic metaphors, and joy as a response may not be far removed from qualities inherent in some advertisements and consumer responses to them. It is important to keep in mind that an advertisement, like a literary work, can be viewed as a single piece of data (see Frye 1973), and examined to ascertain the nature, structure, and function of its metaphor(s). Sensitivity to within-ad elements may lead to increased understanding of the complex *gestalt* of an advertisement, similar to what Langer calls the "import" of poetry, (1951, p. 147):

Though the *material*... is verbal, its import is not the literal assertion made in the words, but *the way the assertion is made*, and this involves the sound, the tempo, the aura of associations of the words, the wealth or poverty of transient imagery that contains them, the sudden arrest of fantasy by pure fact, or of familiar fact by sudden fantasy, the suspense of literal meaning by a sustained ambiguity resolved in a long-awaited key-work, and the unifying all-embracing artifice of rhythm.

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Market Metaphors for Meeting Mates
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Metaphors are linguistic systems that shape our understandings and actions even to the recesses of our most intimate lives. No where are these metaphors more apparent than in the voice of singles reflecting upon the process of meeting a mate. This paper presents findings drawn from current or former users of an introduction service for professional singles searching for a lifelong partner. Content analysis of 27 in depth (1-3 hour) interviews with adult singles reveals two dominant types of metaphors. 1) *Practical: Courtship as a Market Phenomenon*. This metaphor stresses social exchange in which each individual attempts to maximize their own utility. Exchange within romantic dyads includes both tangible assets such as financial resources, and intangible assets such as love and respect. The process of attracting a mate is seen in terms of "marketing", while the process of searching for a mate is seen in terms of "shopping" and consumption. Prospective mates are therefore seen as types of products. This contemporary market metaphor is individualistic and sees marriage solely as a means to personal fulfillment. 2) *Romantic: Love as a Physical Force*. This metaphor is similar to the classic literary conception of love as a supernatural force (e.g. magic). The contemporary metaphor however is naturalistic and sees love as "chemistry" or "electricity" between two people.

Most singles recognized the importance of both "chemistry" and exchange within their romantic relationships. Each system of metaphors was applied in a different context in order to highlight a particular aspect of the respondents relations with the opposite sex. Most respondents valued the freedom from familial or community obligations that the individualistic outlook of the market metaphor provided. However, many respondents also questioned either individualism and/or the market metaphor as an appropriate perspective for interpersonal relationships. These respondents feared that it precludes non-contingent giving and promotes adversarial attitudes. While respondents generally mentioned the importance of "chemistry" in relationship formation, several respondents expressed skepticism regarding such romantic notions as "if two people are meant to be together, they will meet without working at it". Apart from this sample, content analysis of popular press reporting on traditional dating and dating services are used to illustrate and provide a wider cultural context for the findings of the study.

Effects of Self-Reflection on Attitudes and Consumer Decisions

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ABSTRACT

Asking people to explain their attitudes has been found to lead to temporary attitude change. In the first part of this paper, the implications of this finding for attitude theory are discussed. We argue that attitudes are best viewed as the result of a constructive process, dependent on what is currently salient to people, rather than as unitary, stable constructs. In the second part of the paper, the implications of our findings for consumer decisions are discussed. We report the results of studies showing that under some circumstances, asking people to explain why they feel the way they do about the alternatives reduces the quality of their decisions.

Traditionally, attitudes have been viewed as evaluations that are relatively stable over time. For example, Petty and Cacioppo (1981) defined an attitude as an "enduring positive or negative feeling about some person, object, or issue" (p. 7). This can be referred to as the file drawer analogy of attitudes. That is, when people are asked how they feel about something, such as George Bush, a brand of laundry detergent, or the city of New Orleans, presumably they consult some sort of mental file. After examining the contents of the file marked, "Bush" or "Tide" or "New Orleans," they report how they feel. The contents of these "files" can be changed by personal experiences, persuasive messages, and the like, but for the most part they are enduring evaluations that remain unchanged.

In contrast, some have argued that people do not have a single, fixed attitude. Instead, people's views are said to vary depending on such factors as the context in which they are asked, the situation they are in, what else they are thinking about, and the values that are currently salient to them (e.g. Shavitt 1989; Tesser 1978; Zanna and Rempel 1988). We might refer to this as the "slide rule" analogy of attitudes, where people's views slide up and down an attitude scale from time to time. This is *not* to say that people are like chameleons, changing their attitudinal colors from one extreme to the other at the spur of the moment. People are unlikely to say that they love George Bush on one occasion, only to say they hate him 10 minutes later. Instead, the "slide rule" view is similar to one espoused by social judgment theory nearly 30 years ago (Sherif and Hovland 1961). People are said to have a range of positions that they view as acceptable. People will rarely, if ever endorse positions outside of this latitude of acceptance.

Their attitude within this latitude of acceptance, however, might vary from time to time.

We will discuss a program of research that is consistent with this "slide rule" view of attitudes. Our view is similar to one proposed by Tesser (1978):

The standard paradigm . . . assumed that individuals have a *single attitude* toward the object. We have argued, however, that one's attitude at the moment is a constructive process generated from the *particular* schema tuned in. . . A different schema will make different cognitions salient and hence result in a different attitude. (p. 324; emphasis in original)

Viewing attitudes as a constructive process raises a key question: What determines the attitude people will have at any given point in time? Following Tesser (1978), we suggest that this depends largely on the thoughts about the attitude object that are salient at the time people are asked for their opinion (for a similar argument, see Salancik 1974 and Seligman, Fazio, and Zanna 1980). If someone has just seen a news conference in which George Bush was particularly effective, their attitude is likely to be at the positive end of their latitude of acceptance. If they have just seen him call September 7th Pearl Harbor Day, it is likely to be at the negative end.

Interestingly, it is not only external events such as news conferences that influence the availability of our thoughts about an attitude object. Sometimes our own self-reflections can influence this as well. For example, Tesser (1978) has demonstrated that simply asking people to think about the attitude object causes them to report a more extreme attitude (in the direction of their initial position) than they normally would. This polarization effect is especially likely to occur if people have a well-developed set of beliefs about the attitude object that are evaluatively consistent (Chaiken and Yates 1985; Millar and Tesser 1986). The reason for this appears to be that when such people spend time thinking about an attitude object, the thoughts that are likely to come to mind are those that are consistent with their initial position. Due to the increased salience of these thoughts, people's attitudes become more extreme.

It may be, however, that other kinds of thought do not necessarily bring to mind beliefs that are consistent with one's initial position. For the past several years we have been investigating a form of self-reflection that seems to fit this bill: Asking people to think about why they feel the way they do about an issue or object. We have found that asking people to explain their attitudes can

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produce attitude change, sometimes in the direction of the initial attitude and sometimes not.

We have developed the following set of arguments to explain these findings. (For a more detailed discussion, see Wilson in press and Wilson, Dunn, Kraft, and Lisle 1989.) When asked to explain an attitude, people come up with reasons that are available in memory and which seem like plausible causes of their attitude. Sometimes, however, those reasons that are available and plausible are incorrect or incomplete. One reason for this is that rational cognitions about the attitude object are, in our culture at least, viewed as the most plausible causes of attitudes, and hence are most available in memory. For example, when explaining why we like various political candidates, we are more likely to call upon such factors as their stance on the issues than such seemingly implausible things as the number of times we have seen their ads on television or whether their party affiliation is the same as our parents', even though these latter factors have been shown to influence people's attitudes. Other factors might be available in memory because they are easy to verbalize or were encountered recently, as in our earlier example of seeing George Bush look particularly effective in a news conference.

As a result of these availability effects, the reasons people bring to mind might imply a somewhat different attitude than they previously held. For example, suppose that a person has a generally favorable attitude toward Candidate X. When asked to explain why she likes this candidate, however, what comes to mind is that he looked worn and ineffective during a recent debate, and that his position on the death penalty is at variance with her own. What will happen? We have found in several studies that people adopt the attitude implied by their reasons (see Wilson, Dunn, Kraft, and Lisle 1989). Thus, if we asked this person how she felt about Candidate X she would be likely to report a somewhat negative attitude, at least more negative than if she had not focused on why she felt the way she did.

Two important points should be noted about the attitude change that results from analyzing reasons. First, unlike the results of mere thought about the attitude object (Tesser 1978), it can be difficult to predict the direction of this change. The kinds of reasons that are available in memory for one person might be primarily negative, leading to change in a negative direction. The reasons that are available to another person might be primarily positive, resulting in change in the opposite direction. We found this to be the case in a recent study of political attitudes (Wilson, Kraft, and Dunn 1989). Subjects who analyzed reasons were more likely to change their attitudes toward political candidates, but this change was not in a common direction. Subjects who listed negative reasons tended to change their attitudes in a negative direction, whereas subjects who listed positive reasons tended to change in a positive direction. (Incidentally, subjects in this study, as in most of

the ones we have conducted, were asked to list their reasons privately and anonymously to "organize their thoughts." Subjects believed that no one would ever see what they wrote, which reduces the plausibility of self-presentational or demand characteristic interpretations of the results.)

The second point is that analyzing reasons is most likely to cause attitude change in subjects who are relatively unknowledgeable about the attitude object (Wilson, Kraft, and Dunn 1989) or who have relatively inaccessible attitudes (Wilson and Pollack 1989). One reason for this, we suspect, is that unknowledgeable people often have more conflicting beliefs about the attitude object than do knowledgeable people (Lusk and Judd 1988; Wilson, Kraft, and Dunn 1989). As a result they should be more susceptible to the sort of availability effect we have described. That is, if a person's beliefs are entirely consistent, any belief that comes to mind will imply the same attitude. If their beliefs are inconsistent, however, it is more likely that the subset that come to mind will imply a new attitude.

We should note that this argument is the mirror image of Tesser's (1978) concerning the effects of thought on attitudes. He has demonstrated that mere thought will polarize attitudes when people have a set of consistent beliefs about the attitude object (see also Millar and Tesser 1986). In contrast, we have shown that asking people to *explain* their attitude causes attitude change in people with relatively *inconsistent* beliefs about the attitude object (Wilson, Kraft, and Dunn 1989).

To this point we have focused on the implications of our work for the definition of attitudes. We believe that people do not have a single attitude stored in a mental file that is the same over time. Like Tesser, Shavitt, and others, we believe that attitude reports involve a more constructive process, and depend in part on the thoughts and beliefs that are salient to people at any given time. What are the implications of this view? Is it an esoteric debate of interest only to attitude theorists, or does it have any practical implications? In the remainder of this paper we hope to show that there are some important implications of our work in the area of consumer behavior.

IMPLICATIONS FOR ATTITUDE-BEHAVIOR CONSISTENCY

One implication of viewing attitudes as a constructive process is that people can be expected to behave consistently with their attitudes only under certain conditions, namely when the same attitude is elicited when people report their attitudes as when they behave toward the attitude object. For example, if people say they prefer a certain brand of soft drink, does this necessarily mean that they are more likely to purchase that brand than others? Only if the attitude constructed at the time they reported their preference is the same attitude constructed when they are standing in the soft drink aisle of the supermarket. As seen in the papers by Shavitt and Tesser, there are a number of circumstances under which the attitude that is salient

to people when they report their feelings is different from the attitude that is salient when they behave, resulting in low attitude-behavior consistency.

One such circumstance is the kind of self-reflection we have investigated, where people are asked to explain their attitude before reporting it. We have shown in a number of studies that people who reflect about their attitudes in this way exhibit significantly lower attitude-behavior consistency than people who do not (see Wilson, Dunn, Kraft, and Lisle 1989 for a review). One reason for this finding is as follows: As argued earlier, when people analyze reasons a new attitude often becomes salient, leading to attitude change. This attitude change, however, does not appear to be particularly long lasting. Indeed, it would be rather surprising if a permanent change in people's attitudes could be brought about simply by asking them to explain why they felt the way they did. Instead, over time people's original attitude seems to "snap back."

If so, then the attitude people report after analyzing reasons is likely to be different than their behavior toward the attitude object, as long as the behavior occurs after people's original attitude has snapped back. Consistent with this hypothesis, we have found that if people behave toward the attitude object immediately after analyzing reasons, then their behavior is consistent with their new attitude. If enough time passes, however, people's behavior seems to be consistent with their original attitude and inconsistent with the attitude they reported after analyzing reasons (see Wilson, Dunn, Kraft, and Lisle 1989). These findings are of some importance to survey researchers who hope to measure people's attitudes toward a product, with the hope that these attitudes will predict their consumer behavior. People's attitudes may not predict behavior if they are asked to explain these attitudes before reporting them.

IMPLICATIONS FOR PEOPLE'S SATISFACTION WITH CONSUMER DECISIONS

Recently we have examined the implications of our work for how people make consumer decisions. As a starting point, we assume when people are left to their own devices, they often make good personal choices. People are certainly not optimal information processors, but they often manage to assign weights to the different attributes of the alternatives that produce a satisfactory choice (satisfactory to them). People often are not fully aware of how they are weighting the information, we assume, but they often use fairly optimal weights.

If this is true, what happens when people think about why they feel the way they do? Tampering with the decision process by making people introspect, we suggest, can have deleterious consequences by altering how people weight information about the alternatives. When people analyze reasons, we have argued that they focus on those attributes of the attitude object that are available in memory and which seem like plausible causes of their evaluations. As a result, people

might lose sight of which criteria of the alternatives are most important to them.

For example, consider people's preferences for a food product. When people taste the food and decide how much they like it, they might be influenced by attributes of which they are unaware (e.g., an unknown ingredient) or that are difficult to verbalize (e.g., its texture or aroma). When asked to explain their reactions, they may assign less weight to these factors because they are difficult to put into words, and as a consequence change their preferences. Assuming that their original preference was fairly optimal, this change in weights might lead to a less optimal choice.

But what do we mean by a "satisfactory" or "optimal" choice? As noted by Janis and Mann (1977), it is very difficult to evaluate how good a decision is. We have dealt with this problem by including several different measures of decision quality, including how well people's opinions of the alternatives match the opinions of experts in that domain, the correspondence between the criteria people use to make their decision and the criteria advocated by experts, and, most directly, how satisfied people say they are with their decision. We will briefly discuss some studies we have conducted to test the hypothesis that at least under some circumstances, introspecting about reasons can lead to poorer decisions.

Comparing People's Attitudes to Expert Opinion

In one study, we compared the preferences of subjects toward a food item--strawberry jams--with the opinions of sensory panelists from *Consumer Reports Magazine* (Wilson, Lisle, and Schooler 1989). Subjects tasted five different brands. Half of the subjects analyzed why they liked or disliked each alternative, whereas half did not. All subjects then rated how much they liked each brand. We suggested earlier that left to their own devices, people often make reasonably good consumer decisions. Consistent with this hypothesis, the ratings made by control subjects corresponded fairly well with the experts' ratings, resulting in a mean, within-subject correlation of .55. We have also suggested that trying to explain one's attitudes can influence the salience of certain attributes of the attitude object, causing people to change their evaluations. This prediction was also borne out, in that subjects who analyzed reasons ended up with significantly different preferences for the jams than did control subjects. Finally, consistent with our hypothesis that these preferences would be in some sense "worse," the ratings made by subjects who analyzed reasons did not correspond with the experts very well, mean correlation = .11. The difference between the mean correlations in the control and reasons conditions was significant.

Choosing College Courses

The jam study examined people's preferences, without asking them to make an actual consumer decision. In another study we examined a real-life

choice of some importance to college students: The decision of which courses to take (Wilson 1989). We evaluated students' choices in a variety of ways. For example, we compared the criteria they appeared to use to the opinions of faculty members as to what criteria *ought* to be used when choosing a course, plus we saw who was most likely to take the courses most highly rated by students: Those who introspected about the alternatives or those who did not.

A sample of introductory psychology students, who had expressed an interest in taking more psychology classes, were seen at the beginning of the week when they registered for classes for the next semester. They were given a packet of information about each of the nine sophomore level psychology classes being offered the next term. This packet contained such information as a description of the course content, student evaluations of the course, and whether or not a term paper was required. After reading through this information, some subjects were asked to describe why they might or might not take each course. To see if other kinds of reflection are equally disruptive, a second introspection condition was included: Some subjects were asked to rate each and every piece of information they received about each course according to whether it made them more or less likely to take that course. The remaining subjects were in a control condition, where they did not receive any special instructions about how to approach the course information.

The chief dependent measures were subjects' ratings of how each type of information had influenced their decision of which courses to take, their memory for the different information about the courses at the end of the session, and the courses they actually registered for and took the next semester. As predicted, introspecting about the courses seemed to change how subjects used the information about the courses (subjects who analyzed reasons and subjects who rated each piece of information responded similarly, thus for present purposes the results will be collapsed across these conditions). Subjects in the introspection conditions reported using different kinds of criteria and recalled different kinds of information about the courses than did control subjects. Further, they registered for different types of courses than control subjects.

Who is to say which group made the "right" choices? Though it is impossible to tell, there was suggestive evidence that it was control subjects and not those in the introspection conditions. First, subjects in the control condition were significantly more likely to register for and take courses that received high course evaluations (see Table 1). As another way of assessing how good subjects' choices were, we gave a list of the information our subjects received to a sample of faculty members in psychology, and asked them to rate how much students ought to weight each piece of information, in order to make the best choice. These ratings by the "experts" were then correlated with the actual

subjects' ratings of how much they had used each type of information, as well as their recall of the information. Again, it was the control subjects who came out best on these measures: Both correlations were significantly higher in the control condition than in the introspection conditions (see Table 2). What appears to have happened is that subjects who introspected lost sight of which criteria (e.g., the course evaluations) were most important, and relied more on criteria that were, at least according to faculty members, not as valuable.

Post-Choice Satisfaction With Consumer Choices

The results of the first two studies suggest that analyzing reasons changes the criteria people use to evaluate alternatives. These studies are at least suggestive of the possibility that the criteria used by people who introspect are not as "good," leading to worse decisions. But will people themselves be dissatisfied with these choices? On the one hand they might not, because several studies have found that whatever alternative people choose, they will become more favorably disposed toward it in order to reduce dissonance (e.g. Brehm 1966). On the other hand there are probably limits to this kind of dissonance reduction (to illustrate this, one need only refer to the high rate of divorce in this country!).

There are two reasons why people who introspect might regret their choices more than those who do not. First, if people who introspect end up choosing inferior alternatives, such as poorly-rated jams, then they should not be as satisfied with these choices as people who do not introspect. Second, we argued earlier that the attitude change produced by analyzing reasons is temporary, and snaps back over time. If so, people should come to regret a choice they made immediately after analyzing reasons, because their initial, pre-introspective attitude has returned.

Two studies have been performed to test these hypotheses (Wilson, Lisle, and Schooler 1989). In the first study, subjects were presented with five art posters and allowed to choose one to take home. Two of the posters were reproductions of Impressionist paintings, and were very popular with our student population, according to our pretesting. The remaining three were contemporary posters of a style we can only call "cute," such as a photograph of a cat perched on a rope with the caption, "Gimme a Break." They were considerably less popular with our pretest subjects. Half of the subjects were asked to write down why they felt the way they did about each poster, supposedly to organize their thoughts. The other half completed a filler questionnaire of equal length. All subjects then rated the posters and chose one to take home. The experimenter left the room while the subject chose a poster from bins containing several of each type; thus, in the minds of the subjects, the experimenter would not know which one they took.

As in our other studies, analyzing reasons seemed to change the criteria subjects used to

TABLE 1
COURSES PREREGISTERED FOR AND ACTUALLY TAKEN BY CONDITION

Variable	Control	Introspection
Preregistration		
Highly-Rated Courses	.42	.18
Poorly-Rated Courses	.05	.05
Actual Enrollment		
Highly-Rated Courses	.38	.22
Poorly-Rated Courses	.04	.04

Note. Subjects were assigned a 1 if they registered for or actually took a course, and a 0 if they did not register or take a course.

TABLE 2
CORRELATIONS BETWEEN FACULTY RATINGS OF HOW MUCH THE COURSE INFORMATION SHOULD BE WEIGHTED AND (A) SUBJECTS REPORTED INFLUENCE OF THE INFORMATION AND (B) SUBJECTS' RECALL OF THE INFORMATION

Mean t Between Faculty Ratings and:	Control	Introspection
Subjects' Reported Influence of Course Information	.21*	.05
Subjects' Recall for Course Information	.14*	-.04

* $p < .01$ with a one-sample t -test

evaluate the posters. Subjects who did not analyze reasons overwhelmingly preferred the Impressionist paintings: As seen in Table 3, virtually everyone chose one of these posters to take home. Subjects who analyzed reasons, however, were significantly more likely to choose one of the contemporary posters. Having to explain their attitudes seems to have increased the salience of positive features of the contemporary posters, in that subjects listed more positive than negative attributes of these posters. What happened after people took their posters home? We telephoned them 3 weeks later to find out. As predicted, and as seen in Table 3, subjects in the reasons condition reported a lower satisfaction with their choice of poster, possibly because their initial attitude--that the Impressionist paintings were preferable--had by then returned.

According to our prediction, it should only be people who convinced themselves they liked the unpopular, contemporary posters who should come to regret this choice later. As seen in Table 3 there was a tendency in this direction, in that the

difference in post-choice satisfaction between reasons and control subjects was greater among those who chose a contemporary poster than those who chose an Impressionist poster. The interaction between condition and poster choice, however, was not significant. One reason for this might be that the control condition/contemporary poster cell was represented by one person, making this value highly unreliable. We replicated the poster study with a new stimuli, felt-tip pens, and found results that were more consistent with our hypothesis. The people who were least satisfied with their choice of a pen were those in the reasons condition who convinced themselves that they liked the one that was rather unpopular, and chose to take it home. When asked later how much they liked it, their original attitude seemed to have returned, making them relatively unhappy with their choice.

CONCLUSIONS

Viewing attitudes as the result of a constructive process, dependent on the thoughts that

TABLE 3
RESULTS OF THE WILSON, LISLE, AND SCHOOLER (1988) POSTER STUDY

Variable	Control		Reasons	
	Impressionist	Contemporary	Impressionist	Contemporary
Choice (%)	95	5	64	36
Post-Choice Satisfaction ^a	2.68	3.00	2.21	2.17

^aSubjects were asked whether they still had the poster, whether they had hung it up, and whether they planned to take it home with them at the end of the semester. They received a zero if they said no to these questions and a one if they said yes. The satisfaction index is the sum of their three responses.

are salient to people at any given moment, has some interesting implications for consumer behavior. We have found that asking people to explain their attitudes changes their preferences, presumably by influencing the salience of different attributes of the attitude object. Further, we have shown that this type of self-reflection can lower the quality of people's choices. We should, however, add some caveats to our findings. First, we are not suggesting that all kinds of reflection should be avoided, or even that people should never analyze the reasons for their feelings. In most of our studies people are asked to make off-the-cuff, fairly brief explanations of their attitudes, and it is possible that a more in depth kind of reflection, such as that advocated by Janis and Mann (1977), will have very different effects on the quality of people's decisions. Further, there are times when people make decisions too impulsively, and would benefit from a more measured, reflective approach to the decision. We have just begun to explore the conditions under which people should and should not introspect about the reasons for their preferences. Perhaps the best conclusion at this point is a variation of Socrates oft-quoted statement that the "unexamined life is not worth living." We suggest that at least at times, the unexamined choice *is* worth making.

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Attitudes and Behavior: The Cognitive-Affective Mismatch Hypothesis

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ABSTRACT

Thought about one's attitudes has inconsistent effects on the attitude-behavior relationship: Sometimes thought increases the correlation between attitudes and behaviors and sometimes thought decreases the correlation between attitudes and behaviors. One way to understand this inconsistency is to assume that the attitude reports are based on whatever aspect of the attitude is salient when the report is given. If affect is salient, then the attitude report will reflect one's feelings about the attitude object. If cognitions are salient, then one's attitude report will reflect one's beliefs about the attitude object. In short one's self-reported attitude will differ as a function of what is salient. At the same time, one's behavior may be more or less affectively or cognitively driven. Consummatory behaviors, behaviors that are engaged in for their own sake, are likely to be affectively driven. On the other hand, instrumental behaviors, behaviors intended to accomplish a goal which is independent of the attitude object, are likely to be cognitively driven. Thus, if one's affect is salient when the attitude report is given, then the attitude report will do a better job of predicting consummatory behaviors than instrumental behaviors; If one's cognitions are salient when the attitude report is given, then the attitude report will do a better job of predicting instrumental behaviors than consummatory behaviors. Evidence for these hypotheses was reviewed, and the implications of this work for a definition of attitude are discussed.

THE COGNITIVE-AFFECTIVE MISMATCH HYPOTHESIS

The effects of thought on both attitudes and the attitude-behavior relation has received considerable research attention (e.g., Carver & Scheier, 1981; Fazio, Chen, McDonel, & Sherman, 1982; Tesser, 1978; Wilson, Dunn, Kraft, & Lisle, 1989). In this research thought prior to an assessment of an attitude has produced inconsistent effects on the attitude-behavior relationship. That is, sometimes thought increases the correlation between attitudes and behaviors and sometimes thought decreases the correlation between attitudes and behaviors. In a series of recent studies, Wilson and his colleagues (e.g., Wilson & Dunn, 1986; Wilson, Dunn, Bybee, Hyman, & Rotondo, 1984; Wilson, Kraft, & Dunn, 1987), have amassed considerable evidence that thought prior to an assessment of an attitude decreases the attitude's ability to predict behavior. For example, Wilson et al. (1984) required half of his participants to analyze their reasons for liking five puzzles, and the other half were not given any instructions. The participants' attitudes expressed subsequent to this procedure were correlated with behavioral measures

of liking. The correlation between attitudes and behavior in the thought group was significantly lower ($r = .17$) than in the no-instruction group ($r = .54$).

Wilson et al. (1989) has explained this effect by suggesting that thinking about reasons causes persons to change their minds about how they feel, but does not change their behavior. Wilson's explanation suggests that when persons are asked to explain their feelings they feel compelled to generate reasonable sounding answers despite the fact they often do not know exactly the reasons for their feelings. Consequently, the reasons generated may be incorrect or only a biased subset of the actual reasons underlying their attitude, i.e., persons will tend to produce reasons easiest to verbalize or most available in memory. When persons are required to state their attitudes subsequent to this process they are influenced by this biased set of reasons and change their attitude in the direction of the biased sample. On the other hand, according to Wilson, the biased set of reasons has only a short term effect on behavior. That is, the person's behavior is initially influenced by the biased set then "snaps back" to the person's original position as the person's affective response reasserts itself.

In contrast to Wilson's findings, other research has suggested that thought about an attitude increases its ability to predict behavior. For example, Wicklund (1982) in his work on self-awareness, suggested that persons who are focused on themselves (i.e., presumably thinking about their internal feelings) have better access to their attitudes than persons who are not self-focused. Wicklund, unlike Wilson et al., predicted that highly self-focused persons should be less likely to be misled about their "true" attitude. Consequently, their attitudes should be good predictors of their behavior. Consistent with Wicklund's hypothesis Scheier, Buss, and Buss (1978) have found that persons dispositionally high in self-awareness exhibit higher attitude-behavior correlations than do persons low in self-awareness. Also Pryor, Gibbons, Wicklund, Fazio, and Hood (1977) reported higher attitude-behavior correlations for persons in the presence of a mirror (high self-awareness) than for persons in the absence of a mirror. Similarly, Snyder has argued and found evidence that instructing persons to think carefully about an attitude increases the attitudes ability to predict behavior (Snyder & Kendzierski, 1982; Snyder & Swann, 1976). Snyder suggested that thought operates to increase both the accessibility and strength of that attitude.

Even research that used a research paradigm similar to that used in Wilson's work has produced conflicting results. For example, Fazio, Zanna, and Cooper (1978), who used the same puzzles as

Wilson et al. (1984), had participants view other people performing the puzzles. One half were asked to think about how they would feel about each type of puzzle, and the other half were not given these directions. After this procedure, all of the participants were given a 15 minute play period to work on the puzzles. The attitudes of the participants who were asked to think about the puzzles were better predictors of play period behavior than were the attitudes of those not asked to think about their feelings.

Attitude Components and Thought

In order to reconcile these conflicting findings, we (Miller & Tesser, 1986, 1989) examined the relationship between thought and the different attitude components. Although, there is no universally agreed upon definition of the attitude construct, attitudes are usually conceptualized as multi-component entities (e.g., Kramer, 1949; Ostrom, 1969; Thurstone, 1928). We regard attitudes as encompassing a global evaluation based on both cognition and affect (see Zanna and Rempel (1988) for a similar conceptualization). The cognitive component is generally conceived of as containing the encoding of attributes and beliefs about the attitude object and the affective component of the attitude as containing the encoding of emotions and feelings associated with the object (Fleming, 1967). Considerable theoretical and empirical support for this dichotomy between cognition and affect has been offered by Zajonc (1980, 1984), Breckler (1984), and Breckler & Wiggins (1989)

It was our contention that attitude reports (global evaluations) are based on whatever aspect of the attitude is salient when the report is given. If affect is salient, then the attitude report will reflect one's feelings about the attitude object. If cognitions are salient, then one's attitude report will reflect one's beliefs about the attitude object. Thought prior to making an evaluation has the potential to make either the affective or cognitive component of the attitude salient and more important in the global evaluation. For example, Wilson's procedure of requiring persons to think about reasons for liking or disliking an object would tend to make the cognitive component of the attitudes salient, i.e., beliefs about the object's attributes would be salient. Alternatively, requiring persons to think about the feelings they experience in the presence of the object would make the affective component of their attitude salient. Consequently, if the affective and cognitive components of an attitude are not in perfect evaluative agreement, it is possible for thought to produce different attitude reports about the same object.

Attitude Components and Behavior

In addition, we proposed that the decision to engage in a behavior may be based more or less on the cognitive or affective component of the attitude rather than a global evaluation. That is, some

types of behavior may be more cognitively driven and other types more affectively driven. There are probably a number of dimensions that would make either the attributes of the object or the feelings the object evokes more important in directing behavior. For the present work we distinguished between instrumental and consummatory behaviors. Behaviors intended to accomplish a goal which is independent of the attitude object (instrumental behavior) are likely to be cognitively driven. For example, a person who performs a puzzle in order to develop analytic ability would primarily be interested in various attributes of the puzzle and how they affect analytic ability, not how the puzzle makes him or her feel. Alternatively, behaviors engaged in for their own sake (consummatory behavior), are likely to be affectively driven. For example, a person who performs a puzzle simply to please himself, should be primarily interested in how the puzzle makes him feel, not in the attributes of the puzzle.

Mismatch Hypothesis

Since one's global evaluations or attitude report can be more or less influenced by the affective or cognitive component and since behavior can be more or less driven by the affective and cognitive components, it was hypothesized that a match between the attitude component emphasized by thought and the attitude component driving behavior would lead to a strong attitude-behavior relation and a mismatch between components would lead to a weak attitude-behavior relation.

When the previous literature dealing with the effects of thought on the attitude-behavior relation is reexamined within this framework, many of the apparently contradictory findings can be resolved. The reasons-analysis procedure used by Wilson made the cognitive component of the attitude salient, producing global evaluations based on this component, whereas the puzzle-playing behavior in Wilson's free-play situation was probably a consummatory behavior (i.e., there was little instrumental value in playing the puzzles). The mismatch between the attitude component influencing the global evaluation and the component-driving the behavior resulted in lower attitude-behavior correlations. Alternatively, the directions of Fazio et al. (1978) to concentrate on feelings probably made the affective component salient when the global evaluation was formed, whereas the puzzle-playing behavior remained a consummatory behavior. The match between the attitude components driving the behavior resulted in higher attitude-behavior correlations.

Millar and Tesser (1986) performed a preliminary test of the mismatch hypothesis by measuring the relationship between attitudes formed after either an affective or cognitive focus procedure and behavior performed under instrumental and consummatory conditions. It was expected that attitudes formed when affect was salient would predict consummatory behavior better than instrumental behavior and alternatively attitudes

formed when cognition was salient would predict instrumental behavior better than consummatory behavior.

To test this participants were informed that the purpose of the study was to evaluate the effectiveness of five types of analytic puzzles that were designed to increase analytic ability. To create instrumental behavior conditions half the participants were informed that at the end of the study they would be receiving a test of their analytic ability. Participants in the instrumental conditions should view work on the puzzles as a way to improve their performance on the upcoming test, i.e., they had a goal independent of the attitude object. To create consummatory behavior conditions the other half of the participants were informed that they would receive an unrelated test of their social sensitivity. Participants in the consummatory conditions should not have this motive and engage in the behavior for its own sake. After five minutes to familiarize themselves with the puzzles, both groups were required to report their attitude about each of the five puzzles. During this five minute period, one half of the participants were given the reason-analysis directions that required the participants to analyze why they felt the way they did about each of the puzzles types. These directions were similar to those used by Wilson et al. (1984) and were designed to make the cognitive component of the attitude salient. The other half received affective-analysis directions that required the participants to analyze how they felt while performing each type of puzzle. These directions were designed to make the affective component of the attitude salient. Finally, all of the participants were given a seven minute free-play period to work on any of the puzzles they desired. During this period three behavioral measures were recorded: the time they spent working on the puzzles in the free-play period, the order in which they choose the puzzles, and the proportion of each type of puzzle they attempted.

The results provided strong support for the hypothesis. Three indexes of attitude-behavior consistency were constructed by computing the rank-order correlation of each participant's evaluation of the puzzles with the three behavioral measures. When these within subject correlations were analyzed within an analysis of variance framework the predicted interaction between the type of thought prior to the attitude report (affective vs. cognitive) and the type of behavior performed (instrumental vs. consummatory) was obtained. Thought emphasizing the affective component produced attitude reports that predicted consummatory behavior (affectively driven behavior) better than instrumental behavior (cognitively driven behavior). Alternatively, thought emphasizing the cognitive component produced attitude reports that predicted instrumental behavior better than consummatory behavior.

Moderating Role of Affective-Cognitive Consistency

Having obtained preliminary support for the model a further investigation was conducted to examine the moderating role of affective-cognitive consistency in the relationship between global evaluation and behavior (cf. Norman, 1975; Rosenberg, 1960). From the present perspective, if the affective and cognitive components are in good evaluative agreement then thought emphasizing either component should lead to a similar global evaluation. If this is the case, then global evaluations should relate to consummatory or instrumental behavior in the same manner regardless of what component is made salient by thought. Overall we would expect highly consistent attitudes to predict both consummatory and instrumental behavior uniformly well. On the other hand, if the cognitive and affective components are not in agreement then thought emphasizing different components would lead to different global evaluations. Consequently, if thought operates in the manner suggested by the model, the match and mismatch effects should occur when attitudes are characterized by low affective-cognitive consistency and become attenuated when there is high affective-cognitive consistency.

To test this hypothesis Millar and Tesser (1989) attempted to measure affective-cognitive consistency directly and demonstrate that the match and mismatch effects occur only under low consistency. Each participant was required to familiarize himself/herself with different types of puzzles by performing two examples of each puzzle under affective thought conditions, i.e., think about *how* the puzzle makes you feel, and two examples under cognitive thought, i.e., think about *why* you feel the way you do about the puzzle, conditions. During both the affective focus and cognitive focus, participants were required to write down their responses to the puzzles. These responses were used to produce affective and cognitive liking scores for each type of puzzle and calculate affective-cognitive consistency. In order to manipulate affective and cognitive focus the measurement of affective and cognitive components was conducted so that half the participants finished the procedure with an affective focus and half finished with a cognitive focus. Immediately after this procedure participants were required to evaluate each of the puzzles. Following the evaluation of the puzzles, participants were allowed to play with the puzzles under the instrumental or consummatory conditions described in the first study.

We expected that when affective-cognitive consistency was low there would be an interaction between Focus of Thought and Behavior Type. That is, when there is a match between the attitude component emphasized by thought and the component driving behavior, the evaluation-behavior relation should be strong; when there is a mismatch between the focus of thought and the component driving behavior the relation between evaluation and behavior should be weak.

Alternatively, when affective-cognitive consistency is high this interaction should disappear.

The results provided strong support for the predicted moderating role of affective-cognitive consistency in the attitude-behavior relation. For each participant a measure of affective-cognitive consistency was constructed by computing the rank-order correlation of his/her cognitive liking scores for each type to puzzle to his/her affective liking score for each type of puzzle. When there was low affective-cognitive consistency a match between the attitude component emphasized by thought and the component driving behavior resulted in higher evaluation-behavior correlations than a mismatch between components. Alternatively, when there was high affective-cognitive consistency the match and mismatch effects disappeared.

The results also provide support for the hypothesized relation between liking expressed by the attitude components (affective and cognitive) and behavior type (consummatory and instrumental). As we expected the liking expressed by the affective component tended to predict consummatory behaviors better than the liking expressed by the cognitive component and, alternatively, the liking expressed by the cognitive component tended to predict instrumental behavior better than consummatory behaviors.

Comparison to Cognitization Hypothesis

Wilson and his colleagues (e.g., Wilson & Dunn, 1986; Wilson, Dunn, Kraft, & Lisle, 1989) have also noted the discrepancy between their findings on the effects of thought on the attitude-behavior relation and earlier findings. Similar to our explanation Wilson and Dunn (1986) have argued that discrepancy between the thought procedures used in their work and in earlier work was responsible for the conflicting findings. That is, the reasons analysis procedure used in their work created a cognitive biased attitude whereas the thought procedures used in earlier work did not create a cognitive bias, e.g., the procedure used by Fazio, Zanna, and Cooper (1978) that required participants to think about how they feel. In Wilson's explanation if thought fails to produce a cognitive bias it will also fail to change the attitude and, consequently, the attitude and behavior will remain consistent.

This explanation brings out some important differences between our understanding and Wilson's understanding of the effects of thought on the attitude-behavior relation. Wilson's model focuses primarily on the effect of thought on affective attitudes. That is, the original attitude to be biased by cognition must be affective. Presumably attitudes based on cognition would be less susceptible to obtaining a cognitive bias than attitudes based on affect. In addition Wilson's model focuses primarily on the prediction of affectively driven behaviors. That is, except for a short time when the behavior is influenced by the cognitive bias, behavior is dependent upon the person's affect. Our model, on the other hand proposes that

thought may make salient either affective or cognitive responses to the attitude object, i.e., create either affective or cognitively based attitudes, and that behavior may either be affectively or cognitively driven. Consequently, our model allows us to integrate the effects of thought on both affectively and cognitively based attitudes and behaviors.

Having emphasized the differences it should be said that overall Wilson's and our models are not inconsistent. It seems likely that both processes occur. To distinguish the two processes future research will need to identify the type of attitudes discussed in our model (i.e., attitudes that have both affective and cognitive components) and the type of attitudes discussed in Wilson's model (i.e., attitudes that are affectively based with little or no cognition).

Conclusion

The present model not only allows us to integrate previous attitude-behavior consistency literature but also has important implications for our understanding of the attitude construct. Many researchers have conceptualized attitudes as relatively stable and lasting unitary evaluations (e.g., Ajzen, 1984). In contrast the present conceptualization suggested that at any particular moment, one has the potential for a number different attitudes toward an object. Some will be based on feelings towards the object and some based on beliefs about the object. In addition the present conceptualization emphasized the importance of immediate and changing environmental factors in determining which of the attitudes held about the object is reported. That is, different attitudes may be obtained depending on whether current environmental conditions make affect or cognition salient.

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Effects of Attribute Salience on the Consistency of Product Evaluations and Purchase Predictions

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ABSTRACT

Previous research (e.g., Wilson & Dunn, 1986; Millar & Tesser, 1986) has demonstrated that the context for judging a product can make either affective or cognitive considerations more salient and therefore more important in evaluating that product, and in turn can affect the consistency between product judgments made in different contexts. The present research extends these findings to the specific attribute dimensions relevant to evaluating a product. Our studies examined the consistency between subjects' attitude expressions and their predictions of their purchase behaviors toward a product. The findings demonstrated that, when the attributes that were made salient at attitude expression and at purchase prediction corresponded, the consistency between those judgments was much greater than when the salient attributes did not match. The studies also identified contextual factors as well as product characteristics that heightened the salience of certain attributes when making product judgments. Finally, the results demonstrated that the effect of context on attribute salience was moderated by individuals' predispositions to be influenced by situational factors (i.e., their level of self-monitoring; Snyder, 1974). Implications of these findings for the nature of attitudes are discussed.

INTRODUCTION

Recent research by Wilson and his colleagues (e.g., Wilson & Dunn, 1986; Wilson, Dunn, Bybee, Hyman & Rotondo, 1984; Wilson, Kraft & Dunn, 1989) and by Millar and Tesser (1986, 1989), presented in this session, has demonstrated that variations in the context for judging a product can make either affective or cognitive considerations more salient and therefore more important in evaluating the product. When the evaluations implied by these cognitive and affective aspects differ, one may report differing attitudes toward the product. This in turn can affect the consistency between the product judgments one makes in different contexts.

The present research extends these findings beyond the fundamental distinction between affective and cognitive considerations. It is our contention

that these results have general implications for any attribute dimensions that underlie attitudes. The specific attributes relevant to evaluating a product (e.g., its taste, cost, sophistication) may also vary in salience as a function of the judgment context, and these variations may influence the favorability of one's attitudes. For example, one's self-reported attitude toward caviar may be somewhat unfavorable when attributes relevant to taste or cost are salient, but relatively favorable when the attribute of social sophistication is salient. This suggests that the salience of attribute dimensions should influence the consistency between people's expressed attitudes and their subsequent judgments in a manner that parallels the previous findings. Specifically, if the attribute that is salient at the time of an initial attitude report is not the same as the one that is salient at a subsequent judgment, the correspondence between these evaluative judgments may be relatively low. However, when the salient attributes correspond, consistency should increase. The present studies tested this hypothesis².

These studies also investigated some of the factors that influence which attributes are salient when evaluating a product. In addition to the contextual factors explored in the studies by Wilson, et al. and by Millar and Tesser, other factors were also thought to play a role. For example, the target of the evaluation -- the attitude object or product -- could certainly influence the attributes that are salient when evaluating it. For some items, a given attribute may spontaneously be salient when evaluating the item. When evaluating a candy bar, for example, its taste should normally be a salient attribute. Although it can certainly be evaluated along other dimensions, taste may be regarded as its most relevant attribute, and should spontaneously drive one's general evaluation of the candy bar. On

²It should be noted that mean differences in the attitudes reported in different judgment contexts were not expected in this research (and were not consistently obtained). One would only expect such differences to the extent that subjects consensually evaluated the target product more favorably in terms of one of the salient attributes than the other. If, for example, people generally agreed that the social image associated with caviar was more desirable than its taste, then the heightened salience of its social image versus its taste attribute should produce unidirectional changes in people's general evaluations of caviar. But people may differ in their relative evaluations of caviar along these dimensions, in which case mean differences in attitudes reported as a function of judgment context might not be obtained.

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the other hand, when evaluating a product that is perceived to create a particular social impression (e.g., trendy clothing, a gourmet food item), attributes related to that social impression may spontaneously be salient and drive one's general evaluation.

In the absence of any contextual influences, then, evaluations of a product may spontaneously be driven by a particular attribute or set of attributes. For different products, different attributes should be salient and drive one's evaluations. Thus, products themselves can be employed as manipulations of attribute salience. (See Shavitt, 1989, in press, for a similar point regarding the attitude functions typically associated with certain attitude objects.)

The present research employed both product and context manipulations to vary independently the attributes that were salient when two different evaluative judgments were reported. These studies examined the influence of attribute salience on the relation between the attitudes that subjects initially reported toward a product and their subsequently-predicted likelihood of using the product.

STUDY 1

In the first study, 73 paid subjects (recruited through newspaper ads) reported their attitudes and predicted their behaviors toward one of two beverages.

Manipulations: The attribute that was salient at the time that subjects reported their attitudes was manipulated contextually, via an initial questionnaire intended to heighten the salience of one of two attribute dimensions, taste or social impressiveness. On the taste questionnaire, subjects rated 20 different food items (e.g., marshmallows, lima beans, chocolate milkshake) in terms of "how good they taste to you." Each item was rated on a 5-point scale, with 5 being "very good tasting" and 1 being "not at all good tasting." On the social impressiveness questionnaire, subjects rated 20 different actions (e.g., winning a tennis game, quitting your job, driving a BMW car) for "the extent to which your doing each of these things would make a good impression on others." These ratings were also made on a 5-point scale, with 5 being "will make a very good impression" and 1 being "won't make a good impression at all."

The attribute that was salient when subjects later predicted their behaviors was manipulated by varying the target product. The two beverage products used in this study, Perrier mineral water and 7-Up, were expected to differ in terms of the attributes that would spontaneously be salient when evaluating them (after the impact of the questionnaire manipulation had dissipated). 7-Up was expected to be evaluated typically on the basis of its taste. In contrast, it was thought that Perrier, because of its association with trend-conscious, upwardly-mobile consumers, was likely to be evaluated in terms of its social impressiveness.

It was predicted that the correlation between subjects' reported attitudes and their behavior predictions would be high when there was a match

between the attribute whose salience was manipulated at attitude assessment and the attribute expected spontaneously to be salient for the target beverage (i.e., Taste/7-Up or Social Impressiveness/Perrier). On the other hand, when these attributes did not correspond (Social Impressiveness/7-Up or Taste/Perrier), the correlation was expected to be low.

Procedure: Immediately after completing one of the two questionnaires (taste ratings or social impressiveness ratings), subjects reported their general attitude toward one of the two beverages on a 9-point scale (very favorable/very unfavorable). After a delay of several minutes, during which subjects filled out some other measures, they predicted their likelihood of buying or drinking the target beverage in four different situations, such as the following:

"You are having lunch at a sandwich shop that is offering a free beverage with the purchase of a sandwich. How likely would you be to order a Perrier [7-Up] as your free beverage?"

Subjects made their predictions on a 5-point scale, with 5 being "I would definitely choose it" and 1 being "I would definitely not choose it." A similar 5-point scale was used to predict one's behaviors in three other scenarios, which involved taking the beverage to the beach in a cooler, redeeming a coupon, and buying it at the supermarket.

Finally, subjects responded to checks on the types of attributes that were assumed spontaneously to underlie their evaluations of the target beverage.

Results: Subjects' responses on the attribute checks supported our assumptions about the attributes that typically underlie attitudes toward these beverages. Furthermore, as expected, when the attribute that was salient at attitude assessment (the attribute in the questionnaire) corresponded with the attribute that was salient at purchase prediction (the attribute associated with the target beverage), the correlation between subjects' attitude reports and their purchase predictions was substantially larger than when those attributes did not match (see Table 1). The interaction of questionnaire type and target beverage, representing this effect, was significant at $p < .05$ (see Steiner & Darroch, 1969, for the test of an interaction effect on correlation coefficients).

Conclusions: These findings suggest that one's evaluative judgments of a product can vary -- even within a short time frame -- as a function of what attribute is salient when the judgment is made. The results provided evidence that the salience of product attributes influenced the consistency between one's product judgments. Paralleling the studies by Wilson, et al. (1984, 1986, 1989) and by Millar and Tesser (1986, 1989) on the salience of affective versus cognitive factors, a match in the salience of specific attributes was associated with a greater correlation between attitude reports and behavioral

TABLE 1
Study 1: Correlations between Attitude and Mean Purchase Prediction

	<u>Attribute Salient at Attitude Expression</u> (Questionnaire Attribute)	
	<u>Taste</u>	<u>Social Impressiveness</u>
<u>Target Product:</u> (Attribute salient at purchase prediction)		
Seven-Up (taste)	.88 _a	.36 _b
Perrier (social impressiveness)	.46 _b	.87 _a

Note: Each correlation is based on approximately 18 cases. Correlations with the same subscript are not significantly different at $p < .05$. 2 X 2 interaction of correlations was significant at $p < .01$ (one-tailed).

Attitudes were rated on a 9-point scale with 9 being "very favorable."

The purchase prediction score was the average of subjects' predictions, over four separate situations, of their likelihood of buying or drinking the target brand. Each rating was made on a 5-point scale with 5 indicating the greatest willingness to buy or drink the brand. The four purchase predictions were highly intercorrelated ($r = .78$ to $.80$, coefficient alpha = .93).

judgments, as compared to conditions in which the salient attributes did not correspond.

The results also suggested that both contextual factors and product factors can influence the salience of product attributes. For some products, a given attribute may spontaneously be salient when a product evaluation is made. Which attribute(s) tend to be salient, and to drive one's judgments, can differ from product to product. A number of measures suggested that, as expected, such differences existed for the two beverage products employed in this study. The results also indicated that contextual factors could heighten the salience of particular attributes and temporarily increase their impact on reported attitudes toward these products.

However, one might expect the impact of such contextual factors to be moderated by other important factors. For example, certain personality characteristics, such as a high level of self-monitoring (Snyder, 1974), may predispose individuals to be affected by the contextual salience of dimensions. High self-monitors, who strive to fit into different social situations, are sensitive to situational cues, and their attitudinal and behavioral expressions are typically responsive to such cues (see Snyder and DeBono, 1989). Also, Kardes, Sanbonmatsu, Voss, and Fazio (1986) have shown

that the attitudes of high self-monitors are less accessible from memory than those of low self-monitors. All of this suggests that high self-monitors may lack strong, pre-existing attitudes to guide their responses. As a result, their responses may be more influenced than those of low self-monitors by whatever attributes are salient in a situation. Thus, the correspondence of those salient attributes may have a bigger impact on the relation between their product judgments.

Furthermore, high self-monitors may tend to be more concerned with certain attributes than with others. Recent research by Snyder and DeBono (1985, 1989) suggests that the product attitudes of high self-monitors reflect a greater concern with social image than the product attitudes of low self-monitors. This suggests that a manipulation that increases the salience of a product's social impressiveness may have stronger effects for high than for low self-monitors.

In the next study, we sought to replicate the present findings on the role of attribute salience in the consistency of product judgments, and to explore the potential moderating effects of self-monitoring.

STUDY 2

In this study, 123 introductory psychology students reported their attitudes and made purchase predictions regarding one of two powdered drink mixes.

Manipulations: The attribute that was salient at attitude assessment was manipulated via the same initial questionnaires used in the previous study (taste vs. social impressiveness ratings). There was also a control (no attribute rating) condition, in which subjects completed a filler questionnaire.

The attribute that was salient when subjects predicted their behaviors was varied by having subjects respond to one of two new target products, Wyler's Lemonade Mix or Kool-Aid Drink Mix. The attribute of taste was expected spontaneously to drive evaluations of Wyler's Lemonade Mix. In contrast, it was thought that Kool-Aid, because of its strong image as a product for young children, was more likely to be evaluated in terms of the social impressions elicited by drinking it.

Procedure: Immediately after completing one of the three questionnaires (taste vs. social impressiveness vs. control), subjects reported their general attitude toward one of the two drink mixes. After a delay of several minutes, in which subjects filled out some other measures, they predicted their likelihood of buying or drinking the target drink mix on a measure similar to the one in the first study. Finally, they responded to checks on the attributes assumed to underlie their drink mix evaluations, and completed Snyder's (1974) Self-Monitoring Scale.

Results: Overall, the correlations between expressed attitude and the average predicted likelihood of buying or drinking the target product replicated previous findings (see Table 2). When the attribute that was salient at attitude assessment (the attribute in the questionnaire) corresponded with the attribute that was salient at purchase prediction (the attribute associated with the target drink mix), the correlation between subjects' attitude reports and their purchase predictions was greater than when those attributes did not match. As in the previous study, the 2 X 2 interaction of questionnaire type and target drink mix (representing this effect) was statistically significant ($p < .05$).

How did subjects' level of self-monitoring influence this observed relation between attitude reports and purchase predictions? Table 3 shows the correlations for low and high self-monitors, based on a median-split of self-monitoring scores. As expected, it indicates that the pattern of correlations that was observed in Table 2 emerged strongly for high self-monitors (and yielded a significant 2 X 2 interaction). But, it did not emerge for low self-monitors.

Apparently, high self-monitors, who may be predisposed to be influenced by situational circumstances, were more affected by the context manipulation (questionnaire) designed to heighten the salience of product attributes. This was particularly true for the social impressiveness questionnaire, which involved an attribute that is

especially relevant to the concerns of the high self-monitor. Subjects' responses to the attribute check measures indicated that this questionnaire (rating things for the impression they make on others) was far more effective in heightening the salience of the social impressiveness attribute for high than for low self-monitors. (However, there was no evidence that high and low self-monitors differed in the extent to which either taste or social impressiveness attributes were associated with the target products.)

Conclusions: The present study replicated previous results in indicating that the product attributes that are salient at attitudinal and at behavioral expression can have a strong impact on the consistency between those judgments. When the salient attributes corresponded, the consistency between attitude reports and purchase predictions was greater than when the salient attributes did not match.

The results also provided evidence that the salience of attributes can be affected not only by contextual factors and by product factors but by individual differences, as well. Individual differences in self-monitoring apparently moderated the effects of context on attribute salience and, in turn, moderated the pattern of relations between attitudes and purchase predictions. The pattern that had been observed as a function of attribute salience emerged for high but not for low self-monitoring subjects.

It is possible that low self-monitors were less affected by the heightened salience of product attributes because they already possessed highly accessible, pre-existing attitudes that guided their responses to these products (see Kardes, et al., 1986). High self-monitors may have lacked such attitudes. Their attitudinal and behavioral judgments were perhaps more likely to be constructed in response to whatever product attributes were salient at the time.

GENERAL DISCUSSION

Attitude researchers have generally viewed attitude reports as reflecting an individual's single, global evaluation of an object. In contrast, the present findings suggest that attitude responses are not necessarily unitary and can often be somewhat unstable. These and the other studies presented in this session indicate that reports of one's attitude toward a product can vary, even within a short amount of time, as a function of whatever happens to be salient in the judgment context. Research by Wilson, et al. (1984, 1986, 1989) and by Millar and Tesser (1986, 1989) has suggested that the salience of affective versus cognitive considerations can affect the favorability of one's reported attitudes. The present studies suggest that the salience of specific attributes can do the same. This was evidenced by a substantially lower correlation between evaluative judgments that were made when different attributes were salient, compared to conditions in which the salient attributes corresponded.

Thus, attitudes may perhaps be more heuristically conceptualized as clusters of different

TABLE 2
Study 2: Correlations between Attitude and Mean Purchase Prediction

	<u>Attribute Salient at Attitude Expression</u> (Questionnaire Attribute)		
	<u>Taste</u>	<u>Social Impressiveness</u>	<u>Control (no attribute)</u>
<u>Target Product:</u> (attribute salient at purchase prediction)			
Wyler's (taste)	.61 _{ab}	.46 _a	.30 _a
Kool-Aid (social impressiveness)	.49 _{ab}	.83 _b	.56 _{ab}

Note: Each correlation is based on approximately 20 cases. Data from one subject in the Wyler's/control group condition were deleted because of the subject's extreme outlying attitude rating.

These correlations yielded a significant ($p < .05$, one-tailed) 2×2 interaction of questionnaire (taste vs. social impressiveness) and product (Wyler's vs. Kool-Aid). Correlations with the same subscript are not significantly different at $p < .05$.

Attitudes were rated on a 9-point scale with 9 being "very favorable."

The purchase prediction score was the average of subjects' predictions, over four separate situations, of their likelihood of purchasing or drinking the target brand. Each rating was made on a 5-point scale with 5 indicating the greatest willingness to purchase or drink the brand. The four ratings intercorrelated at $r = .32-.58$ (coefficient alpha = .78).

evaluations of an object (see Zanna & Rempel, 1988). Each evaluation may be specific to a representational domain (affect vs. cognition vs. behavior), a particular attribute, a goal, a setting, etc. Differences in the judgment context (e.g., differences in the goals that are salient) may lead one to access different evaluations, or to compute new ones when existing evaluations do not seem to apply.

This conceptualization of attitudes is a particularly useful approach for understanding the stability of attitudinal responses over time and across situations. It also has implications for predicting the relation between attitude reports and behavior: For example, to the extent that the considerations (e.g., attributes, goals, etc.) that are salient at attitude assessment and those that are salient in the behavioral context are likely to differ, and to the extent that those different considerations imply different evaluations of the object, attitude statements should not be good predictors of behavior. However, to the extent that the evaluations implied by different salient

considerations are consistent, attitude statements should be more predictive of behavior (see Millar & Tesser, 1989). Similarly, if the same considerations are likely to predominate and to drive one's judgments of an object regardless of context, attitude reports should provide relatively good predictions of behavior.

This view of attitudes also fits well with the nature of consumer attitudes, which are commonly formed and expressed in differing contexts and in response to different stimuli. For example, one may form some evaluations of a product based on several attributes made salient by advertisements, word-of-mouth information, past experiences, etc. Which of these evaluations is subsequently expressed (e.g., through purchase) may depend in part on which of the product attributes is salient in the decision context (e.g., in the store environment).

How these multiple evaluations are stored and structured in memory remains to be determined. In that regard, the results of the present studies are open to a number of interpretations. The present findings suggested that variations in the attribute

TABLE 3
Study 2: Correlations between Attitude and Mean Purchase Prediction for
High and Low Self-Monitoring Individuals

	<u>Attribute Salient at Attitude Expression</u> (Questionnaire Attribute)		
	<u>Taste</u>	<u>Social Impressiveness</u>	<u>Control (no attribute)</u>
<u>LOW SELF-MONITORS</u>			
Wyler's	.79 _a	.77 _a	.62 _a
Kool-Aid	.56 _a	.74 _a	.69 _a
<u>HIGH SELF-MONITORS</u>			
Wyler's	.55 _{ab}	-.22 _a	.38 _a
Kool-Aid	-.12 _a	.92 _b	.60 _{ab}

Note: Each correlation is based on approximately 10 cases. Data from one low self-monitoring subject in the Wyler's/control group condition were deleted because of the subject's extreme outlying attitude rating.

For high self-monitors, but not for low, these correlations yielded a significant 2 X 2 interaction ($p < .05$, one-tailed) of questionnaire (taste vs. social impressiveness) and product (Wyler's vs. Kool-Aid). Correlations with the same subscript (at the same level of self-monitoring) are not significantly different at $p < .05$.

rating task that subjects performed prior to attitude assessment (taste vs. social impressiveness ratings) influenced the favorability of the general attitudes they reported toward the target product. Was this because the heightened salience of particular attributes led subjects to compute new, attribute-specific evaluations of the target product on the spot? Perhaps subjects' pre-existing evaluations of the target product were not readily accessible in memory. Perhaps the salience of a certain attribute led subjects to think of the target product in a new way, and to re-evaluate it (at least temporarily) with that attribute in mind. Or perhaps the attribute rating task created a perceived demand to generate and report an attribute-specific rating of the target product.

These possibilities have relevance to the *attitude-nonattitude* distinction proposed by Converse (1970) and Hovland (1959), who observed that individuals sometimes provide attitude responses to an item on a survey (nonattitudes), even though they have no pre-existing evaluation of the attitude object. Converse (1970) noted that such nonattitudes were characterized by unreliability in their measurement. Fazio (1989) suggested that the attitude-nonattitude distinction can be viewed as a continuum, with nonattitudes at the low end, evaluations that are relatively inaccessible in

memory closer to the middle, and well-learned, highly accessible evaluations at the high end. In the context of the present research, this distinction suggests that it may be toward the lower end of the attitude-nonattitude continuum where the malleability of attitude reports observed here as a function of judgment context is most likely to emerge. This is consistent with our finding that high self-monitors, who are less likely than low self-monitors to possess highly accessible attitudes (Kardes, et al., 1986), evidenced the predicted effects of judgment context, while low self-monitors did not.

Alternatively, it is possible that the present results were obtained because multiple evaluations of the target product already existed in memory. These evaluations (or a subset of them) might have tended toward the high end of the attitude-nonattitude continuum, and been highly accessible in memory. When subjects were asked to express their attitude toward the product after performing the rating task, they may have simply retrieved and reported the evaluation that was the most accessible in that context.

Each of these possibilities can account for the present data. Determining when each of these processes is most likely to occur, however, requires a better understanding of how such multiple evaluations may be organized in memory. What

factors govern the accessibility of these evaluations? What are the links between them? How will their evaluative consistency affect the way they are organized and retrieved? When faced with new considerations regarding an object, when will a new evaluation be computed and when will an existing one be deemed adequate? What factors determine whether a newly-formed evaluation will be stored separately from the others or will be used to update an existing evaluation?

Further research is needed to investigate the implications of the present findings for the structure of attitudes. Understanding how multiple evaluations of a product are stored and organized in memory, and the conditions under which they are accessed or recomputed, is an important issue for future study.

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Attitude Function: Is it Related to Attitude Structure?

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Historically, attitudes have been conceptualized as either one component, consisting of an individual's feelings or affective responses to an attitude object, or three components, consisting of, in addition, an individual's knowledge or cognitions about and behavior towards an attitude object. With the widespread awareness that affective and evaluative responses should no longer be considered synonymous (cf. Abelson et al., 1982), a consensus seems to be emerging around a resolution to this conceptual controversy. Following Zanna and Rempel (1984, 1988) among others (e. g., Cacioppo et al., 1989; Eagly & Chaiken, in preparation), attitudes are now viewed as evaluations based on, or developed from, three general classes of information: (1) affective or emotional information, (2) cognitive information, and/or (3) information concerning past behaviors or behavioral intentions. Further, evaluations or attitudes are viewed as influencing three modes of response, including affective, cognitive and behavioral responses.

When evaluations are based primarily on (utilitarian) beliefs about the attitude object, this present view can be reduced to something like the formulation proposed by Fishbein and Ajzen (1975). When evaluations are based primarily on affects produced by or associated with the attitude object, this view can resemble the formulation proposed by Zajonc (1980). Finally, when evaluations are based on inferences from past behavior, this view can be similar to Bem's theory of self-perception (1972). Thus, this general framework or formulation not only seems to resolve the one vs. three component controversy, it suggests a way of integrating several of the most prominent theories of attitude formation. More important, perhaps, it suggests exciting new avenues of research.

Because one's overall evaluation is assumed to be a function of what evaluative-relevant information is chronically or, even, acutely salient, one of the interesting implications of this perspective is that an individual can hold more than one attitude toward a given attitude object. This notion is nicely captured by Tim Wilson's "slide rule" metaphor. Rather than having a single attitude toward the object, individuals are presumed to have a range of positions that they view as acceptable. This interesting possibility was exploited in creative ways by each of the participants in the symposium.

Wilson and his colleagues conducted a series of intriguing studies in which subjects were asked to introspect about their attitudes, explaining *why* they held particular attitudes (Wilson, Lisle, & Kraft, this symposium). To the extent that introspecting about reasons for attitudes makes salient otherwise nonsalient beliefs, attitudes temporarily change. As a consequence, individuals come to make unwise (consumer) decisions in the short run and, in the long run, behave inconsistently with these unstable

evaluations. These studies are extremely fascinating. Not only are the results generally consistent with this emerging perspective, I believe the experiments themselves make little sense without such a perspective.

Abe Tesser and Murray Millar's research is also fascinating. This research follows as well from the notion that because attitudes can be based on different sources of information, we can hold more than one attitude toward the attitude object depending upon, in Tesser and Millar's case, whether we are led to focus on our feelings or our beliefs (Tesser & Millar, this symposium). In their research, Tesser and Millar go further by suggesting, and demonstrating, that attitudes based on affect seem to influence consummatory behavior while attitudes based on cognition seem to influence instrumental behavior. Again, it would appear that this research is generally consistent with this emerging perspective and would have made little sense without it.

Finally, the research of Sharon Shavitt and Russell Fazio (Shavitt & Fazio, this symposium) capitalizes on the notion that the salience of information dimensions (e. g., taste vs. social impression) can temporarily influence one's overall attitudes, and, thus, behavior, toward consumer products, especially for individuals with high self-monitoring tendencies (i. e., individuals who tend to be more attentive to situational cues, especially cues concerning social image, and who tend to hold less accessible attitudes). Again, this research fits nicely with this emerging perspective. What is particularly impressive to me, at least, is the ease (and creativity) with which Shavitt and Fazio (as well as Wilson, Tesser and their respective colleagues) have been able to change people's attitudes, at least temporarily, by manipulating the salience of different dimensions of evaluative information.

At the University of Waterloo my students and I have also begun to explore the idea that attitudes can be based on different sources of information which may not have entirely consistent implications for an overall evaluation. For example, Megan Thompson, in her Masters thesis research (Thompson, 1989), wondered what would happen if, and when, two or more sources of information have contradictory implications for the overall evaluation. This is a state of affairs we might call attitude ambivalence, as in the case when your "mind" (i. e., cognition) tells you one thing (e. g., that exercise is good for your health) but your "heart" (i. e., affect) tells you another (e. g., that exercise is painful). To investigate the possibility that attitudes are often ambivalent, Megan induced her subjects to provide separate positive and negative evaluations of several social attitude topics (such as AIDS, euthanasia, reinstating capital punishment, and abortion) by having subjects consider separately, first, their positive beliefs and

feelings and, then, their negative beliefs and feelings for each social issue. Following Kalman Kaplan (1972), Megan defined ambivalence as "the total amount of evaluation less the degree to which the summary evaluation is polarized." For example, using four-point scales created by splitting seven-point bipolar scales (e. g., favorable-unfavorable) with the neutral point retained in each, + 2 units of positive evaluation indicated at the same time as - 3 units of negative evaluation produces 5 units of total evaluation ($+ 2 + - 3$), which can be decomposed into 1 unit of absolute polarization ($[+ 2] + [- 3]$), in this case a slight overall negative evaluation, and 4 units of ambivalence. Ambivalence is thus determined by the amount of the lesser evaluation, all of which overlaps with an equivalent amount of the stronger competing evaluation.

Using this procedure, Megan discovered first that there were strong individual differences in the ambivalence individuals seem to experience in their social attitudes. Some individuals seemed to hold ambivalent social attitudes while others did not. Next she determined that theoretically relevant dispositional variables, such as the Need for Cognition (NFC), i. e., stable differences in individuals' tendencies to engage in and enjoy effortful cognitive endeavours (Cacioppo & Petty, 1982) and the Fear of Invalidity (FOI), i. e., stable differences in individuals' concern with error in decision-making (Thompson et al., 1989), were related to this ambivalence. As expected, those high in NFC were less likely to hold ambivalent social attitudes while those high in FOI were more likely to do so. Next she determined that experts, i. e., those who possessed a great deal of knowledge concerning social issues, were less likely to be ambivalent, but, interestingly, the effect for knowledge or expertise was moderated by both personality variables. Expertise was associated with less ambivalence, but only for those high in NFC and low in FOI. In fact, there was a hint that experts high in FOI actually experienced more ambivalence. In any event, it is clear that ambivalent attitudes exist and that some people are more likely to hold ambivalent attitudes than others. The consequences of holding such attitudes will be an important topic for research in the future.

Recently some of my graduate students and I have taken the notion of attitudes being based on different sources of information one step further. Specifically, we began to wonder what it might mean if there were to be a multidimensional structure to the beliefs upon which attitudes were based. For example, in the realm of social perception it seems clear that attributes along the Social Desirability dimension (e. g., warm vs. cold) seem to influence our judgments of liking vs. disliking, while attributes along the Intellectual Desirability dimension (e. g., intelligent vs. unintelligent) seem to influence our judgments of respect vs. disrespect (cf. Lydon, Jamieson, & Zanna, 1988). If so, which judgment, liking or respect, determines our overall evaluation of or attitude toward other persons? Does this depend on the context (e. g., task-related vs.

social-emotional-related situations) in which we are asked to form (or retrieve) such attitudes? Do we experience ambivalence when we like but do not respect another (or, conversely, respect but do not like another), or, for the most part, do we compartmentalize these seemingly contradictory judgments? These and other questions will be important topics for future research in the area of impression formation. From the point of view of the consumer researcher, it might be interesting to determine whether two dimensions, similar to the Social and Intellectual Desirability dimensions of implicit personality theory, exist for consumer products, and, if so, whether two dimensions of evaluative judgment, similar to liking and respect, exist as well.

In another recent Masters thesis at the University of Waterloo, Richard Ennis explored the multidimensionality of beliefs upon which evaluations, in this case attitudes toward consumer products, were based. Rich proposed that one way to conceptualize (and operationalize) a functional approach to attitudes would be to suggest that overall evaluations based on different dimensions of beliefs might fulfill different functions (Ennis, 1989). Specifically, Ennis suggested that the Fishbein and Ajzen (1975) model of attitudes was incomplete because their belief elicitation procedure essentially "pulled" for utilitarian or instrumental beliefs about the attitude object. Following the lead of Sharon Shavitt (1989), Rich demonstrated that it was possible to elicit beliefs concerning consumer items that were more symbolic in nature, and that this was, in fact, easier for products that Shavitt suggested served more symbolic functions, such as a graduation ring or a gold neckchain, than for products that she suggested served a more instrumental function, such as an air conditioner or coffee. Interestingly, Rich was also able to demonstrate that the overall evaluations of symbolic products, such as graduation rings, were based to a greater extent on (or, at least, correlated to a greater extent with) the symbolic belief dimension (e. g., "a graduation ring is a memento of one's university years"; "a graduation ring is an item to show off your status to others") than on the utilitarian or instrumental belief dimension (e. g., "a graduation ring usually is expensive"; "a graduation ring is not terribly useful"). In contrast, overall evaluations of instrumental products, such as air conditioners, were based to a greater extent on instrumental beliefs (e. g., "an air conditioner enables you to relax comfortably") than on symbolic beliefs (e. g., "in our climate an air conditioner symbolizes extravagance"). Attitudes toward products thought to fulfill both instrumental and symbolic functions (e. g., a University of Waterloo jacket) seemed to be based on both instrumental (e. g., "a U of W jacket looks good") and symbolic (e. g., "a U of W jacket provides a feeling of status because U of W is well respected") beliefs. Future research might determine whether either individual difference variables, such as Self-Monitoring tendencies (Snyder & DeBono, 1989), or situational variables (such as social

context "primes"), for that matter, moderate the belief dimension-overall evaluation relation. Further, future research on persuasion might create communications designed to change either utilitarian or symbolic beliefs in order to test the functional hypothesis that in order to change an attitude one must change the function-relevant bases (in this formulation, informational dimensions) from which the attitude is derived.

Finally, Ennis' perspective on how to think about and operationalize a functional approach to attitudes may provide a way to conceptualize symbolic attitudes, including symbolic racism (Sears, 1988). Here the notion is simply that symbolic attitudes (e. g., symbolic racism) (in addition, perhaps, to being based to a greater extent on affect) are based upon symbolic beliefs (e. g., "Blacks are getting more than they deserve," "the streets are unsafe today," and so on) rather (or to a greater extent) than on traditional stereotypic beliefs (e. g., "Blacks are unintelligent," "lazy," and so on).

In any event, by not equating affective response with evaluation and by focusing upon the various, possibly multidimensional, sources of information upon which attitudes are based, attitude researchers (as attested to by the participants of the present symposium) will have more than enough interesting questions to pursue in the future. Most exciting, at least for me, is the possibility that, by considering attitude structure, specifically the information upon which an attitude is based, we can learn more about attitude function.

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Brand Categorization and Product Involvement

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ABSTRACT

The effects of product involvement on brand categorization are examined with respect to brand set size. Data collected from 487 female users of cosmetics did not confirm the effect of product involvement on the evoked, reject, foggy, and salient set sizes. Significant effects were found for the awareness, trial and hold sets. Although the high and the low involvement groups did not differ on socio-demographic variables, high involvement seemed associated with heavier users and higher brand loyalty.

INTRODUCTION & BACKGROUND

The question of how consumers deal with the multitude of brands that are available in many product categories has attracted increasing attention by researchers in recent years. Several brand categorization models have been proposed in the marketing literature. The Brisoux and Laroche (1980) model is an expansion of earlier conceptualizations by Narayana and Markin (1975) and Howard (1963, 1977). The model suggests four stages in the consumer decision process: awareness, processing, consideration, and preference (Figure 1).

Brand Categorization

From the *available set* brands are first classified in either the *awareness set* or the *unawareness set*. The former is divided in a *processed set* and a *unprocessed* (or *foggy*) *set*. Brands in the *foggy set* are presumed to have not been processed on any of the salient attributes (the consumer has no specific brand comprehension). Brands belonging to the *processed set* are either evoked, rejected, or in a "hold" position. The *evoked set* is analogous to the Howard and Narayana & Markin conceptualizations. It includes the subset of (processed) brands that a consumer considers as acceptable purchase alternatives. The *reject set* contains those brands which the consumer considers to be unacceptable purchase alternatives. Brands in the *hold set* are not considered as purchase alternatives, and consumers may have positive, negative, or neutral attitudes towards them. For a more complete description of the basic framework and managerial implications of the brand categorization model, the reader is referred to Laroche et al. (1986).

The framework used by Brisoux and Laroche (1980), and later by Laroche et al. (1983, 1984) and Brisoux et al. (1986) differentiated the evoked, hold, reject, and foggy sets in terms of attitudes, intentions, confidence and brand evaluation, as well

as quantity of information processed. The model has been partially tested and generally supported using various product classes, in routinized response behavior (Brisoux and Laroche 1980, Laroche et al. 1983, Brisoux et al. (1986) as well as extensive (Laroche et al. 1984) and limited problem-solving situations (Church et al. 1985).

Product Involvement

The concept of involvement has been a major center of interest in consumer research literature for the past 20 years. There is no commonly accepted definition of this hypothetical construct although a (temporary) generally acceptable generic definition and a few characteristics are proposed by Rothschild: "Involvement is a state of motivation, arousal or interest. This state exists in a process. It is driven by current external variables (the situation, the product, the communications) and past internal variables (enduring; ego; central values). Its consequences are types of searching, processing and decision making" (Rothschild, 1984, p. 217). The author argues that, for the time being, the field does not need any more theoretical papers or literature reviews on the topic. We will therefore limit our presentation to the main elements necessary to the understanding of our study.

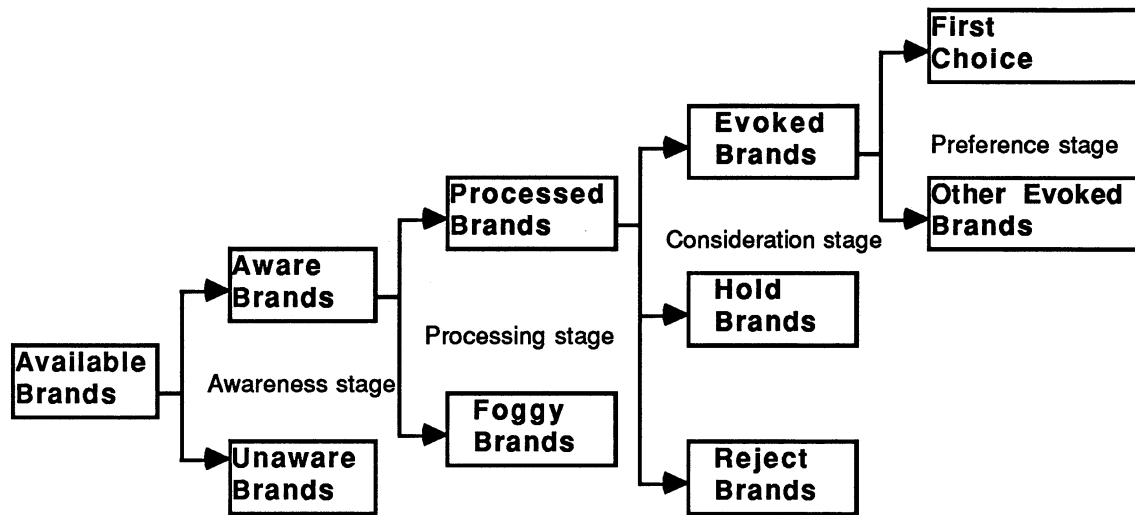
Table 1 presents a summary of the global concept of involvement. This table is based on the Houston and Rothschild (1978) paradigm which subdivides the concept into three types: situational, enduring, and response involvement. The paradigm includes a listing of the stimuli which have the ability to arouse each type of involvement, their antecedents, the hypothesized effects and the proposed measures. Other well known recent studies on the construct are cited in Table 1 (Traylor and Joseph, 1984; Laurent and Kapferer, 1985; Zaichkowsky, 1985).

Table 2 presents a comparison of three consumer involvement measuring instruments that have been recently proposed (Traylor and Joseph, 1984; Laurent and Kapferer, 1985; Zaichkowsky, 1985). The comparison is done on the prominent underlying concept, the number of product categories used for testing each measuring instrument and corresponding sample sizes, the category of respondents, the type of scale, the number of dimensions being measured, the number of items in each scale, and the observed Cronbach alphas. The table also indicates the type of validity testing conducted on each scale (concurrent, trait, discriminant, content, construct and convergent).

Rosenblatt (1985) has investigated the relationship between involvement and its effects on brand categorization but has not specifically examined the effect of involvement on brand set size and content.

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FIGURE 1
THE BRISOUX AND LAROCHE CONCEPTUALIZATION



RESEARCH OBJECTIVES

The aim of this research is to test the relationship between the level of product involvement and the structure of brand categorization. More specifically, the research examines differences in brand set sizes for low, medium and high involvement consumer groups.

This research can be related to the validity network schema proposed by Brinberg and Hirschman (1986). The focus of this research is first to combine the conceptual and the empirical domains to form a theory (Figure 2).

The theory is then submitted to test using specific methodological approaches. The conceptual domain comprises the construct of brand categorization and the involvement construct. The empirical domain refers to consumer characteristics and make-up products for eyes, lips and the face. The methodological domain includes the structure of brand categories proposed by Brisoux and Laroche (1980) and the measure of product involvement developed by Zaichkowsky (1985).

Since the emphasis of this research is to test a theory, greater attention will be invested in concept definitions and methodological procedures. Although every effort will be made to get a relevant sample, its convenient nature is acceptable with this type of research (Calder et al., 1981).

HYPOTHESES

Following the literature review and the research objectives, a series of specific hypotheses will be tested. The hypotheses are stated for the limited problem-solving (LPS) situation and will be supported or rejected in the empirical context of cosmetics purchase. Four hypotheses pertaining to the relationship between product involvement level and brand set structure are proposed:

- H1 Consumers with higher level of product involvement will be associated with smaller evoked sets.
- H2 Consumers with higher level of product involvement will be associated with larger reject sets.

These above hypotheses are justified by previous research confirming such relationships for other products (Brisoux, 1980; Ho, 1980; Traylor and Joseph, 1984; Rosenblatt, 1985).

- H3 Consumers with higher product involvement will be associated with smaller foggy sets.

This hypothesis is the result of the unprocessed characteristic of the foggy set, which will be associated with a low level of involvement.

- H4 Consumers with higher product involvement will be associated with larger salient (unaided awareness) sets, larger awareness sets, larger trial sets and larger hold sets.

Hypothesis 4 is proposed on since the relationship between product involvement and trial set size has been previously examined by Zaichkowsky (1985). And, as an extension, higher involvement will be tested in association with a larger salient, trial and hold sets.

Table 3 presents a detailed summary of the four hypotheses between product involvement and brand set size.

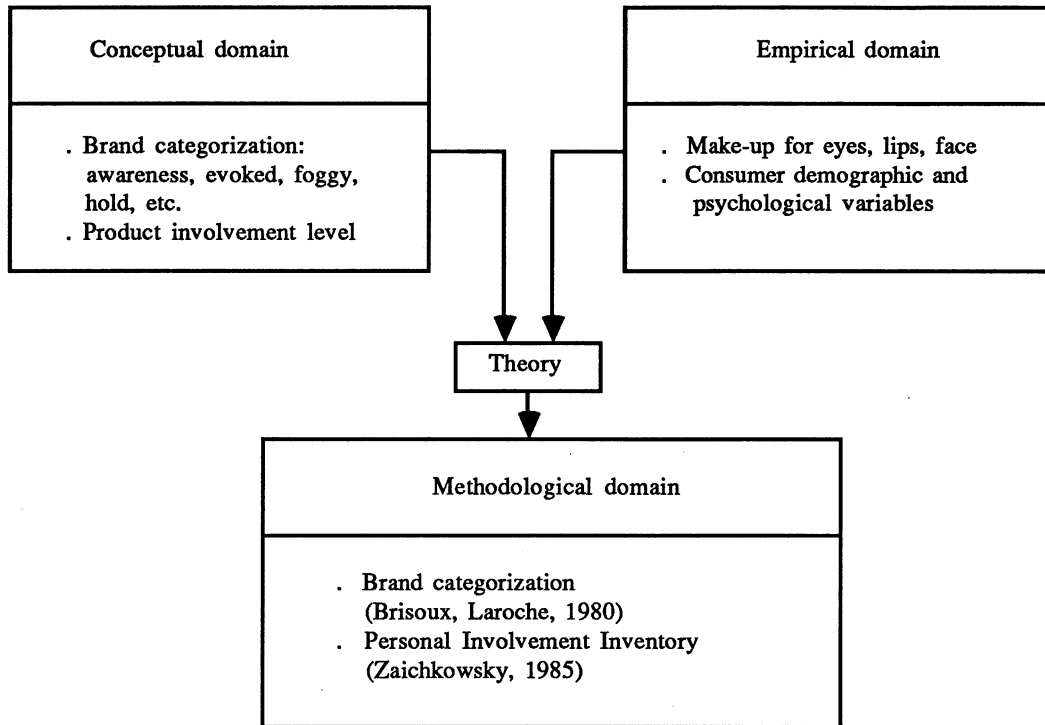
TABLE 1
THE GLOBAL CONCEPT OF INVOLVEMENT

Types	Stimuli	Antecedents	Effects	Measures
SITUATIONAL INVOLVEMENT (Houston & Rothschild, 1978)	Economic & time costs Elapsed time of consumption Complexity of the product Visibility of the product	Perceived risk (physical, financial or psychological) (Laurent and Kapferer, 1985) Self expression through product category (Laurent and Kapferer, 1985; Zaichkowsky, 1985)	Level of involvement increases with level of stimuli (or perceived consequences); as soon as the goal is reached the level of situational involvement decreases	Perceived risk (including positive and negative valences) (Laurent and Kapferer, 1985) Perceived importance of situation
ENDURING INVOLVEMENT (Houston & Rothschild, 1978)	Prior experience in purchasing or using the product Centrally held values Product importance in general (without purchase or use considerations)	Interest in the product Expected pleasure from product consumption (Laurent and Kapferer, 1985) Perception of product choice as the sign of oneself (Laurent and Kapferer, 1985; Traylor and Joseph, 1984; Zaichkowsky, 1985)	Considerable prior experience with a product related to centrally held values increases the level of enduring involvement	Perceived importance of product (Laurent and Kapferer, 1985) Level of interest in the product (Zaichkowsky, 1985) Familiarity with the product
RESPONSE INVOLVEMENT (Houston & Rothschild, 1978)	Situational involvement Enduring involvement	Desire to make an optimal purchase Functional, symbolic and experiential expectations	The nature of response involvement differs depending on the stage in the decision process Situational and enduring involvement combine to influence response involvement	Number of evaluative criteria considered important Number and type of information sources used

TABLE 2
COMPARISON OF THREE CONSUMER INVOLVEMENT MEASURING INSTRUMENTS

	TRAYLOR & JOSEPH (1984)	KAPFERER & LAURENT (1985)	ZAICHKOWSKY (1985)
Prominent concept	Self-identity	Involvement profile	Personal Involvement Inventory
Number of product categories	12	14	14
Sample size	280	207	varying from 43 to 68
Respondents	Students	Housewives	Psychology students MBA students Administrative staff members
Type of scale	7-point Likert scale	5-point Likert scale	7-point semantic differential scale
Number of dimensions	1	4	1
Number of items	6	3 to 5 for each of the 4 dimensions (total=17)	20
Internal consistency (Cronbach alpha level)	0.92	Between 0.72 and 0.90	Between 0.97 and 0.99
Validity testing:			
Concurrent validity	yes	no	no
Trait validity	no	yes	no
Discriminant validity	no	yes	yes
Content validity	no	no	yes
Construct validity	no	no	yes
Convergent validity	no	no	no

FIGURE 2
RESEARCH TYPE



RESEARCH METHOD

Product choice

The conceptual domain of the research specifies that the chosen product be associated with a limited problem-solving situation and that at least seven distinct brands be included in the product class (Miller, 1956). In general, make-up for women refers to a limited problem-solving situation except for a few highly brand loyal customers with routinized buying behavior. A total of 80 different brands of make-up are listed in Cosmetics (1985). The total market for cosmetics is relatively stable with a rather high competitive activity, each manufacturer fighting for his market share.

Furthermore, access to users of the product is easy, since most women are consumers of make-up products. Managers in the industry also believe that the brand is important in the buying decision (Wood, 1986). Frequent buying and using of the product make it easier for consumers to evaluate brands. According to a convenience sample of beauty consultants, *special occasions do not have an influence on the choice of products*. Therefore controlling for the buying situation was not necessary.

In this research, make-up products include all products that can be used on the eyes, the lips, or the face. To the authors' knowledge, brand

categorization has not been previously examined for this product class.

Definition of variables

This section specifies the operational definitions of the different brand sets and the product involvement variable. In addition to the four sets conceptualized in figure 1, Brisoux and Laroche (1980) measured the salient and trial sets and used the following definitions:

- Salient set:** Those brands of the product class that come to the mind of the consumer without the help of a list of brands.
- Awareness set:** Those brands that the consumer can recognize from a list of brands.
- Evoked set:** From the awareness set, those brands that the consumer would certainly consider to buy at the time of the survey.
- Reject set:** From the awareness set, those brands that the consumer would refuse to buy as they seem

TABLE 3
HYPOTHESES ON PRODUCT INVOLVEMENT IN RELATION TO BRAND SIZE

Hypothesis	Brand set	Product involvement		
		Low	Medium	High
		Brand set size		
H1	Evoked	Large	Medium	Small
H2	Reject	Small	Medium	Large
H3	Foggy	Large	Medium	Small
H4	Salient	Small	Medium	Large
H4	Awareness	Small	Medium	Large
H4	Trial	Small	Medium	Large
H4	Hold	Small	Medium	Large

unacceptable to his or her needs.

Foggy set: From the awareness set, those brands for which the consumer has not formed an opinion (no attribute processing has occurred) and which he or she is not ready to buy.

Hold set: From the awareness set, those brands for which the consumer has formed an opinion (some attribute processing has occurred) but for which he or she cannot say whether he or she would accept or reject them.

Trial set: From the awareness set, those brands that the consumer has already bought and used for him or herself.

The definition of product involvement is taken from Zaichkowsky (1985): "A person's perceived relevance of the object based on inherent needs, values and interests". This definition contains the general viewpoints of several researchers (Krugman, 1967; Clarke and Belk, 1978; Mitchell, 1979; Greenwald and Leavitt, 1984; Rotschild, 1984). The operational measurement of product involvement is derived from the Personal Involvement Inventory (PII) scale developed by Zaichkowsky (1985). A presentation of the measuring instrument follows in the next section.

Measuring instrument

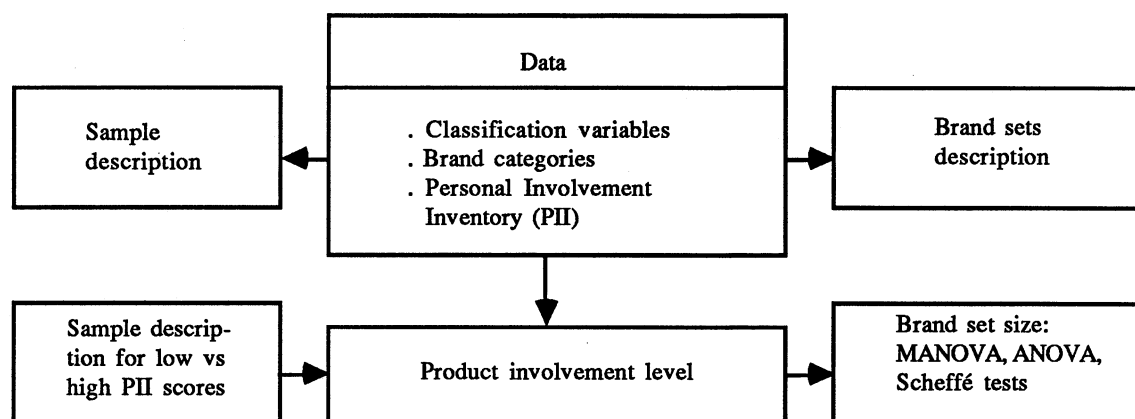
Personal interviews were used in previous research on brand categorization (Brisoux and Laroche, 1980; Rosenblatt, 1985; Brisoux, Chéron and Fernet, 1986). However for this research, a self-administered questionnaire was designed in order to obtain a fairly large sample despite a tight budget. The average time to complete the questionnaire on 45 brands was 30 minutes.

In the first part of the questionnaire respondents were asked to classify brands following the order of brand set definitions presented earlier. The second part was a French adaptation of the PII. This measuring instrument was chosen due to better consistency and validity (see Table 2). A back-translation procedure was used twice with three translators.

The French adaptation of the PII met most of the standards of the original scale. Internal reliability with a Cronbach alpha of 0.90 was comparable to results (above 0.90) reported by Zaichkowsky (1985). However, the unidimensionality of the adapted scale was not confirmed. A factor analysis produced four factors with eigenvalues above one. All factors explained up to 57.7% of variance instead of one factor accounting on the average for 70% of variance in the original study. The four factors could be interpreted as: 1) Derogative items (37.5%), 2) Product importance (8.6%), 3) Personal values (6.6%), 4) Visible appearance (5.0%). A multi-dimensional structure of the adapted scale of product involvement is supported by Kapferer and Laurent (1985).

Although with a larger mean (109 vs 90) and median (112 vs 96) the distribution of PII scores (N = 481) for cosmetics was skewed towards higher scores such as the overall distribution (N = 751) for

FIGURE 3
DATA ANALYSIS



various products obtained by Zaichkowsky (1985). The mean PII score of 109 for cosmetics was comparable to mean scores of 99 for jeans and 112 for calculators in the original study. Using the cutting points of the original study, three groups were formed with low product involvement level (PII score of 69 or below) medium level (PII score between 70 and 110) and high level (PII score of 111 or above).

The third part of the questionnaire contained classification variables related to make-up consumption such as: brand loyalty, self-designated reference group (homemaker, working woman, career woman), frequency of beauty services, allergy problems, seasonal amount spent for cosmetics and age group.

Sampling and data collection.

The target population included women 18 years or older using make-up products at the time of the survey. The observed population was limited to mothers with children in primary schools of the Quebec City metropolitan area and women listed in the Quebec Association of Business Women.

Overall, 487 completed questionnaires were obtained from a total of 696 questionnaires distributed. According to the standard definition suggested by Wiseman and Billington (1984), the response rate of eligible respondents was 70%.

Data analysis

Standard descriptive analyses were first conducted to get frequency distributions of the sample classification variables. Frequency analyses were also performed for brand sets and personal involvement scores. The sample classification variables were also examined for low versus high involvement. Figure 3 indicates the overall data analysis structure.

Three groups of personal involvement levels were formed using the 25%, 50% and 75% percentiles. The low-involvement group included PII scores of 99 or below, the medium level group

scores from 100 to 122 and the high level group scores above 122. Out of 481 valid cases, the average involvement score was 109 with a minimum value of 44 and a maximum of 139 (possible scale range is from 20 to 140).

A one-way multiple analysis of variance (MANOVA) was conducted. Although the seven dependent variables did not appear to be independent, examination of the data indicated substantial overlapping among sets. Therefore, the awareness set is not a linear combination (summation) of the evoked, reject, foggy, hold and trial sets. Hence, the assumption of independence for the MANOVA was not considered violated. Subsequently a series of ANOVA were used to test the effect of product involvement level on brand set size as specified in hypotheses 1 to 4. Multiple comparisons were examined using the Scheffé procedure, appropriate when samples are of different sizes and allowing to test for an overall significance level.

RESULTS

Since some parts of the questionnaires were not completed by all respondents, data analysis will be based upon 456 individuals. As for age groups, 58.5% of the respondents were in the 30 to 39 category. Self-ascribed reference groups were: 36.9% homemaker, 28.2% working woman and 34.6% career woman. Beauty services were "occasionally" required 47.6% of the time (vs "never", "once", and "regularly"). Some 66.4% of the respondents had no allergy problems and 73.4% purchased annually less than \$100 of make-up products.

Table 4 indicates the average brand set sizes. The average evoked set size of 4.70 is similar to the salient set size (4.57) and is comparable to 4.83 found for jeans in a previous study by Fernet (1986). The average awareness set size of 24.12 is however larger than for jeans (15.65). A previous study by Reilly and Parkinson (1985) reports average evoked

TABLE 4
AVERAGE BRAND SET SIZES AND ANOVA FOR THE EFFECT OF PRODUCT INVOLVEMENT LEVEL

Brand set	Average set size (N=456)	Product involvement			F
		Low (N=113)	Medium (N=237)	High (N=106)	
Evoked	4.70	4.24	4.81	4.99	1.98 NS
Reject	1.98	1.69	2.05	2.16	0.90 NS
Foggy	10.11	9.77	10.34	10.16	0.40 NS
Salient	4.57	4.29	4.60	4.84	1.46 NS
Awareness	24.12	<u>21.14</u>	<u>24.27</u>	<u>26.89</u>	20.54 **
Trial	10.75	<u>8.40</u>	<u>10.93</u>	<u>12.80</u>	24.01 **
Hold	12.60	<u>10.59</u>	<u>12.30</u>	<u>15.09</u>	12.86 **

Means not *linked* with a double horizontal line differ significantly at level .01 using Scheffé's test.

** Significant at level .01.

NS Non significant

set sizes of 3 to 4 (hand lotion: 3.10, toothpaste: 3.11, shampoo: 3.42, toilet soap: 4.09).

To test the effect of product involvement on the seven brand set sizes taken together as dependent variables, a one-way MANOVA was performed. Results indicated an overall significant statistical difference between the three levels of product involvement (Hotellings' approximated $F(14,892) = 14.0$ with $p = 0.000$). The F values for each univariate ANOVA to test hypotheses 1 to 4 are shown in Table 4. Significant differences are observed for the awareness, trial and hold sets. Hypotheses 1, 2, 3 and 4 (for the salient set) are not confirmed. Although not statistically significant, the hypothesized direction of brand set size is correct for the reject set and the salient set.

DISCUSSION AND CONCLUSION

The effect of product involvement on brand set size was not found to be significant for evoked, reject, foggy and salient sets. The range and skewness of observed involvement scores may account for the failure to confirm most hypotheses. Product involvement had a significant effect on awareness, trial and hold sets. Although, low and high involvement groups did not differ on socio-demographic variables, high involvement seemed associated with heavier users and higher brand loyalty.

The main contributions of this paper lie in conceptual definitions and methodological procedures. Brand categorization was measured with a self-administered questionnaire and a French adaptation of the PII scale was developed and tested.

Further research results will be presented elsewhere with the available data. Specifically, the brand categorization structure will be examined for mutually exclusive sets. Brand set contents and brand set relative position will be examined. Data were also collected on product attributes and perceived elements of the marketing mix of various

brands. Managerial results will also be presented comparing the marketing mix profiles of brands belonging to different set categories.

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In Search of Brand Image: A Foundation Analysis

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Brand image has been an important concept in consumer behavior research since the early 1950s. Our analysis of 28 prior studies indicates that the definition of brand image has not necessarily remained stable over a 35 year time period. Similarly, there exists little consensus concerning how the construct should be operationalized. An attempt is made here to identify the essential elements of brand image.

INTRODUCTION

Since its formal introduction in the 1950s, the notion of brand image has become commonplace in consumer behavior research. Numerous studies of brand image have been reported, the phrase has been widely used in a variety of technical and casual applications, and practitioners and academics alike have embraced the concept as the embodiment of the abstract reality that people buy products or brands for something other than their physical attributes and functions.

This proliferation of brand image research has been accompanied by some drawbacks. For example, it has been suggested that over time and through overuse, or misuse, the meaning of "brand image" has evaporated and has lost much of its richness and value (Bullmore 1984). Others have similarly referred to such indiscriminate application as a debasement of the concept (Levy 1958). If these criticisms are true, then there is reason for concern.

Of primary concern is whether knowledge development has been impeded in this area due to the lack of a firm base or foundation on which to build. The way in which brand image is defined determines the nature of research questions that are posed, the methods that are used, and ultimately how findings are translated to the creative process (Reynolds and Gutman 1984). If there is no agreement at this fundamental definitional level, it is very unlikely that comparable and generalizable results will be forthcoming from this stream of research.

These issues demonstrate the importance of foundations studies to consumer behavior theorists. By tracing definitions and justifications, which is a key element of foundational research (Kerlinger 1973), those within the discipline can examine the sorts of knowledge claims that are being made and determine if a consensus is developing, both in terms of conceptualization and in terms of measurement. If it is not, the findings are likely to provide insight for forging agreement and greater precision in future work.

This paper has three objectives. First, it seeks to provide a centralized collection of definitions and conceptions of brand image, and in so doing documents the evolution of this vital behavioral concept. Second, by identifying the

major similarities and variations that exist in conceptualization, it will allow an assessment of whether there is a viable and foundationally secure definition of "brand image". And finally, some suggestions are made for guiding future research efforts in this important area.

HISTORICAL OVERVIEW

Gardner and Levy have been credited (Levy 1958) with crystallizing "brand image" in a meaningful form in their classic 1955 article. Criticizing previous research for being too superficial in its focus on stereotypical purchase reasons, they suggested that it was time to scratch beneath the surface and identify more enduring motivations for purchase. Their conception was that products had a social and psychological nature as well as a physical one, and that the sets of feelings, ideas and attitudes that consumers had about brands, their "image" of brands, were crucial to purchase choice.

While Gardner and Levy were the first to capture the essence of brand image in writing, the underlying idea of which they wrote was not entirely new. It is obvious that marketers of the late nineteenth century were increasingly concerned with a "brand's gestalt" from the progressive developments in branding, advertising and marketing techniques that took place during that era (Murphy 1987). And in 1949 James Duesenberry had observed that the act of consumption as symbolic behavior was probably more important to the individual than the functional benefits of the product.

A survey of the literature that has followed Gardner and Levy's article reveals that considerable variation exists among authors on five separate, but related, aspects of "brand image". These include (1) the names which have been ascribed to this phenomenon, (2) the formal definitions that have been offered, (3) the components of brand image, (4) the instruments that have been used to measure it, and (5) perspectives on the origin, creation, formulation and manipulability of brand image.

Despite this academic multiformity, brand image has become a vital concept for marketing managers. This has been demonstrated by findings such as those which confirm that image considerations guide purchase choice (Dolich 1969), that products are often purchased or avoided not for their functional qualities, but because of how, as symbols, they impact the buyer-user's status and self esteem (Levy 1959), and that a product is more likely to be used and enjoyed if there is congruity between its image and the actual or ideal self image of the user (Sirgy 1985).

As a point of clarification, it should be noted that in many of the works on this subject, authors have tended to use the word "product"

interchangeably with "brand". While it is acknowledged that in marketing there is normally an important difference between these two concepts, the writings on imagery have blurred this distinction by using both terms in the context of distinguishing one competitor's product from another. These terms are similarly used here (as synonyms), unless otherwise stated.

THE CRITICAL REVIEW

The Names Which Have Been Ascribed To This Phenomenon

Although the term "brand image" has become well established, there are several scholarly works that have not used the word although applying or studying very similar concepts. While these articles substantively agree that consumers discriminate among products on other than purely physical dimensions, they differ in the names which they ascribe to this phenomenon. Based on Shakespeare's principle that 'That which we call a rose by any other name would smell as sweet', it is appropriate to include these variants if a comprehensive foundational analysis is to be done.

One genre of works reflects on the symbolic nature of brands and products, adopting such labels as "symbolic utility" (Pohlman and Mudd 1973), "the symbols by which we buy" (Levy 1958) and "perceived product symbolism" (Sommers 1963) to describe the intangible aspect of consumer product evaluation.

Others have tended to emphasize human qualities and, accordingly, have coined such terms as "brand personality" (Hendon and Williams 1985), "brand character" (Hendon and Williams 1985), "personality image" (Sirgy 1985), and "the social and psychological nature of products" (Gardner and Levy 1955). As later discussion will show, this is a usage that has been welcomed by those who believe that there is an inextricable link between an individual's self concept and purchase.

Those who study this subject by focusing on the underlying meanings which consumers attribute to brands have described their object of inquiry as the "brand meaning" (Durgee and Stuart 1987), "the psychological meaning of products" (Friedmann and Lessig 1987), and "the messages communicated" by products (Swartz 1983).

THE FORMAL DEFINITIONS OF BRAND IMAGE

A collection of definitions of "brand image" is contained in Table 1. While not exhaustive, this collection does represent a good cross section of the definitions that have been offered in the past three decades. Journals have provided the source for most of these definitions, while a few were taken from textbooks, monographs or the popular press.

These definitions have been grouped into broad categories, although perhaps somewhat arbitrarily, on the basis of their principal emphasis, and within each group have been listed chronologically. This allows the major conceptual

developments and variations to be more easily identified, illustrated and traced. The five assigned categories include blanket definitions, and those which emphasize symbolism, meanings or messages, personification, and cognitive or psychological dimensions.

Blanket Definitions

Several of the definitions are so broad that they seem to contribute little to a refined understanding of the brand image concept. While it is therefore difficult to compare these to other more systematic definitions, it is important to acknowledge them because they are rather effective expressions of the general sense of brand image as an abstraction.

Those that fall within this category include such references as "the sum of the total impressions" (Herzog 1973), "everything the people associate with the brand" (Newman 1957), and "the product perception" (Runyon and Stewart 1987). In their simplicity and comprehensive totality, these usages highlight the fact that the notions that people have about a product or brand may not always coincide with its actual physical profile, and that what is important is how consumers see the product.

That the perception of reality is more important than reality itself is a theme which underlies most conceptualizations of brand image. As encapsulations of this theme, these blanket definitions are most felicitous.

Emphasis on Symbolism

Probably as an offshoot of the motivation research era, several of the definitions relate commercial objects to symbols. A symbol has been defined as a "thing which stands for or expresses something else" (Levy 1958); in casual usage it has been said to be a general term for all instances where an object, action, word, picture or complex behavior is understood to mean not only itself but also some other ideas or feelings (Levy 1958).

The definitions within this category span a wide range of detail and emphasis. The simplest (Frazer 1983) uses the term "symbol" in a purely descriptive or associative manner, merely stating that a product is a symbol and providing little or no insight into what brand image is taken to mean. Levy's (1958) elaborate conceptualization enlarges on the meaning and language of symbols, on their several dimensions, and on their relation to self concept. A more recent study (Noth 1988) has applied the concept of semiotics. From this perspective, objects of the marketplace are claimed to form semiotic systems, and commodities are studied as signs whose meaning is the consumer's "brand image".

While the reference to symbolism might ordinarily arouse connotations of the unconscious, these definitions seem generally to view this concept in a much broader and more public perspective. They imply that some personal or social meaning or value must be consciously attached to the product, and that products, as

TABLE 1
DEFINITIONS
GROUP 1A: BLANKET DEFINITIONS**1. Newman, 1957**

(a) A product is a symbol by virtue of its form, size, colour and functions. Its significance as a symbol varies according to how much it is associated with individual needs and social interaction. A product, then, is the sum of the meanings it communicates, often unconsciously, to others when they look at it or use it.

(b) A brand can be viewed as a composite image of everything people associate with it. These impressions determine how a prospective buyer feels about it and influence his selection. Brand images may have several dimensions: functional, economic, social, psychological...The limits are set by the brand image built through styling and advertisements as well as other product attributes.

2. Herzog, 1963

Brand image is the sum total of impressions the consumer receives from many sources...All these impressions amount to a sort of brand personality which is similar for the consuming public at large, although different consumer groups may have different attitudes toward it.

3. Snyder & DeBono, 1985

Practitioners of the soft sell approach typically create ads that appeal to the images

associated with the use of the product, images that one may gain and project by using the product. ...Typically the copy associated with these ads emphasizes the image of the product or, more specifically, the images associated with the use of the product.

4. Dichter, 1985

(a) The concept of image can be applied to a product ... It describes not individual traits or qualities, but the total impression an entity makes on the minds of others.

(b) An image is not anchored in just objective data and details. It is the configuration of the whole field of the object, the advertising, and more important, the customer's disposition and the attitudinal screen through which he observes.

5. Runyon and Stewart, 1987

A particular product position is also referred to as a product or brand concept if the product does not yet exist, or a brand image if the product does exist. ...A product's positioning in the market is simply the way consumers perceive that product. It reflects the language that consumers use to talk about it, their emotional responses to it, and all of the numerous factors that influence the perceptual process. The actual positioning of a product is the outcome of a complex set of factors, which are only partially understood.

GROUP 1B: EMPHASIS ON SYMBOLISM**1. Levy, 1959**

(a) People buy things not only for what they can do, but also for what they mean... The things people buy are seen to have personal and social meanings in addition to their functions.

(b) To ignore or decry the symbolism of consumer goods does not affect the importance of the fact. It will suffice to say that in casual usage symbol is a general term for all instances where experience is mediated rather than direct; where an object, action, word, picture or complex behavior is understood to mean not only itself but also some other ideas or feelings.

(c) A symbol is appropriate (and the product will be used and enjoyed) when it joins with, meshes with, adds to or reinforces the way the consumer thinks about himself.

2. Pohlman and Mudd, 1973

The purchased item is conceptualized as having two kinds of value for the owner, one for its concrete functional utility and the other for its utility as a prestige symbol. ...functional value is that which is conventionally meant by utility as a good, while symbolic value (i.e., image) is the

extent to which a purchase enhances the worth of the person in his own eyes (self esteem) and in the eyes of others (status).

3. Frazer, 1983

...the advertiser formulates a claim of superiority or distinction based on factors extrinsic to the product. Often products are associated with symbols, either socially extant or created by or for the advertiser. ...the effort to differentiate the product is psychologically rather than physically based.

4. Noth, 1988

From this perspective (i.e. semiotics) commodities are studied as signs whose meaning is the consumer's 'brand image'. Semantic components of a brand image...include technical matters, product characteristics, financial value or social suitability. Semiotically, such components constitute the signified (or content) of the product, while the material object is the signifier of the commodity as a sign.

TABLE 1 (CONTINUED)
DEFINITIONS

GROUP 1C: EMPHASIS ON MEANINGS OR MESSAGES

1. **Levy and Glick, 1973**
 - (a) The concept of brand image aptly sums up the idea that consumers buy brands not only for their physical attributes and functions, but also because of the meanings connected with the brands.
 - (b) ...imagery is a mixture of notions and deceptions, based on many things. ...At times, imagery is indeed largely an illusion.
 - (c) An image is an interpretation, a set of inferences and reactions to a symbol because it is not the object itself, but refers to it and for it.
2. **Sommers, 1963**

...the meaning that a product has
... perceived product symbolism
3. **Grubb and Grathwohl, 1967**

...the psychic or symbolic value of goods purchased in the marketplace
4. **Swartz, 1983 ("Product Message")**

In symbolic consumer behavior, interest lies in investigating the role of products as "messages" or "nonverbal communication" transmitted by the user/owner. Attention needs to be given to differentiating the message the product sends as a marketing strategy.
5. **Reynolds and Gutman, 1984**
 - (a) ...the set of meanings and associations that serve to differentiate a product or service from its competition.
 - (b) The real key to understanding image lies in understanding linkages or connections between the levels that define the perceptual lens through which the consumer views the world and subsequently develops preferences for products. Effective linkages can be established for products only when we can gain a perspective on how the product relates to the personal value systems of consumers. By viewing means-end chains as entities, we can achieve this perspective.
6. **Durgee and Stuart, 1987 ("Product Meanings")**
 - (a) what the brand connotes or means symbolically in the eyes of consumers.
 - (b)...meaning profile refers to the complex of meanings that are associated with a given product category.

GROUP 1D: EMPHASIS ON PERSONIFICATION

1. **Bettinger, Dawson and Wales, 1979**

...an "adult" image and a "child" image of the product
2. **Sirgy, 1985**

Products are assumed to have personality image, just as people do... These personality images are not determined by the physical characteristics of the product (e.g. tangible products, suppliers, and services) alone, but by a host of other factors such as advertising, price, stereotype of the generalized users, and other marketing and psychological associations.
3. **Hendon and Williams, 1985**

Also known as "brand personality" or "brand character", it involves nothing more than describing a product as if it were a human being. This is an effective way of generating interest because people favour products that match their own self interest.
4. **Debevec and Iyer, 1986**

In positioning and repositioning products, advertisers often work to create a gender image for a brand...

GROUP 1E: EMPHASIS ON COGNITIVE OR PSYCHOLOGICAL ELEMENTS

1. **Gardner and Levy, 1955**
 - (a) The sets of ideas, feelings and attitudes that consumers have about brands.
 - (b) The social and psychological nature of products.
 - (c) ...a character or personality that may be more important for the overall status (and sales) of the brand than many technical facts about the product.
2. **Martineau, 1957**

...the product or brand image is a symbol of the buyer's personality
3. **Reynolds, W.H., 1965**

...the total set of attitudes, the halo of psychological meanings, the association of feeling, the indelibly written aesthetic messages over and above the bare physical qualities.

 - (a) An image...is the mental construct developed by the consumer on the basis of a few selected impressions among the flood of total impressions; it comes into being through a creative process in which these selected impressions are elaborated, embellished and ordered.

TABLE 1 (CONTINUED)
DEFINITIONS

(b) Images are not isolated empirical beliefs about a product or brand but are systems of inferences which may have only a tenuous and indirect relationship to fact.

(c) Images are ordered wholes built by consumers from scraps of significant detail in much the same way that writers use significant detail to illumine complex totalities.

4. Bird, Channon and Ehrenberg, 1970

...(brand image is) an attitude about a given brand

5. Gensch, 1978

...brand preference is a function of the perception space associated with the alternatives. The author takes the position that perception consists of two components, the individual's ability to obtain measures of the brand attributes on factors he considers important, and the "image" of each brand. The term "image" as usually defined and discussed in the marketing literature is an abstract concept incorporating the influences of past promotion, reputation and peer evaluation of the alternative. Image connotes expectations of a consumer. The interaction of these two variables, individual attribute measurements and image, is assumed to vary across product types and across individuals.

...in marketing theory, image generally is assumed to have a more significant role in product situations in which the individual has difficulty

obtaining objective measures on the important product attributes...

6. Levy, 1978

A brand image is a constellation of pictures and ideas in people's minds that sum up their knowledge of the brand and their main attitudes towards it.

7. Bullmore, 1984

A brand's image is what people think and feel about it: and those thoughts and feelings will not - cannot - be universally identical ...The image lies in the mind of the beholder - and is conditioned at least as much by the nature of the beholder as by the nature of the object itself.

8. Park, Jaworski and MacInnis, 1986

(a) A brand image is not simply a perceptual phenomenon affected by the firm's communication activities alone. It is the understanding consumers derive from the total set of brand related activities engaged in by the firm.

(b) The image is a perception created by the marketer's management of the brand. Any product theoretically can be positioned with a functional, symbolic or experiential image.

9. Friedmann and Lessig, 1987
("Psychological Meaning")

...the consumer's understanding and evaluation of the product.

symbols, will only be used if they reinforce the consumer's self concept. These symbols are said to have several roles in that they represent personal attributes, goals, social strivings and patterns, and serve as communication devices between individuals and their significant referents.

In so implying the attachment of meaning and the matching of symbols to self concept, this group of definitions has some affiliation with those groups that focus on meaning and on personification. It is also noteworthy that conspicuous by absence are definitions which reference the Freudian symbolism of the product's design.

Emphasis on Meanings and Messages

The distinctive criterion associated with this category is a focus on the underlying meaning that consumers ascribe to a product. These definitions propose that because what each brand in a product category denotes or does may not be very different from what any other brand does, in order to differentiate itself each must rely on what it

connotes or means to the consumer. As the following discussion will show, however, what "meaning" means can vary somewhat among researchers.

Durgee and Stuart (1987) suggested that each product or brand has a "meaning profile", which they define rather circuitously as the complex of key meanings associated with the product or brand, or what the product means symbolically in the eyes of consumers. Citing the work of those who have studied the philosophy of meaning, they proposed that there are three different ways in which a product could "mean" something -- causality, context and similarity.

Swartz (1983) proposed that to the extent that functional differences between brands of the same product were minimal, "message differentiation" could be used as a viable product differentiation strategy. This was said to involve distinguishing one brand from another based on the message communicated by the use or ownership of the brand. These messages were said to generate directly from the meaning or interpretation that was

given to certain brands or products by the persons exposed to them.

Friedmann and Lessig (1987) adapt their notion of "psychological meaning" from existential-phenomenological psychology. They describe this concept as a mental position, understanding or evaluation of the product that develops in a nonrandom way from interaction between perceiver and product stimulus. Levy (1978) similarly talks about meaning as being learned or stimulated by the component experiences that people have with the product.

Reynolds and Gutman (1984) have defined product imagery in terms of the stored meanings that an individual has in memory, suggesting that what is called up from memory provides the meaning we attribute most basically to image. Still others have talked about a product as having "personal" and "social" meanings, but have provided no general framework to explain how these are derived or what they intend.

Emphasis on Personification

The personification of a brand and its image with human characteristics, a practice that has become especially popular in the 1980s, has been approached from two distinct perspectives. The first involves describing the product as if it were a human being, suggesting that the brand has a distinct personality of its own. Such "personalities" as the Kodak Kolorinks and Betty Crocker are of this ilk. The second focuses on associating the consumer's personality or self concept with the image of the product or brand. This is exemplified by the "express your individuality" appeal of Calvin Klein jeans, or the fragrance industry's correlation of perfume use with fulfilled dreams, fantasies and aspirations.

Relating brand image to personality is intuitively appealing on many grounds. Both are multidimensional, and both appear to operate at the same level of abstraction. Personality has been said by some (Kassarjian and Sheffet 1975) to be best conceived of as a dynamic whole, which is consistent with the general sense that many have about brand image. Many consumer theorists are of the view that purchase behavior is determined by the interaction of the buyer's self concept with the 'product's personality', and in this context the definitional relationship is also especially apt.

Associating brand image with personality is not, however, without difficulty. Most notably, the struggle that psychologists have had with the definition and measurement of personality likewise becomes a problem for those interested in studying brand image. It is therefore not surprising that those who define brand image by reference to personality do not attempt to define the latter concept in any detailed way. They simply suggest that products have personality images, or they focus in on some distinctly human descriptor, such as "gender" image (Debevec and Iyer 1986), "age" image (Bettinger and Dawson 1979), or "social caste" image (Levy 1958).

Emphasis on Cognitive or Psychological Elements

Such unity as exists within this group stems from the fact that each stresses a cognitive or mental process by which brand image is said to be triggered. They concentrate on mental effects by naming any one of "ideas", "feelings", "attitudes", "mental constructs", "understandings" or "expectations" as the cardinal determinant of brand image. While most of these definitions may not be directly traceable to Gardner and Levy's initial conceptualization of brand image as "a consumer's feelings, attitudes and ideas towards a brand", most seem to have been influenced by it.

The reference to "feelings" suggests a link between product and emotions (Reynolds and Gutman 1984), which is a particularly germane connection in circumstances where consumers have difficulty obtaining objective measures on product attributes, or where product clones can not be differentiated or positioned on the basis of a distinct benefit appeal. In either case, the emotional appeal of the product would seem likely to play a significant role.

Conceptualizing brand image as an "attitude" provides an orientation that is more amenable to measurement and evaluation. Perhaps because of the attitude measurement techniques that have been developed, it has been noted that definitions which employ this approach have a tendency to restrict image to a set of product characteristics (Reynolds and Gutman 1984). While such definitions might lead to the conclusion that a product's image can be approximated by the sum of its attribute values, there are surely abundant examples where two brands have the same attribute ratings but different market shares. The "attitudinal" definitions would therefore appear deficient because of their inability to explain this.

The terms "understandings", "expectations" and "mental constructs" are rather vague and noninstructive terms for capturing brand image. Nonetheless, they do form an interesting group in their restriction to intellectual or reasoned processes and in their contrast with those definitions which incorporate the "feelings" dimension.

THE COMPONENTS OF BRAND IMAGE

Because of the significance of brand image marketing, it is important to translate what we know about this concept, or think we know, into the details of what marketing practitioners should do. This is a task that has been complicated, however, by the lack of consensus concerning the components that make up brand image, and consequently, about how it should be managed.

As has been previously noted, those who conceptualize brand image as an attitude are unlikely to accept that it extends to factors beyond the physical product (Reynolds and Gutman 1984). Others, in contrast, have proposed that the "image" of a brand is composed of factors extrinsic to the product itself. Gensch (1978) made this separation clear when he proposed that product perception consisted of two components, the measures of the

brand attributes and the "image" of the brand. He defined "image" as a purely abstract concept which incorporates the influences of past promotion, reputation and peer evaluation of the product.

A more moderate view is offered by those who suggest that working only with attributes, or only with abstractions, is not the way to measure or understand image. These authors propose instead that the objective or functional product qualities, as well as the psychological qualities of both user and product, must be accounted for. In this vein, Friedmann (1986) suggests that the "psychological meaning" of products is made up of the product's attribute bundle, the consumer's dominant perceptual mode, and the context in which the perceptual process takes place.

While Reynolds and Gutman (1984) confirm this synergistic effect, they discuss the components of brand image in terms of a means-end chain, identifying an implication network which reflects memory linkages as the fundamental component of brand image. They describe a means-end chain as the connection between product attributes, consumer consequences, and personal values, and theorize that image is represented by the synthesis of these components.

Stone, Dunphy and Bernstein (1966) distinguish between three main components of an image (its theme, its image proper, and its net evaluation). Levy (1978) talks about brand image as being composed of a mixture of the physical reality of the product and the beliefs, attitudes and feelings that have come to be attached to it. And rather exquisitely, Dichter (1984) describes magic and a product's morality as two of the basic components of its image.

APPROACHES FOR MEASURING BRAND IMAGE

Given the previous discussion on the theoretical formulation of brand image, it is not unexpected that the techniques for its measurement have not been standardized. Over the past three decades, several tools, routines and methods have been used to gain insight into the content and organization of brand images. Coincidentally, wide variations have occurred in the components of brand image that have been measured, the specific types of data sought, the manner in which data have been collected, classified, coded and analyzed, and the way in which results have been presented.

There has likewise been considerable diversity in the perspective from which brand image has been assessed. Some have measured the image of individual dimensions of a brand (Pohlman and Mudd 1973), while others have arrived at a single measure for brand image overall (Dolich 1969). The brand's image has been measured in isolation, relative to its competition (Boivin 1986), in relation to consumer ideal points and advertisement images (Keon 1984), and in relation to each of a person's actual self-image, ideal self-image, the social self image, and the ideal social self image (Sirgy 1985). It has been measured as a function of

brand usage and brand conspicuousness (Bird, Channon and Ehrenberg 1970), for clarity and sharpness (Pohlman and Mudd 1973), for stability over time and for discriminating attributes (Green and Devita 1977), and has been assessed and compared from the perspective of the retailer versus that of the consumer (McClure and Ryans 1968).

While researchers have not agreed on the most appropriate tool for measuring brand image, there does appear to be a trend towards operationalizing this construct using quantitative techniques. This is not to say that the more nonstructured, qualitative methods of analysis are obsolete. In fact, a number of contemporary theorists have affirmed the conversational, projective and matching techniques that were first proposed by Gardner and Levy nearly forty years ago.

In 1986, for example, Boivin proposed a three stage 'free response' approach to brand image studies which was comprised of the collection, coding and scoring of free verbalizations. In 1987 Durgee and Stuart proposed techniques in which brand personality would be explored by asking respondents to compare their brands to people, countries, occupations, fabrics, activities, cars, animals and magazines, or to write creative descriptions of brands or stories of interesting family experiences with them. And much earlier, content analysis was used by Woodside (1972) to study the image of selected consumer goods as reflected in the mass media.

While these qualitative methods have been lauded for allowing the contents of brand image to be uncovered by permitting feelings to emerge, they have been criticized for the difficulty they present in data handling and the statistical treatment of responses. While some have adopted tools such as 'linguistic coding' to address these difficulties, most have opted for more quantitatively oriented techniques.

Based on a composite of several articles, Table 2 represents some of the 'typical' approaches and techniques that have been used in quantitative brand image studies over the past thirty years. It should be noted that several questions remain unanswered regarding which of these are the most accurate and effective, and whether the differences that are generated from the use of different tools are critical.

THE ORIGIN, CREATION, FORMULATION AND MANIPULABILITY OF BRAND IMAGE

Image building, image change, image monitoring and maintenance, product positioning, product differentiation and image segmentation are among the present generation of brand image management activities. While clearly such activities presuppose that a brand's image can be manipulated by marketing practice, the literature fails to agree on the extent to which this is possible. In fact, the debate is ongoing as to whether an image is

TABLE 2

Step	Typical Approach	Typical Techniques
1	Identification of important attributes	Kelly Repertory Grid Free Responses Focus Groups Depth Interviews
2	Creation of measurement instrument	Semantic Differential Stapel Scale Q-Sort Technique Thurstone Scale
3	Calculation of brand score	Multiattribute Models Correspondence Analysis Factor Analysis Discriminant Analysis Multidimensional Scaling (Attributes or Pairwise) Trimodal Scaling Conjoint Analysis Principal Components Analysis

something that is conveyed or something that is received.

Bullmore (1984), on the one hand, emphasizes the dependence of brand image creation upon the individual psyche. He refutes the assumption that the image belongs to the brand, and ripostes that an image, like a reputation, can only reside in the minds of people. His contention is that the mind both contains and creates the image, and that it is mediated or stimulated by the consumer's experiences.

On the other hand, there are those who suggest that the consumer has a passive role where image creation is concerned. They propose that an image is projected to the consumer by the marketer, and that it can be selected, created, implemented, cultivated, and "managed" by the marketer over time. It has even been suggested that false or deceptive product images can be "ordered to be corrected", as if there is a simple transfuse between the image presented by the media and the consumer's mind (Scammon and Semenik 1983). In this context, advertisements have been regarded as a primary vehicle through which images can be imparted or "transferred" to a brand.

An amalgam of the above perspectives supports the view that product image is a function of the interaction between perceiver and product stimulus. The product's attributes, the sponsoring organization, the marketing mix, the modes through which people tend to perceive, personal values, experience, the types of people associated with use of the brand, and a number of context variables have

all been said to be among the factors that contribute to the development of a particular brand's image.

CONCLUSION

The term "brand image" is at once a label that has become somewhat impoverished because of widespread use, and a concept that has contributed richly to marketing practice. It is both a concrete and an abstract expression. Its definition and operationalization have been fairly irregular, although not without some patterns and commonalities. It is a growing, evolving term that has undergone considerable vicissitudes, some of which are enduringly useful.

This paper sought primarily to describe the shifting nuances of brand image, and therefore, has not rigorously analyzed the various shades of meaning of the definitions and conceptions under consideration. While in some cases the latter exercise may have been necessary to distinguish between substantive conceptual variations and those of form, this analysis has exposed examples of brand image usage which are polarized. These contradictions, in turn, betray the foundational integrity of this vital term.

In closing, this paper seeks to prescribe the brand image concept. This delineation is based largely on the frequency of occurrence of nuclear ideas within the definitions cited in Table 1. While admittedly there is no absolute standard of rightness, common usage is accepted as the authority for correctness, as it has been by a number of contemporary linguistic scientists and lexicographers (Bishop 1971). In this context, the

following emerge as the essential strictures of brand image:

- Brand image is the concept of a brand that is held by the consumer.
- Brand image is largely a subjective and perceptual phenomenon that is formed through consumer interpretation, whether reasoned or emotional.
- Brand image is not inherent in the technical, functional or physical concerns of the product. Rather, it is affected and molded by marketing activities, by context variables, and by the characteristics of the perceiver.
- Where brand image is concerned, the perception of reality is more important than the reality itself.

Despite conceptual deviations, it is clear that the concept of brand image has been of great significance in consumer behavior research, and there is every reason to suspect that its potential significance is even greater. As such, it is important that efforts continue to be made to more fully, completely and consensually understand this vital concept.

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Consumer Evaluation of Franchise Extension Products: A Categorization Processing Perspective

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ABSTRACT

Although franchise extension strategies, use of familiar brand names to introduce new products, are widely used by practicing marketers, they have received limited attention from researchers. Their use is based on the belief that familiar, highly-regarded brand names will enhance response to new products. However, our understanding of consumer response is limited. This paper presents a processing model of consumer evaluation of franchise extensions using categorization theory. Conceptual and empirical findings from past studies on franchise extension are explained in the context of the model. Implications for future research are also discussed.

INTRODUCTION

A franchise extension strategy involves a company's use of an established brand name in its introduction of a product into a category that is new to the firm. The strategic importance of franchise extension is suggested by Tauber (1987) who notes that it has "become the guiding strategy of product planners in the '80s" (p.18). Almost half of all new packaged goods are franchise extensions (Tauber 1987), and in 1986, they accounted for over 35% of the total sales in the apparel and accessories industry (Kesler 1987).

The benefits promised by franchise extension strategies are based on the belief that consumers will respond more favorably to new products that carry highly-regarded, familiar rather than unfamiliar brand names. As compared against the strategy of introducing a product with a totally new brand name, franchise extension is viewed as less expensive and less risky (Tauber 1981). Advertising costs are frequently lower because expenditures to build consumer awareness of brand names are reduced. Moreover, brand name familiarity enhances trade and consumer acceptance of new offerings, thereby improving the chances of long-term market success. Placement of a popular brand name (e.g., Hershey's) on a new product (milk) helps secure retail shelf space and encourages first-time consumer trial.

Despite widespread use of franchise extension strategies by marketing managers, researchers have devoted only limited attention to uncovering factors and processes that explain consumer response to franchise extensions. Only recently has research focused on identifying factors involved in consumer evaluation of franchise extensions (Aaker and Keller 1987; Duncan and Nelson 1986). Unfortunately, these studies have been largely descriptive, and therefore provide a somewhat incomplete understanding of how, why, and when franchise extension strategies work. Fragmented and

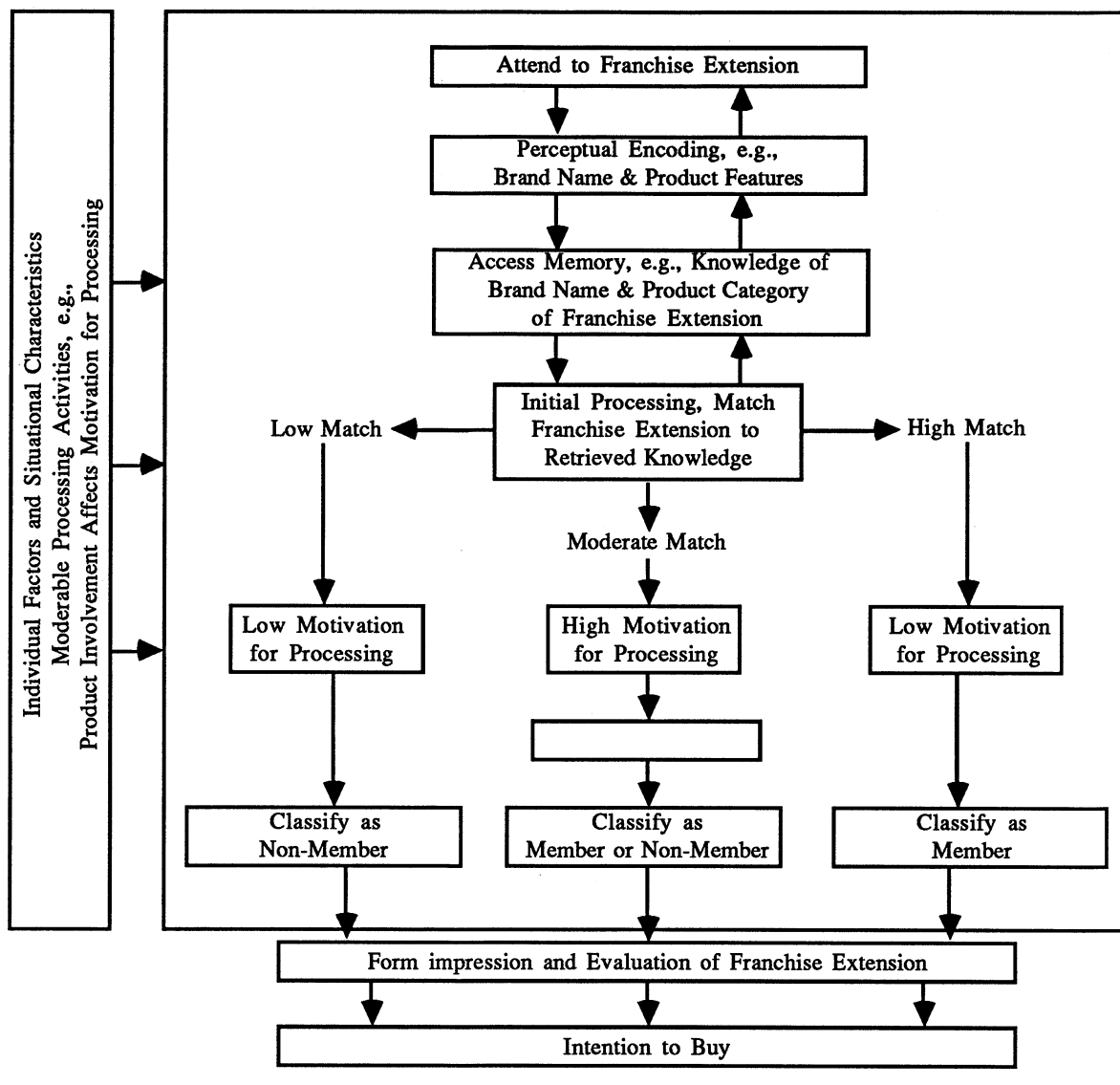
inconsistent research findings suggest the need for a unified theoretical framework to capture the complexities involved in consumer evaluation of franchise extension products (Fry 1967; Kerby 1967; Roman 1969).

This paper has three objectives. First, a conceptual model based on categorization theory is proposed to describe consumer evaluation of franchise extension products. This model demonstrates how the structure of prior knowledge interacts with the franchise extension stimulus to produce meaning given to the new product. Although previous research has found support for a relationship between prior knowledge of the brand name and consumer beliefs about franchise extensions, very little is known about the nature of the relationship. By examining the process itself, we hope to gain clearer understanding of how prior knowledge influences consumer beliefs and buying intentions. A second objective of the paper is to incorporate selected previous findings on franchise extension into the proposed model to consolidate contributions in this area. Past research has been more piecemeal than programmatic. In order to gain better understanding of franchise extensions, an attempt must be made to integrate existing conceptual and empirical findings into a framework. Finally, the paper discusses the implications of the model for further research. Categorization theory has already had a beneficial impact on theory and research in a variety of consumer research domains (e.g., Alba and Hutchinson 1987; Cohen 1982; Cohen and Basu 1987; Johnson 1984; Sujan 1985; Sujan and Deklava 1987; Sujan and Tybout 1989; Szymanski 1988). We argue that application of categorization theory to the complexities of franchise extension offers especially fertile ground for testing the assumptions and predictive qualities of the theory.

THEORETICAL MODEL

The figure illustrates the proposed model. The model assumes that a consumer's cognitive appraisal of a franchise extension depends on the way current information about the franchise extension is matched with prior knowledge of the brand name and product category of the extension. Specifically, the structure of the figure proposes five key components in franchise extension evaluation: (1) prior knowledge of the brand name and product category of the franchise extension, (2) degree of match or perceived similarity between the franchise extension and prior knowledge, (3) motivation for processing of the franchise extension, (4) extended processing and (5) moderating influences from individual factors and situational characteristics. These components represent a synthesis of findings

FIGURE
Processing Model of Franchise Evaluation



from franchise extension research with theory and research from the structure of knowledge literature. Although other components in the model are worthy of attention, this discussion focuses on those aspects that have received limited research attention and that hold promise of providing better understanding of the process itself. Subsequent sections present findings from previous research that are important to the model, provide a description of the process flow, and discuss key relationships contained in the model.

Relevant Findings from Franchise Extension Literature

A review of extant literature on franchise extension demonstrates four findings relevant to the model:

- (1) Brand name meaning represents the focal point for franchise extension strategies.
- (2) The characteristics of franchise extension products are often inferred from prior knowledge about the brand name.
- (3) The extent of meaning transfer from the brand name to the franchise extension product depends on the degree of perceived similarity between the impression of the brand name and the extension.
- (4) Individual factors influence the evaluation process for franchise extension.

Previous research pertaining to each finding is discussed.

The critical role that brand name meaning plays in franchise extension strategies is described in articles focused on managerial issues involved in franchise extension (Bengston 1982; Kane 1987a; 1987b; Karger 1981; Kennedy 1987; Tauber 1981; 1987). These articles outline guidelines for identifying extension opportunities. For example, Kane (1987a) prescribes two basic rules for developing franchise extension strategies: (1) focus on the consumer's rather than the marketer's perspective and (2) consider the total set of relations the original brand has to other products. The strongest and most consistent message in this literature is that an understanding of the total constellation of meanings that consumers associate with a brand name must be the starting point for uncovering potential product categories for extensions (Karger 1981). This contention is not substantiated with theoretical or empirical evidence, therefore, little insight is offered regarding how and why brand name meaning influences consumer response to franchise extensions.

Research on the role that brand name meaning occupies in consumer evaluation of franchise extensions has established a second finding relevant to the proposed model. Consumers often interpret characteristics of franchise extensions using knowledge stored in memory for brand names (Aaker and Keller 1987; Duncan and Nelson 1986). Duncan and Nelson (1986) define prior knowledge of the leveraged brand as the set of cognitive responses evoked by the brand name prior to exposure to the franchise extension. These authors measured prior knowledge and then instructed consumers to read concept statements for hypothetical extensions. Beliefs about the extension products were subsequently measured using a series of attribute statements. Findings suggested that consumer beliefs about and their intentions-to-buy franchise extensions were strongly influenced by prior knowledge for brand names.

An interesting aspect in this research is that consumers appear to interpret characteristics of franchise extensions using existing knowledge for brand names at different levels of abstraction. Abstraction refers to the level of generality of information and ranges from low (concrete) to high (abstract) along a continuum (Rosch 1975; Rosch, Mervis, Gray, Johnson, and Boyes-Braem 1976). Research findings indicate that consumers use concrete attributes such as taste or smell, as well as abstract attributes such as quality, to infer attributes of franchise extensions. For example, consumers expect Heineken popcorn to taste like beer (Aaker and Keller 1987) and Schwinn swing sets to be the same quality as Schwinn bicycles (Duncan and Nelson 1986). It is important to understand more about how and when consumers access and use abstract versus concrete attribute knowledge in franchise extension evaluation. For example, inferences based on concrete attributes may restrict

the range of product categories suitable for extension purposes (c.f., Johnson 1984; Johnson & Fornell 1987).

The third area of investigation relevant to the proposed model deals with the transfer of meaning from the brand name to the franchise extension. Two streams of research have studied meaning transfer: (1) semantic generalization (Fry 1967; Kerby 1967; Mazanec and Schweiger 1981; Roman 1969) and (2) cognitive-based studies (Aaker and Keller 1987; Duncan and Nelson 1986; Meyers-Levy, Louie and Curren 1988; Meyers-Levy and Tybout 1989; University of Minnesota Consumer Behavior Seminar (UMCB) 1987). Findings in each area suggest that the degree of meaning transfer depends on the level of perceived similarity between existing understanding of the brand name and the extension product.

Early research on franchise extension applied the principle of semantic generalization to investigate the transfer of response that occurs between the impression of the brand name and the franchise extension (Fry 1967; Kerby 1967; Mazanec and Schweiger 1981; Roman 1969). Semantic generalization represents a two-stage mediation model of learning. A person first transfers meaning from an object (e.g., a branded product) to signs associated with that object (e.g., a brand name), to a new object bearing the same sign (e.g., a franchise extension) (Osgood 1962). Because semantic generalization describes a stimulus/response type of learning, it reveals little about the cognitive activities that occur between the presentation of the stimulus and the overt response. This limitation has resulted in methodological problems in the application of this principle to franchise extension research and in discrepancies in the findings of published studies (Kerby 1967; Roman 1967). For example, Kerby (1967) reported limited support for semantic generalization; yet, Roman (1967) in an extension of Kerby's (1967) study found evidence that semantic generalization did occur in a franchise extension context. Roman (1967) used a methodology that separated branded product attitudes from product attitudes. She demonstrated that subjects perceived higher similarity between branded products (Cedar cleanser to Cedar bleach) than between the products themselves (cleanser to bleach). Roman interpreted differences in similarity judgments as evidence of semantic generalization. That is, products (objects) that shared a brand name (common sign) were perceived as more similar than products that did not share a brand name. These discrepancies suggest there may be important unidentified factors that influence generalization.

To address problems inherent in a semantic generalization approach, later researchers have attempted to identify the underlying cognitive variables that influence transfer of meaning from brand names to franchise extensions (Aaker and Keller 1987; Duncan and Nelson 1986; Meyers-Levy et al. 1988; Meyers-Levy and Tybout 1989; UMCB 1987). These studies have been successful in

isolating several factors of perceived similarity that may explain meaning transfer. For example, Duncan and Nelson's (1986) research indicated that logical consistency may be an important basis of perceived similarity. Logical consistency is the degree to which consumers believe the brand name makes "sense" in the context of the franchise extension. Depth interviews indicated that consumer perception of logical consistency is based on similarity in terms of production facilities and methods, attributes, prices, retail stores and packaging. Results suggest that logical consistency directly affects meaning consumers transfer from brand names to franchise extension products. It appears that perceived similarity depends on cognitive match. That is, when the cognitive structures of the brand name and franchise extension share one or more dimensions, consumers are able to transfer existing brand name impressions to franchise extensions.

Researchers have begun to explore the usefulness of knowledge structures in explaining perceived similarity (Meyers-Levy et al. 1988; Meyers-Levy and Tybout 1989; UMCB 1987). Results of these studies suggest that consumer response to franchise extensions is guided by category-based expectations. In particular, findings suggest that consumers have well-defined memory structures for products and brands that they use to process franchise extensions. When a franchise extension activates existing memory structures, evaluation of the extension depends on the degree of perceived similarity or match between the extension stimulus and activated knowledge. The level of match affects both the nature and outcome of the evaluation process. For example, Meyers-Levy and Tybout (1989) used the product category of soft drinks and varied match by including an attribute not generally associated with soft drinks. A soft drink described as being "all natural", for instance, represented moderate match. Findings indicated that when consumers perceived a moderate match, compared to either a high match or low match, they engaged in more elaborated or extended processing and reached higher overall evaluations of franchise extensions.

The final finding from previous research of relevance to our model is that individual differences among consumers can influence the evaluation process. Meyers-Levy and Tybout (1989), e.g., hypothesized and supported that nondogmatic individuals would be more willing to process franchise extensions than dogmatics. Their rationale was that because nondogmatics are more receptive of new information and change, they should be more willing to consider franchise extensions. In general, the effects of individual difference variables such as dogmatism on franchise extension processing have received limited attention. Research in other areas suggests that this is a critical topic for future study (Capon and Burke 1980; Capon and Davis 1984; Childers, Houston and Heckler 1985). For example, substantial research has suggested that consumer involvement moderates

a person's motivation to process new information (e.g., Alba and Hutchinson 1987; Celsi and Olson 1988; Petty, Cacioppo, and Schumann 1983; Greenwald and Leavitt 1984). Because involvement is a motivational state that directly affects the extent of processing, higher involvement should enhance consumer motivation for processing of franchise extensions (Celsi and Olson 1988). Research is needed to further understanding of how individual differences affect consumer evaluation of franchise extensions.

AN ILLUSTRATION OF THE PROCESSING MODEL

This section provides a discussion of key relationships between the five central components in the proposed model: (1) prior knowledge for the brand name and product category of the franchise extension, (2) degree of match or perceived similarity between the franchise extension and prior knowledge, (3) motivation for processing of the franchise extension, (4) extended processing and (5) moderating influences from individual factors and situational characteristics. Using examples of actual franchise extensions, it also describes the flow of alternative processing sequences contained in the model.

As the model indicates, consumers rely on information stored in long-term memory (LTM) to evaluate franchise extensions. The model, consistent with recent research, assumes that knowledge is stored in LTM in the form of categories or concepts. A category contains all the information for a class of objects considered to be equivalent (Rosch 1975; Mervis and Rosch 1981). Objects within a category share attributes or characteristics. People assign meaning to new objects by comparing characteristics of new objects to existing category knowledge. For example, consumers may have a knowledge category for televisions stored in LTM (Johnson 1984). Objects categorized as televisions vary from pocket-sized to big-screen, from color to black and white, but they have common attributes that are used to classify them as televisions and distinguish them from other objects such as computers and radios.

As illustrated in the figure, two categories of existing knowledge are involved in the evaluation process: (1) knowledge for the brand name and (2) knowledge for the product category of the franchise extension. Past franchise extension research establishes the importance of prior knowledge for the brand name (Aaker and Keller 1987; Duncan and Nelson 1986; Meyers-Levy et al. 1988; Meyers-Levy and Tybout 1989, UMCB 1987). Other research suggests that knowledge for the product category will also influence the evaluation process and outcome (Alba and Hutchinson 1987; Alba 1983; Lynch and Srull 1982; Sujana 1985). For example, Sujana (1985) found that when product attributes matched product knowledge, consumers did less processing of specific attributes and reached evaluations more quickly.

An important contribution of the model is in defining the role that prior knowledge plays throughout the different processing activities. This role can be illustrated by looking more specifically at the initial matching phase--the stage at which the consumer judges the degree of match between the characteristics of the franchise extension and prior knowledge. As the model depicts, consumer motivation for extended or elaborated processing depends on the level of match between existing knowledge and the new franchise extension product. Considerable research has investigated conditions that cause consumers to engage in elaborated processing and the effect that elaboration has on subsequent processing (Belmore 1987; Chaiken 1979; Petty, Cacioppo and Schumann 1983; Greenwald and Leavitt 1984; Houston, Childers and Heckler 1987; Kahle and Timmer 1984; Kahle and Homer 1985; Lynch and Srull 1982). Much of this research suggests that consumers engage in initial processing to decide whether additional cognitive effort is "worth it" (c.f., Kahle and Homer 1985). Consistent with Meyers-Levy et al.'s (1988) and Meyers-Levy and Tybout's (1989) findings, we argue that in franchise extension evaluation consumers engage in initial processing. Thus, when consumers encounter franchise extensions they perceive as extremely dissimilar or incongruent with prior knowledge, ones where they believe inconsistencies between the franchise extension and brand name knowledge are difficult or impossible to reconcile, they become frustrated. This, in turn, lessens their interest in further processing. Any additional processing then centers are inconsistencies, rather than consistencies between characteristics of the franchise extension and prior knowledge. In this case, differentiation becomes the focal point and differences may be exaggerated. Considerable research suggests that incongruent items (as compared to congruent items) receive more attention and elaboration during processing (Crocker and Weber 1983; Crocker and Vitkus 1983; Hastie 1980; Hastie and Kumar 1979).

In our model, the level of match influences consumer motivation for further processing and; thus, the likelihood of consumers to engage in extended processing. Three sequences are possible:

- (1) a low match leading to low motivation for further processing,
- (2) a high match leading to low motivation for further processing, and,
- (3) a moderate match leading to high motivation for further processing and; subsequently, extended processing.

The sequences hold different implications for franchise extension evaluation. In the first sequence of low match and low motivation, a consumer fails to find a match between the characteristics of the franchise extension and his/her understanding of the brand name. As an example, consider the recent

franchise extension of the Bic brand to sailboards. If prior knowledge is comprised of meanings associated with Bic lighters and Bic pens, a consumer's initial response to the franchise extension might be "plastic" and "disposable". The consumer may ask, "what does plastic, disposable tell me about a sailboard?" If the consumer decides these are inconsistent associations, he or she may not exert the effort to try and resolve these discrepancies. The consumer, frustrated by the large discrepancy between the brand impression and the extension product category may create a negative impression of the Bic sailboard. Some research has suggested that frustration and helplessness associated with incongruities that are unlikely to be resolved stimulates negative object evaluations (Mandler 1982; Meyers-Levy et al. 1988; Meyers-Levy and Tybout 1989). Moreover, if the consumer were motivated to resolve the problem through other incentives (e.g., through their interest in the product category), this might only enhance the negativity of the response. For example, a sailboard enthusiast may spend a few additional minutes trying to make sense of it and end with the sentiment, "What a waste of time! It doesn't make any sense".

An alternative situation is described by the high match and low motivation sequence. In this case, the consumer perceives a high degree of match between the characteristics of the franchise extension and prior knowledge. For example, an individual's first encounter with Hershey's milk probably activates thoughts of "chocolate" and "smooth" which fit with the characteristics of the franchise extension. In this case, the consumer may engage in nearly automatic transfer of his or her brand impression to the franchise extension. Consistent with stereotyping research, (e.g., Cohen 1981; Taylor, Fiske, Etoff, and Ruderman 1978), the consumer may even ignore obvious differences. If asked later about Hershey's milk, a consumer's only salient belief might be that it's milk with Hershey's chocolate in it.

The third sequence of moderate match and high motivation for processing suggests a situation where a consumer finds some degree of match between characteristics of the franchise extension and prior knowledge. Consider a Black and Decker coffee maker. Black and Decker might trigger connotations such as "trustworthy", "power tools" and "garage". Although "trustworthy" and "power" suggest the coffee maker will perform well, "garage" suggests things such as grease and dirt which are incongruent with kitchen appliances. This creates a problem for the consumer to solve, raising interest in the coffee maker. During extended processing, the consumer would try to resolve the inconsistencies, i.e., decide if the attributes that did not fit could be reconciled in some way. A moderate match creates interest in resolving the discrepancy (Hastie 1980; Meyers-Levy et al. 1988; Meyers-Levy and Tybout 1989). The elaborated processing that follows from this interest has attendant effects. For example, research suggests that it increases recall and retrievability of the moderately

incongruent object (Hastie 1980; Hastie and Kumar 1979; Meyers-Levy and Tybout 1989; Srull 1981). That is, it will be easier to remember the Black and Decker coffee maker than a new Black and Decker power screwdriver. Because the Black and Decker coffee maker spends more time in working memory, compared to the Black and Decker power screwdriver, it becomes linked to more characteristics of the brand name stored in memory (Hastie 1980).

All three processing sequences could be altered by influences such as individual differences and situational characteristics. Prior research suggests these factors would alter the nature of consumer evaluation (e.g. Batra and Ray 1986; Belk 1975; Capon and Burke 1980; Capon and Davis 1984; Childers, Houston and Heckler 1985; Park, Iyer and Smith 1989; Wright 1974). In our model, individual differences and situational characteristics are treated as moderating variables and as such alter the effects of and relationships between components (Arnold 1982). A brief discussion of potential influences from personal involvement is offered as an illustration. Involvement is defined as the level of personal relevance (Zaichkowsky 1985). Research suggests that consumer perception of the personal relevance of products affects their motivation for processing, such that at high levels of involvement their motivation is also high (Celsi and Olson 1988). In the model, motivation for processing depends on the match between characteristics of the franchise extension and prior knowledge. This relationship might be altered by consumer involvement. For example, the model suggests if match is low, a consumer has little motivation for further processing. However, if the person is at a high level of product involvement, this personal motivation may result in extended processing. As suggested, earlier this may enhance the negativity of the evaluation.

The objective of the proposed model is to describe consumer response to franchise extensions. Thus, the model ends when the consumer reaches an overall evaluation and decides on his/her intention-to-buy the franchise extension product. While processing of new information is complete at this point, there are alterations in existing knowledge that may occur that are beyond the scope of this model. In a franchise extension context, the most important change of interest would be modification of the knowledge category for the relevant brand name. New product information may alter the consumer's attitude toward the brand name. For example, a series of extension products that moderately match existing product offerings may spark interest in and enhance affect towards the brand name. Consumer acceptance of Black and Decker kitchen appliances, for instance, may have elevated the brand name to a "household" rather than just a "work-shop" brand name. Positive acceptance may also reinforce consumer overall impression of Black and Decker as a manufacturer of power tools. On the other hand, new information about extension products that mismatch existing product offerings may have deleterious effects on existing brand name

impressions. For example, consumer inability to reconcile Bic sailboards with Bic as a manufacturer of disposable products (i.e., cigarette lighters and ink pens) may create confusion about brand name meaning. This confusion may, in turn, detract from consumer regard for the Bic brand name. Thus, while changes in existing knowledge are beyond the scope of this model, they represent an important consideration for franchise extension strategies.

The proposed model provides a general framework that describes consumer evaluation of franchise extensions. It is expected that specific relationships between model components may vary according to the particular brand name that is being extended. While empirical testing of the model is necessary to uncover how relationships may change, this section presents an illustration based on theory and research in other areas to demonstrate how evaluation may change.

In light of a recent, award-winning conceptual piece by Park, Jaworski, and MacInnis (1986), perhaps the most important distinction to be made with respect to brand names is in terms of overall brand image. Park et al. (1986) hypothesize that the most critical judgment a manager must make in selecting an extension product is whether the overall impression of the extension matches the overall image of the brand name. Brand image is defined in terms of what the brand name means to the consumer and what the consumer experiences in using the brand. These researchers argue that the basis for achieving this match depends on whether the brand image is functional or symbolic; and, matching the extension product on that major type of usage outcome. Brands with functional images are those that solve consumption-related problems. Consumers think of functional brands in terms of direct, tangible, performance-outcomes that result from use of the brand, e.g., Bounty towels are absorbent. On the other hand, brands with symbolic images satisfy social and psychological needs of consumers. These brands provide intangible outcomes to consumers, e.g., a Rolex watch helps a person feel successful. Symbolic brands assist consumers in achieving role-related outcomes such as fulfillment of personal, social and professional responsibilities. Park et al. (1986) contend that functional brands should extend to performance-related products and symbolic brands to referent-based products. As an example, Park et al. (1986) suggest that the Vaseline brand possesses a functional image as a moisturizer; and therefore, the brand name is appropriate for extension to products that match this image such as bath beads, hand lotion, and baby shampoo. On the other hand, a brand such as Brooks Brothers holds a symbolic image as a manufacturer of fashion products for conservative, professional men. Extensions that match this symbolic image include shoes, cologne, and hats with a similar conservative, professional style.

While consideration of the functional/symbolic distinction represents a revolutionary idea in a franchise extension context, this distinction is

grounded in a long tradition of research on the functional/symbolic characteristics of products (e.g., Gardner and Levy 1955; Levy 1959; 1981; Solomon 1983; Hirschman 1988; Holbrook and Hirschman 1982). Research on products has demonstrated that many items such as clothing, cars and watches possess symbolic features, and that consumption of these goods may depend more on their social and psychological meaning than on their functional utility (Levy 1959; 1981; Solomon 1983; Holbrook and Hirschman 1982). The premise that consumption is often influenced by functional and symbolic qualities of products is supported by research streams involving self- and product-image congruence (e.g., Birdwell 1968; Dolich 1969; Gardner and Levy 1955; Grubb and Hupp 1968; Holman 1980; Sirgy 1982), and, social class- and product-image congruence (e.g., Bearden and Etzel 1982; Levy 1966; Martineau 1958). In line with Park et al.'s (1986) arguments and the extensive empirical evidence that substantiates the importance of the functional/symbolic distinction for products, an investigation of the effects of brand image on franchise extension evaluation would be useful for further specification of this processing model.

IMPLICATIONS FOR FUTURE RESEARCH

The figure and the discussion of the processing sequence suggests several avenues for future research. One area involves the relationship between the initial degree of match and the motivation for further processing. Based on the level of match, two different processing sequences are possible. When the match between the franchise extension and stored information is either low or high, it will result in low motivation for additional processing. And, if the degree of match between the franchise extension and stored information is moderate, it results in high motivation for processing. Research is needed to gain a clearer understanding of factors that explain the different match conditions. Related areas such as impression formation, have explored attribution theory as a possible explanatory variable (Crocker and Vitkus 1983). In this context, high apparent incongruity between brand name and the franchise extension might cause differing impressions based on what a consumer sees as the cause of the franchise extension. For example, consumers are comfortable with the brand name Coke on sweatshirts, although they see Coke as having no special expertise in making sweatshirts, because they associate Coke with fun.

Also of interest is how the nature of processing in the initial stage compares to that in the extended stage. Initial processing involves a quick check to establish some basis for relating the franchise extension to existing knowledge. This comparison could either be done automatically or with some amount of deliberation. An automatic comparison suggests that a consumer would use the first attribute that comes to mind. While a more deliberate comparison would involve the use of

attributes that are more salient or criterial than others. Thus, the extent of deliberation will influence the type of attribute comparisons made during initial processing. Research should investigate both the extent of deliberation consumers generally use during initial processing, as well as, how the level of deliberation varies across consumers and franchise extension products.

Extended processing involves a series of comparisons between characteristics of the franchise extension and stored knowledge. These attribute comparisons must eventually be integrated to reach a measure of overall similarity between the franchise extension and stored knowledge. Consumers could use alternative methods for integration. Two methods suggested by categorization research are additive and multiplicative rules (Lingle, Altom, and Medin 1985). An additive rule suggests a piecemeal process whereby attribute matches are weighted by their importance and summed to an overall measure of similarity. Consumers may proceed until some criterial level of similarity is attained. A multiplicative rule suggests a configural process in which relationships among attributes are important. Similarity coefficients might be assigned to attribute comparisons which are then multiplied together. These rules differ in their treatment of attribute relations and can lead to different measures of overall similarity for the same data. With the additive rule, a mismatch on one attribute may be compensated for by a match on another. However, for the multiplicative rule a mismatch on one attribute can reduce overall similarity to zero. Consumer preferences for the use of each of these rules when evaluating franchise extensions needs investigation.

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Brand Cognitions as Determinants of Brand Attitudes: The Influence of Measurement and Processing Involvement

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ABSTRACT

We examined the influence of brand cognitions on the formation of brand attitudes after exposure to an advertisement under conditions of higher or lower involvement. Brand cognitions were measured using both a cognitive response index and an expectancy-value measure. The strength of the brand cognitions - attitude relationship proved to be stable across involvement conditions and relatively insensitive to measurement. Further analyses using groups based on extremely high or low levels of self-reported involvement indicated the expected involvement moderation of the impact of brand cognitions on brand attitudes.

INTRODUCTION

The role of brand cognitions in the formation of post-communication brand attitudes has been well documented in research applying expectancy-value attitude theory (e.g., Fishbein and Ajzen 1975; Lutz 1975; Mitchell and Olson 1981) and cognitive response models of persuasion (e.g., Greenwald 1968; Wright 1973). More recently, researchers have begun intensive study of affective reactions to advertisements with a focus on the influence of ad attitudes (A_{ad}) on the formation of brand attitudes (A_b) (e.g., Mitchell and Olson 1981; Shimp 1981). One interesting, and somewhat surprising, observation drawn from this stream of research has been that brand cognitions, when operationalized in the form of cognitive responses, often do not affect brand attitudes in models including ad attitude as a second predictor of A_b . Both conceptual and methodological explanations have been offered for the relatively weak causal role played by brand-oriented cognitive responses. This research attempts to shed some further light on these issues.

BACKGROUND

The surprising weakness of the link between brand-oriented cognitive responses (CR_b) and brand attitudes in models including A_{ad} was first noted by Lutz, MacKenzie, and Belch (1983) and MacKenzie and Lutz (1983). Similarly, Mackenzie, Lutz, and Belch (1986) reported a non-significant relationship between CR_b and A_b in two experiments which supported their model of brand attitude formation. In a study which included affective responses as well as cognitive responses to advertisements, Batra and Ray (1986) also found that CR_b did not influence A_b when A_{ad} was included as a copredictor of brand attitudes.

At this point, the only supportive evidence of the $CR_b - A_b$ relationship when A_{ad} also serves

as a determinant of A_b has been reported by Park and Young (1986). In their study, CR_b was related to A_b when the commercial lacked music and was processed under cognitive involvement conditions. However, a change in involvement (i.e., the affective and low involvement conditions) or the presence of music under cognitive involvement reduced the relationship to non-significance.

Mackenzie et al. (1986) proposed a measurement artifact as one explanation for the lack of a significant $CR_b - A_b$ relationship. They pointed out that the cognitive response index used in their studies is inferior psychometrically to measures based on expectancy-value models. Moreover, cognitive response measures may be vulnerable to restrictions in range, especially when motivation to process message arguments is low. This line of reasoning suggests that causal relationships involving brand cognitions and attitudes should be stronger when the former is operationalized using an expectancy-value formulation instead of cognitive responses. Consistent with this, research using such measures rather than cognitive responses has reported stronger support for the causal role of brand cognitions (Gardner 1985; Mitchell 1986; Mitchell and Olson 1981). Given, however, the possibility that other inter-study differences could account for the more favorable findings involving expectancy-value measures, a more precise test of potential measurement effects would entail comparisons within the same investigation.

Such a comparison was provided by Park and Young (1986). They observed relatively little difference between cognitive response and expectancy-value measures. Both measures produced largely equivalent estimates of the relationship between brand cognitions and attitudes under all of their experimental conditions but one: affective involvement and a musical commercial. In this condition, the relationship was significant only for the expectancy-value measure. This particular finding is questionable on several grounds. First, although the regression coefficient between A_b and the expectancy-value measure was significant, the simple correlation between the two was not. Such differences typically indicate that the predictor is simply serving as a suppressor variable. It is also interesting to note that the expectancy-value measure was unrelated to A_b when subjects processed the same musical commercial but under cognitive involvement conditions. Why the measure should relate to A_b under low involvement but not cognitive involvement is not at all clear, and runs

counter to predictions about the role of involvement discussed below.

One objective of the present study was to provide a further examination of this measurement issue. In particular, we examine how changes in the operationalization of brand cognitions (i.e., expectancy-value versus cognitive response measures) influence its relationship with brand attitude.

A second explanation for the weak relationship between brand-oriented cognitive responses and brand attitude is based on the level of involvement that occurs during message processing. As suggested earlier, the ELM predicts that brand cognitive responses will play an increasingly important role in the formation of brand attitude when the person becomes more motivated and/or able to engage in a careful evaluation of a message's arguments. Consistent with this, several researchers (Batra and Ray 1986; MacKenzie et al. 1986) have argued that brand cognitions are less important contributors to the formation of A_b in typical advertising exposure settings since viewers are unlikely to be motivated to elaborate on the brand-relevant arguments presented in the ad.

Thus, the weak relationships observed in prior research may simply reflect the undermining effect of limited processing of the message claims due to weak involvement. This basic reasoning is supported by the previously discussed finding from Park and Young (1986) that CR_b was related to A_b when a non-musical ad was processed under cognitive involvement conditions, but not under low involvement conditions. Additional confirmation of involvement's moderating role is furnished by Gardner (1985). Gardner (1985) found that an expectancy-value measure was more strongly associated with A_b under brand than under non-brand processing sets. Recently, Hastak and Olson (1989) reported a similar effect of brand versus non-brand processing set on the $CR_b - A_b$ relationship.

In the present study, involvement is used to compare further the potential impact of different approaches for assessing brand cognitions. Research participants examined a print ad for a hypothetical new brand of soft drink under conditions designed to alter their involvement during processing. Consequently, it was possible to make comparisons between cognitive response and expectancy-value measures within each involvement condition. Both measurement approaches were expected to reveal the same basic pattern of stronger relationships among brand cognitions and attitude as involvement increases.

METHOD

Subjects

A total of 170 male and female students enrolled in an undergraduate business course at a midwestern university participated in the study to earn extra credit. Subjects were randomly assigned

to experimental conditions and processed in groups of five to ten.

Procedure

After subjects were seated at partitioned tables, the experimenter stated that the purpose of the study was to obtain their reactions to two new products being considered for introduction in their area. It was explained that they would look at ads for the new products and then make a choice between the two products. Subjects were told that they would receive the product of their choice as additional compensation for their participation.

The experimenter then drew subjects' attention to a set of folders in front of each subject. Starting with the top folder, subjects worked at their own pace through the set and were not allowed to return to a particular folder after they had finished with it. The first folder contained an ad for a fictitious soft drink called Sunburst. The ad heading read "Introducing the next generation of soft drinks for today's generation." Beneath the heading appeared two color pictures side-by-side: one was of the soft drink can, the other varied as explained below. The bottom half of the ad contained copy making a number of claims about the product.

The next folder held a questionnaire that assessed subjects' reactions to the ad and product. The third folder contained an ad for a fictitious soft drink called Sparkle. The fourth folder contained a form asking the subject to indicate whether they would like to receive the Sparkle or the Sunburst brand. As explained below, subjects in the low involvement condition also received a fifth folder.

Involvement Manipulation

The involvement manipulation consisted of varying the personal relevance of the Sunburst ad by telling subjects they would eventually make a choice among either soft drinks or an unrelated product category. Subjects in the higher involvement condition were told that they would be shown a print ad for each of two new soft drink brands and then make a choice between the two brands. They would then receive a six pack of the brand of their choice. This basic procedure has been used previously for enhancing involvement (cf. Petty, et al. 1983; Wright 1973). In contrast, subjects in the lower involvement condition were informed that they would be asked to choose between two disposable razor brands. It was expected that subjects would view the Sunburst ad as more personally relevant when they anticipated making a choice involving the product relative to those expecting to make a brand choice in another product category.

This manipulation necessitated some changes in the procedure and materials for low involvement subjects. First, some rationale was needed as to why they would encounter the soft drink ads. Consequently, the experimenter explained that subjects would be exposed to a couple of "warm-up" soft drink ads before seeing the critical razor ads in order to familiarize themselves with the type of print ads used in the study. It was also necessary to

make an alteration in the brand choice form within the fourth folder since subjects were not anticipating making a soft drink choice. The low involvement brand choice form stated that some of the subjects would receive a six pack of soda rather than a disposable razor. Subjects were therefore asked to indicate which brand they would prefer in the event that they received the soda. Finally, low involvement subjects received a fifth folder containing two ads for fictitious disposable razors and a razor choice form.

Claims Manipulation

This manipulation involved varying the strength of the arguments within the Sunburst ad. Common to both versions were the following claims: great taste, low in calories, thirst quenching, natural ingredients, real fruit juices, comparable price, and just the right amount of carbonation. The versions differed only in the presence and form of additional copy that attempted to substantiate these claims. One version contained information that was intended to provide stronger support for the claims (e.g., Sunburst has 50% fewer calories than the average non-diet soft drink) while a second version presented weaker support (e.g., Sunburst has 5% fewer calories than the average non-diet soft drink.). The claims and substantiation copy were placed in the bottom half of each ad used in the final experiment. Each claim was printed in bold block letters (e.g., GREAT TASTE!) which was followed by substantiation copy that comprised the claim manipulation.

Picture Manipulation

This manipulation involved altering the color picture that appeared at the top of the ad next to the picture of the Sunburst soft drink can. The favorably evaluated stimulus was a tropical beach scene with a rising sun. The disliked stimulus was a side view of five ugly iguanas facing the same direction.

Measures

Only those measures germane to the current research issues are described below. The key dependent variables consisted of thoughts, beliefs, attitudes, and purchase intentions. The thought elicitation measure, which was completed immediately after exposure to the Sunburst ad, asked subjects to list all of the thoughts, ideas, and images they had while looking at the ad. These thoughts were listed in the blank space, roughly three-fourths of a page, beneath the measure. Although a time constraint was not imposed, almost all of the subjects completed the measure in a couple of minutes.

The expectancy-value measure was operationalized in accordance with a Fishbein multi-attribute model (Fishbein and Azjen 1975). Subjects' evaluations (e_i) of the same seven soft drink attributes used in the ad (e.g., "For me, a soft drink with more real fruit juices than other brands is:") were measured on two scales (good - bad,

desirable - undesirable). Beliefs (b_j) about Sunburst (e.g., "how likely is it that Sunburst has more real fruit juices than other brands?") were assessed on two scales (likely - unlikely, probable - improbable). Responses to the two scales for each attribute evaluation and belief were summed since the correlations between them were very high (average $r = .87$ for e_i , average $r = .94$ for b_j).

Ad attitude was assessed on five scales (good - bad, effective - ineffective, interesting - uninteresting, like very much - dislike very much, not at all irritating - very irritating) which were summed ($\alpha = .92$). Attitude toward the Sunburst soft drink was represented by the sum ($\alpha = .97$) of three scales (favorable - unfavorable, positive - negative, like very much - dislike very much). Intention to purchase Sunburst when it became available was captured by two scales (likely - unlikely, probable - improbable) which were added together ($r = .98$).

The following measures were used to examine the success of the involvement manipulation. Subjects' involvement while processing the ad was assessed by asking subjects to respond to the statement "While reading the Sunburst ad, I was:" using three scales (very involved - very uninvolved, concentrating very hard - concentrating very little, paying a lot of attention - paying very little attention). Subjects also reported their agreement on an agree - disagree scale with the statement "I carefully considered the claims about Sunburst in the ad." These measures were combined to form an indicator of processing involvement ($\alpha = .91$).

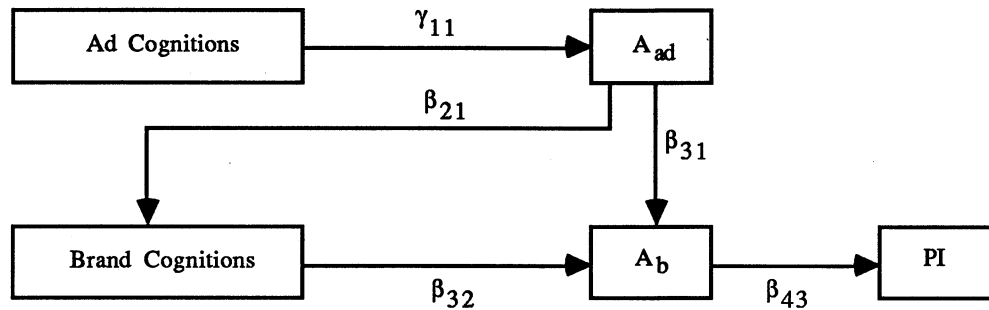
Cognitive Response Coding Procedures

The coding of the cognitive response data consisted of two phases. First, each protocol was decomposed into separate thoughts by two judges blind to the experimental condition. A total of 90 disagreements occurred between the two judges which were then resolved by discussion. The total number of thoughts after resolving the disagreements was 689 or an average of four thoughts per subject. Judges therefore agreed on nearly 87 percent of the thoughts expressed by subjects.

In the second phase, the same two judges assigned each thought to categories reflecting the valence (positive, neutral, and negative) and content. The basic distinction drawn in thought content was whether it pertained to the ad versus to the product. For ad thoughts, a total of 13 categories were developed which reflected whether the thought was directed at the picture, copy, or some other ad element. One of these categories represented expressions reflecting an overall evaluation of the ad. Thirteen categories were also developed for brand thoughts. These categories represented differences in terms of whether the thought focused on product attributes, brand name, or the can/packaging. Thoughts indicating overall brand evaluation were classified separately.

Twenty-four of the 689 total responses were excluded on grounds of being either unclassifiable or irrelevant. Favorable thoughts accounted for 204 of

FIGURE
The Dual Mediation Model



the usable responses, 65 of the thoughts were neutral, and the remaining 396 thoughts were coded as unfavorable. In addition, 103 responses reflected an overall evaluation of the ad ($n=36$) or product ($n=67$). Because of concerns about such responses being indicators or overall affect (see Olson, Toy, and Dover 1982; Wright 1980), they were excluded, thus leaving 562 thoughts about various aspects of the ad ($n=217$) and product ($n=345$) for use in the analyses involving cognitive responses.

In terms of thought valence, the judges were very consistent in their ratings as reflected by an agreement rate of nearly 96 percent. For thought content, the judges agreed 81 percent of the time. While this agreement rate is lower, we believe it represents an acceptable level considering the large number of categories used to classify thought content. Disagreements for both valence and content were resolved through discussion.

RESULTS

Manipulation Checks

As expected, subjects' responses to the processing involvement measures significantly differed between high ($M=4.47$) and low ($M=.038$) involvement conditions ($F=26.3$, $p<.001$). Note that the mean for the low involvement condition was at the scale midpoint (scale ranges from +12 to -12). Consequently, this involvement condition is more appropriately viewed as inducing a moderate level rather than a truly low level of involvement.

Similar support was derived from two cognitive response indices representing (1) the total number of brand thoughts and (2) the ratio of brand thoughts to total thoughts. Higher involvement subjects reported more total brand thoughts ($M=2.03$ vs. 1.41; $F=32.9$, $p<.001$) as well as a greater proportion of brand thoughts ($M=.57$ vs. .45; $F=25.2$, $p<.001$) than those less involved.

Models

The following analyses focus on causal configurations of the relationships among brand and ad attitudes and antecedents. The dual mediation

model (Figure A) supported by MacKenzie et al. (1986) was tested using the maximum likelihood procedure for path analysis in LISREL VI (Joreskog and Sorbom 1984). We report path analysis results for models in which brand cognitions are represented by either a cognitive response index or a multi-attribute model score in three cuts of the data -- (1) pooled across treatment conditions, (2) for the higher involvement group ($n=86$), and (3) for the lower involvement group ($n=84$).

Results for CR_b

Table 1 summarizes the results of the path analyses for the dual mediation model using the cognitive response measure (cf. MacKenzie et al. 1986). An examination of the goodness-of-fit statistics indicates that all three models provide a very good description of data relationships. Two of the three chi-square statistics are non-significant and the root mean square residuals (RMSR) are small. Joreskog and Sorbom's goodness of fit estimates range from .960 to .977. The variance explained in the endogenous constructs ranges from a low of 15.1% for CR_b to a high of 58.6% for intentions. Taken together, these results indicate that the dual mediation model provides an acceptable description of data relationships in all three samples. Therefore, interpretation of the parameter estimates is appropriate. Given the focus of the present paper, discussion will center on the $CR_b - A_b$ path estimates.

Results based on the pooled data revealed a significant ($\beta_{32} = .216$, $p<.01$) path estimate between CR_b and A_b . The path estimate maintained significance ($\beta_{32} = .275$, $p<.01$) under higher involvement conditions, but becomes somewhat attenuated under lower involvement conditions ($\beta_{32} = .151$, $p<.1$). Even so, the results of a chi-square difference test did not reject the null hypothesis of equivalence in the $CR_b - A_b$ path between the higher and lower involvement conditions ($\chi^2(1) = 1.19$, $p >.1$).

TABLE 1
Path Analysis Results for Models Using Brand Cognitive Response Measure^a

Path	Parameter	Pooled Data	Involvement Condition		Self-reported Involvement	
			Lower	Higher	Lower	Higher
CR _{ad} → A _{ad}	γ ₁₁	.424 ^b	.420	.405	.452	.294 ^c
A _{ad} → CR _b	β ₂₁	.389	.387	.358	.150 ^e	.432
A _{ad} → A _b	β ₃₁	.631	.577	.661	.555	.325
CR _b → A _b	β ₃₂	.216	.151 ^d	.275	.097 ^e	.458
A _b → PI	β ₄₃	.765	.719	.801	.637	.742
<i>Fit Statistics</i>						
Chi-square		11.94	5.19	9.18	5.63	4.34
Degrees of Freedom		5	5	5	5	5
p-value		.036	.394	.102	.344	.502
Goodness-of-fit index		.974	.977	.960	.967	.973
Root mean square residual		.047	.050	.048	.060	.043

^a Standardized parameter estimates.

^b Estimates without superscripts are significant at $p < .01$, two-tailed tests.

^c $p < .05$, two-tailed test.

^d $p < .10$, two-tailed test.

^e $p > .10$, n.s.

This unexpected stability of the CR_b - A_b relationship prompted us to adopt another approach for testing involvement's moderating role. Based on the responses to the involvement measures, subjects were divided into three groups of roughly equal sizes. Path analyses were then performed on the two extreme groups representing either higher or lower levels of self-reported involvement for models including either the brand CR or expectancy-value indices. While this procedure sacrifices strict experimental control and runs the risk of confounding involvement with other individual difference variables, the potential for differences to emerge is also enhanced by using the two extreme groups which represent greater polarization in their level of involvement ($M=7.92$ versus -3.84 ; $n=61$ for each group) than captured by the involvement conditions ($M=4.47$ versus 0.38). Additional analyses were performed on the higher and lower self-reported involvement groups to validate presumed differences in their degree of elaboration and their responsiveness to the ad content manipulations. As expected, the higher SRI group ($M=2.38$) reported more brand-oriented cognitions

than the lower SRI group ($M=1.57$, $p < .01$). A 2 (Claim) X 2 (Picture) ANOVA was also performed on A_b for each SRI group. The higher SRI group was affected only by the claim manipulation ($F=21.8$, $p < .001$), while the lower SRI group was affected only by the picture manipulation ($F=7.5$, $p < .01$).

The results of the path analyses are reported in the last two columns of Table 1. As can be seen, the difference in the strength of the CR_b - A_b path was intensified by using the extreme self-reported involvement (SRI). Indeed, the CR_b - A_b path becomes non-significant ($p > .1$) for the lower SRI group. A chi-square difference test indicated that the influence of CR_b on A_b was significantly stronger in the high SRI group ($\chi^2(1) = 5.59$, $p < .05$).

Results for the Expectancy-Value Models

The goodness-of-fit statistics and parameter estimates for the models using the multi-attribute measure of brand cognitions are reported in Table 2. The path estimate for $\Sigma b_i e_i$ - A_b is significant ($\beta_{32} = .330$, $p < .01$) in both the pooled data analyses and as well as for the lower ($\beta_{32} = .353$, $p < .01$) and

TABLE 2
Path Analysis Results for Models Using Multi-attribute Measure^a

Path	Parameter	Pooled Data	Involvement Condition		Self-reported Involvement	
			Lower	Higher	Lower	Higher
CR _{ad} → A _{ad}	γ ₁₁	.424 ^b	.420	.405	.452	.294 ^c
A _{ad} → Σb _i e _i	β ₂₁	.515	.488	.520	.198 ^e	.561
A _{ad} → A _b	β ₃₁	.545	.463	.588	.534	.189 ^d
Σb _i e _i → A _b	β ₃₂	.330	.353	.328	.181 ^d	.594
A _b → PI	β ₄₃	.765	.719	.801	.637	.742
<i>Fit Statistics</i>						
Chi-square		6.65	2.82	6.55	2.78	11.63
Degrees of Freedom		5	5	5	5	5
p-value		.248	.727	.256	.734	.040
Goodness-of-fit index		.985	.987	.971	.981	.931
Root mean square residual		.035	.042	.038	.037	.059

^a Standardized parameter estimates.

^b Estimates without superscripts are significant at $p < .01$, two-tailed tests.

^c $p < .05$, two-tailed test.

^d $p < .10$, two-tailed test.

^e $p > .10$, n.s.

higher ($\beta_{32} = .328$, $p < .01$) involvement conditions. These estimates did not differ between involvement conditions ($\chi^2(1) = 0.05$, $p > .1$).

In contrast, the results based on self-reported involvement revealed the anticipated difference in the strength of the $\Sigma b_i e_i - A_b$ relationships. Whereas this link is marginally significant for the lower SRI group ($\beta_{32} = .181$, $p < .1$), it achieves strong significance for the higher SRI group ($\beta_{32} = .594$, $p < .01$). A chi-square difference test confirmed the $\Sigma b_i e_i - A_b$ relationship to be stronger in the higher SRI condition ($\chi^2(1) = 7.20$, $p < .05$).

These results are essentially the same as those reported for the CR_b measure. The only substantive difference between the two measurement approaches is that the strength of the relationship between brand cognitions and attitudes is somewhat enhanced for the models using the expectancy-value measure. For example, when the analysis is based on the pooled data, the path estimate (β_{32}) based on the expectancy-value measure increases by nearly fifty percent in size relative to the same estimate based on cognitive responses.

DISCUSSION

Mackenzie et al. (1986) were disturbed by the surprising weakness of the relationship between brand cognitions as measured by a cognitive response index and brand attitudes. They provided two explanations for this finding. First, they suggested that the crudeness of the cognitive response index as an indicator of brand cognitions may have contributed to the lack of relationship with brand attitudes. Second, based on the ELM, they built an argument for the primacy of peripheral processing over central processing in brand attitude formation in a typical advertising exposure setting.

Our results indicate that the use of CR_b did reduce the apparent strength of the relationships between brand cognitions and attitude in comparison with an expectancy-value measure. However, it should be noted that this attenuation may also be attributable to the greater availability of subjects' responses to the expectancy-value measure at the time of their response to the brand attitude items (Feldman and Lynch 1988). This is possible because A_b was measured immediately after the expectancy-value measures were taken, while a number of measures separated A_b and the thought elicitation task. Nonetheless, conclusions about the

causal role of brand cognitions are essentially the same across the models. Both operationalizations yielded significant relationships between brand cognitions and attitude in the pooled data analyses. These relationships were also found to be invariant across the involvement conditions for both measurement approaches. Finally, the alternative measures produced the same pattern of differences in the significance of the brand cognitions - attitude relationship across the self-reported involvement analyses. Consequently, it would appear that prior research observing null relationships may be more indicative of the type of processing that occurred during message exposure than of any major weakness in cognitive response measures.

The results based on self-reported involvement also support the presumed moderating influence of involvement on the relationship between brand cognitions and attitude. The brand attitudes of subjects reporting lower involvement during processing were unrelated to their brand cognitions. Strong relationships, on the other hand, were observed for subjects reporting higher involvement during processing. These findings provide additional evidence for the moderating role of involvement in persuasion.

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The Role of Tangible and Intangible Attributes in Similarity and Preference Judgments

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ABSTRACT

Consumer judgments of both similarity and preference are widely used in marketing research. Whereas preference judgments are generally assumed to be subjective and heterogeneous across consumers, similarity judgments are commonly assumed to be objective and homogeneous. However, there is increasing evidence that, like preferences, similarity judgments may be individual specific. In this paper, the results of an experiment examining individual differences in preference and similarity judgments are reported. Using decompositional models for both judgment types, we found substantial heterogeneity across subjects. Moreover, we hypothesized that the "type of attribute" would explain some of the difference found, within subject, between preference and similarity judgments for the same object. Specifically, our results support "intangible" attributes being relatively more important in preference than similarity judgments, whereas "tangible" attributes are relatively more important in similarity judgments.

INTRODUCTION

Understanding how consumers perceive and evaluate products relative to other products is fundamental to marketing strategy. "All aspirins are the same — why pay more?" and "This car is completely different from any other car in its class" are examples of advertising campaigns that have used similarity and dissimilarity positioning strategies to influence choice (Tversky 1972).

Marketing researchers use both similarity and preference judgments to study consumer behavior. While preference judgments are viewed as individual specific, usually similarity judgments are assumed to be objective, error free, and homogeneous across subjects (Green 1975). In many multidimensional scaling applications, it is common practice to aggregate consumers' similarity judgments in order to formulate "perceptual maps" which are geometric representations of underlying perceptual dimensions. However, aggregating these judgments assumes that subjects perceive the same set of underlying dimensions, subjects make the same judgments about the extent to which objects possess particular attributes, and subjects assign the same importance weights to the attributes in determining the similarities (Jackson 1983).

To relax the last assumption, the INDSCAL multidimensional procedure (Carroll and Chang 1970, Carroll 1972) was developed. It handles individual perceptions by stretching and shrinking the axes of the spatial representation according to the importance of each dimension to the individual. For example, using INDSCAL, Wish (1971) found that subjects have different perceptions about the

similarity of various countries. Subjects classified as "hawks" tended to use the political alignment of countries (pro-western versus pro-communist) as the most important dimension, while "doves" tended to use the economic development of countries (underdeveloped versus economically developed) as the most important dimension. Likewise in marketing, INDSCAL has been used to show that consumers perceive the proximity between products differently. However, marketing variables such as familiarity with the products, personal values, and demographics have not been successful in explaining these individual differences in perceptions (Ritchie 1974).

Another common assumption that is central to joint space model configurations (Green and Carmone 1970, Green and Wind 1973) is that consumers' perceptions and preferences are based on the same underlying structural dimensions. There is evidence to suggest that this, too, is an oversimplification. Wish (1971) found that "... the dimensions of liking do not agree so well with the dimensions of similarity...subjects frequently like one and dislike the other of two countries they perceive to be quite similar. These results are somewhat counter to the frequently made assumption that preferences can be directly related to the dimensions of a space based on perceptions of the stimuli." (page 325)

In a marketing study dealing with mothers' perceptions and preferences for toys for their children, Whipple (1976) compared different data collection techniques for similarity and preference measures. He found that "solutions based on attribute ratings/rankings and directly judged proximities are not similar to preference based solutions." (pages 101-2). This led him to conclude that "... it is risky to assume that product preference is consistent with overall product similarity." (page 102).

In this study, we will *not* assume that individual perceptions are homogeneous across subjects. Instead, the purpose of this study is to attempt to understand, at the individual level, differences between what is important in similarity judgments and what is important in preference judgments. We will explore how "kind of attribute" may account for some of the difference between similarity and preference judgments

TANGIBLE AND INTANGIBLE ATTRIBUTES

Marketing researchers have used a wide variety of attribute descriptors to obtain measures of consumers' perceptions and preferences (Myers and Shocker 1981). A comprehensive summary of eleven different attribute typologies is presented by Finn (1985). What is common to all these different

approaches is that there is a distinction between the concrete, physical, objective, or TANGIBLE attributes of a product and the abstract, beneficial, subjective, or INTANGIBLE attributes of a product. For example, a car can be described as large, red and luxurious. Large and red are fundamentally tangible attributes as they describe physical properties of the car, while luxurious is primarily an intangible attribute as it describes beneficial and imagery aspects of the car.

It is believed that managers should ultimately formulate their strategies based on consumers' perceptions of the abstract benefits of products (Haley 1968). Yet, in reality, it is necessary to use concrete attributes that are "actionable" or meaningful to managers (Shocker and Srinivasan 1979). Recently there has been some concern and criticism that too much attention has been spent on tangible attributes instead of intangible attributes (Holbrook and Hirschman 1982, Hirschman 1983). In the "layers of meaning paradigm" it is proposed that "the meaning of a product stimulus is a mixture of objective properties and subjective associations" (Hirschman 1980, page 12). Thus, the perceived meaning of a product stimulus is proposed to be a joint construct of both tangible and intangible attributes. Therefore, this study considers perceptions of and preferences for product profiles described by both tangible and intangible attributes. Since attempts to categorize attributes as one or the other may result in fuzzy sets (Myers and Shocker 1981), the distinction between tangible and intangible is viewed as a continuum rather than a dichotomy.

JUDGMENTS OF PREFERENCE AND SIMILARITY

Economists and marketers theorize that consumers do not purchase goods for the goods themselves, but for the satisfaction derived from using the goods (Lancaster 1966 and 1971, Haley 1968, Ratchford 1975). Multiattribute models of consumer preferences partition product satisfaction into satisfaction for individual attributes of the product. Both compositional methods (Wilkie and Pessemier 1973) and decompositional methods (Green and Srinivasan 1978) are based on the notion that attribute utilities underlie consumer preferences. Regardless of the method, the validity of the results depends critically on the choice of appropriate attributes.

If attributes that are important to the consumer are not included, then preference predictions may be suspect. For example, when New Coke was developed, the "taste" attribute was the primary focus. However, loyal Coke drinkers responded negatively to the new product because intangible imagery attributes were probably driving their preferences more than the tangible taste attribute. In general there is a growing realization that, in many product classes, where there are few "meaningful" differences between brands and more so-called "parity" products, image and other

intangibles become more important (*Business Week*, 1983).

There have been a wide variety of approaches to model similarity judgments. These methods include multidimensional scaling, factor analysis, discriminant analysis, clustering (Hauser and Koppelman 1979), and a decompositional approach analogous to conjoint analysis typically associated with preferences (Green and DeSarbo 1978). Some of these approaches use judgments about holistic stimuli whereas others require prior identification of specific attributes. For the latter approach, just as with preference judgments, it is important to identify the appropriate attributes.

While attitude theories (Fishbein 1967, Rosenberg 1956) have provided a strong base for understanding preference judgments in applied marketing, there has not been much theoretical work to understand consumer similarity judgments. Recently there have been some empirical studies to examine how consumers perceive and compare products and product classes (Johnson 1984, Johnson and Fornell 1987, Johnson 1988). There is evidence to suggest that consumers engage in hierarchical processing when making comparison type of judgments. Johnson et al explain that consumers start out with concrete attributes and go to more abstract attributes as alternatives become more noncomparable. Using this hierarchical processing framework, we speculate that if subjects are presented with both tangible (concrete) and intangible (abstract) attributes for the same product class, the tangible attributes would receive more attention and thus be more important in similarity comparison tasks than in preference tasks. Alternatively, because preferences are driven primarily by intangible benefits, we speculate that the intangibles would receive more attention and thus be more important in preference tasks than in similarity comparison tasks.

Based on the above discussion of preference and similarity judgments, we hypothesize the following:

- H1a: Intangible attributes will receive relatively more importance weight in preference judgments than in similarity judgments.
- H1b: Tangible attributes will receive relatively more importance weight in similarity judgments than in preference judgments.

These hypotheses were tested in the following experimental setting.

METHOD

43 undergraduate business students at a major university participated in a study dealing with perceptions and preferences for jobs and cars. These product classes were familiar to the subjects and have been used in other studies (Green and Wind 1973; Green, Carroll, and DeSarbo 1981;

TABLE 1
Attributes and Levels

Jobs			
<u>Tangible 1</u> Place	<u>Tangible 2</u> Salary	<u>Intangible 1</u> Opportunity for Advancement	<u>Intangible 2</u> Work Environment
North Carolina	18,000	Below avg.	Friendly
Southeast (excl. NC)	20,000	Above avg.	Competitive

Cars			
<u>Tangible 1</u> Size	<u>Tangible 2</u> Manufacturer	<u>Intangible 1</u> Use	<u>Intangible 2</u> Comfort
Small	American	Conservative	Practical
Midsize	Foreign	Sporty	Luxurious

Montgomery and Wittink 1979). For each product category, a set of four attributes, each at two levels, was developed to form hypothetical full-profile descriptions. Each product was described by two tangible and two intangible attributes. Because the goal of this research was to examine changes in the relative role of tangible and intangible attributes between the two types of judgments, the attributes and levels selected for use in this study were based on limited pretesting. A more comprehensive and formal approach for selecting attributes (Alpert 1971) was not implemented because forecasting choices was not the primary focus of this research. Table 1 shows the attribute levels and Figures 1 and 2 show sample profiles. For both product categories, a full factorial design was used, resulting in sixteen product profiles for each product class.

Each subject completed four rank ordering tasks. These involved similarity and preference judgments for each of the two product classes. To counterbalance any order of task effects, subjects were divided into two groups and the order of the judgment tasks was reversed between the groups. Group 1 subjects (N=22):

1. rank ordered the 16 job profile cards according to their similarity to Figure 1.
2. rank ordered the 16 car profile cards according to their similarity to Figure 2.
3. rank ordered the (identical) 16 job profile cards according to personal preference.
4. rank ordered the (identical) 16 car profile cards according to personal preferences.

Likewise, Group 2 subjects (N=21) alternated between job and car profiles, but the order of similarity and preference judgments was reversed. Group 2 subjects performed tasks 3 and 4 from above and then performed tasks 1 and 2. Thus, Group 2 subjects made preference judgments first and similarity judgments second. The product classes were alternated to provide an intervening task between the similarity and preference judgments for the same product class.

Because different methods of collecting data and estimating attribute importance weights have been found to show low levels of convergence (Jaccard, Brinberg, and Ackerman 1986), this study used the same data collection technique for both similarity and preference tasks. By having subjects perform a rank ordering task for both similarity and preference judgments, differences in the resulting attribute importance weights could then be attributed to differences in the similarity and preference judgments and not be confounded with differences in methods.

Collecting rank orders of product profile cards is a common practice for obtaining preference data. Using conjoint analysis, the importance weights of the attributes and partworth utility functions can be estimated. However, determining the importance weights of the attributes in similarity judgments is not as straightforward. Whereas preferences have meaning for a single item, similarities are only meaningful between pairs of items. For example, a person may have a certain preference value or utility for a 1989 BMW. However, the similarity of the 1989 BMW is meaningful only in relation to another item, say a 1989 Honda. To obtain similarity judgments, comparisons between product profiles were necessary.

FIGURE 1
Job Profile Card

Location:	North Carolina
Opportunity for Advancement:	Below Average
Work Environment:	Competitive
Salary:	\$18,000

FIGURE 2
Car Profile Card

Size:	Midsized
Use	Sporty
Comfort:	Luxurious
Manufacturer:	American

There has been limited research applying conjoint analysis to similarity data. Following the approach of Green and DeSarbo (1978) and Green, Rao, and DeSarbo (1978), data were collected to permit additive decomposition of overall similarity judgments into "part-similarity" functions, which are analogous to part-worth functions (Shocker and Srinivasan 1979). To accomplish this, each of the 16 unique profile cards were compared to one referent profile card. While Green et al asked subjects to compare profiles to imaginary, ideal products, instead we asked subjects to compare profiles to a specified, referent profile (which was the same for each subject). This was done so that similarity judgments would not be confounded by any preference insinuations suggested by the term "ideal" product. In addition, the referent profile for both product classes was identical to one of the 16 profiles to be sorted. Every subject specified the card that perfectly matched the referent as the most similar, indicating that subjects understood and followed the directions.

ANALYSIS AND RESULTS

Attribute Importance Weights

Conjoint analysis was used on both the similarity and preference data for each subject. The monotonic analysis of variance (MONANOVA) procedure was used to estimate attribute importance weights (Kruskal and Carmone 1969). Each subject rank ordered 4 sets of product profiles, so 4 MONANOVA models were computed for each subject, yielding a total of 172 models.

The MONANOVA model for the preference judgments is:

$$p_j = \sum_k f_{pk}(y_{jk})$$

p_j = preference of an individual for object j .

f_{pk} = part-worth of k^{th} attribute.

y_{jk} = level of attribute k for object j .

The MONANOVA model for the similarity judgments is:

TABLE 2
SUMMARY STATISTICS FOR ATTRIBUTE IMPORTANCE WEIGHTS ^a

Attr	Judgment	Jobs		Cars	
		Mean	Std Dev.	Mean	Std. Dev
Tan 1 ^b	Pref	18.2	23.0	19.3	23.8
Tan 1	Sim	25.7	30.0	33.1	23.9
Tan 2 ^c	Pref	23.7	19.7	21.9	28.0
Tan 2	Sim	19.5	19.3	22.0	26.5
Int 1 ^d	Pref	43.3	25.2	36.0	26.0
Int 1	Sim	34.9	25.2	28.8	21.0
Int 2 ^e	Pref	14.8	14.0	22.8	22.6
Int 2	Sim	19.9	16.7	16.1	11.1

- a Rescaled to sum to 100%
- b 1st Tangible Attribute
- c 2nd Tangible Attribute
- d 1st Intangible Attribute
- e 2nd Intangible Attribute

$$s_j = \sum_k f_{sk}(y_{jk})$$

s_j = similarity of object j to referent (according to individual).

f_{sk} = part-similarity of k^{th} attribute.

y_{jk} = level of attribute k for object j (same as above).

The estimation procedure resulted in an average stress of 10.3 % for the similarity data and 7.3 % for the preference data (0% is best fit and 100% is worse fit). Scatterplots of the best monotonic function of the estimated data values verses the original data values also showed that the preference data had a slightly better fit than the similarity data. Since subjects probably are more familiar with making preference than similarity judgments, this seems reasonable.

The output from the MONANOVA analysis was rescaled so that each set of importance weights would sum to 100 per cent. Summary descriptive statistics for the rescaled importance weights are shown in Table 2. Importance weights ranged widely and, overall, there is no indication that any particular attribute was dominant in either similarity or preference judgments. If other attributes and levels had been used, the estimated importance weights would have been different. However, this research is not concerned with the absolute value of importance weights. Instead, this research is concerned with differences in computed importance weights between the two types of judgment tasks. For the purpose of this research, it does not matter in an absolute sense whether tangibles or intangibles are more important, because this will depend on the particular product class and the particular subject. What does matter is whether importance weights change between similarity and preference judgments.

From the standard deviations of the importance weights, it is clear that the importance weights of the similarity judgments have just as much variance around their means as the importance weights of the preference judgments. This supports the notion that just as preference judgments are individual specific, so too are similarity judgments.

Multivariate Analysis of Variance

A repeated measures multivariate analysis of variance (MANOVA) procedure was implemented to test the hypotheses that the type of attribute would explain some of the difference found, within subject, between preference and similarity judgments for the same object. The between subjects factor was "order" as half the subjects made similarity judgments first, while half the subjects made preference judgments first. Within subject factors were "product" and "task". Products were jobs and cars. Tasks were preference and similarity judgments. The design was crossed because each subject made both similarity and preference judgments for both jobs and cars.

Since the hypotheses concern the weight of tangibles relative to the weight of intangibles, the absolute values of the importance weights themselves are not the focus of this study, as those values will vary from individual to individual and product class to product class. Instead, our interest centers on how the weights vary between similarity and preference judgments. Thus, to define the dependent variables, we focus on the total weight given to tangibles versus intangibles across the different judgment tasks for each of the two product classes.

Four dependent measures were computed for each subject. Each dependent variable is defined as the difference between the weights given to tangible attributes minus the weights given to intangible attributes. For example, Y1 is the sum of importance weights for tangibles in preference

TABLE 3
CELL MEANS AND STANDARD DEVIATIONS

Order		<u>Y1</u> ^a	<u>Y2</u> ^b	<u>Y3</u> ^c	<u>Y4</u> ^d
Group 1 ^e	mean	-10.78	-6.80	-18.43	14.61
	s.d.	(53.64)	(58.19)	(68.42)	(48.71)
Group 2 ^f	mean	-21.67	-12.49	-16.64	5.51
	s.d.	(49.75)	(54.91)	(59.44)	(50.78)

a Y1 = sum of tangible wts. less sum of intangible wts. for job preferences

b Y2 = sum of tangible wts. less sum of intangible wts. for job similarities

c Y3 = sum of tangible wts. less sum of intangible wts. for car preferences

d Y4 = sum of tangible wts. less sum of intangible wts. for car similarities

e Group 1 made similarity judgments first and preference judgments second

f Group 2 made preference judgments first and similarity judgments second

judgments minus the sum of importance weights for intangibles in preference judgments for the job product class. Y2 also considers jobs, but deals with the difference between tangibles and intangibles in similarity judgments. Likewise, Y3 considers the preference judgments and Y4 considers the similarity judgments for the car product class.

Since Y1, Y2, Y3, and Y4 are defined as the weights given to tangibles minus the weights given to intangibles, if the value of the variable is negative, more weight was given to intangibles. If the value is positive, more weight was given to tangibles. The means and standard deviations for Y1 through Y4 for each group are summarized in Table 3. Plots of the cell means are presented in Figure 3. Of particular interest are differences between Y1 and Y2, and between Y3 and Y4. The mean values for Y1 and Y3 which involve preferences are lower than the means for Y2 and Y4, respectively, which involve similarities. Thus, it appears that intangibles were given *relatively* more weight in preference judgments compared with similarity judgments. Or, looking at it from the other perspective, it appears that tangibles were given *relatively* more weight in similarity than preference judgments.

To test the significance of these effects, a repeated measure MANOVA was conducted. The results are presented in Table 4. The only significant factor was the "task" effect ($F(1,41) = 6.33, p < 0.016$). Thus, the results support the hypotheses. For both jobs and cars, the intangible attributes received relatively more importance weight in the preference judgments than in the similarity judgments. The tangible attributes received relatively more importance weight in the similarity judgments than in the preference judgments. This effect was significant, regardless of the order of the judgment task. None of the interactions were significant.

DISCUSSION

Although the focus of the study was on the role of attribute type in similarity and preference judgments, the results do corroborate the notion that similarity judgments are not homogeneous across people. While subjects read the same attribute information and compared it to the same referent, there was a wide range of resulting attribute importance weights. So overall, there was just as much heterogeneity in similarity judgments as in preference judgments.

Not only was there a difference between resulting attribute importance weights in similarity and preference judgments across individuals, but also within individuals there was a difference. At the individual level, the resulting attribute weights in the similarity judgments differed from the attribute weights in the preference judgments. The type of attribute was found to be a significant factor contributing to this difference. Intangible attributes received relatively more weight in preference judgments than in similarity judgments, while tangible attributes received relatively more weight in similarity than in preference judgments.

The results presented in this paper are based on an exploratory pilot study using a limited number of subjects and product classes. Further work is planned to extend the analysis by using more subjects and product classes. Another limitation of this study is that attributes were designated as tangible and intangible without verification that the specific subjects performing the tasks agreed with the labeling. A formal manipulation check is planned in future experiments. In addition, we note that since the experiment used a small number of attributes to describe alternatives, the results are not necessarily applicable to real applications involving jobs and cars. However, because the purpose of this study was to understand the relative role of tangibles and intangibles, the number of attributes was limited

FIGURE 3A
Jobs

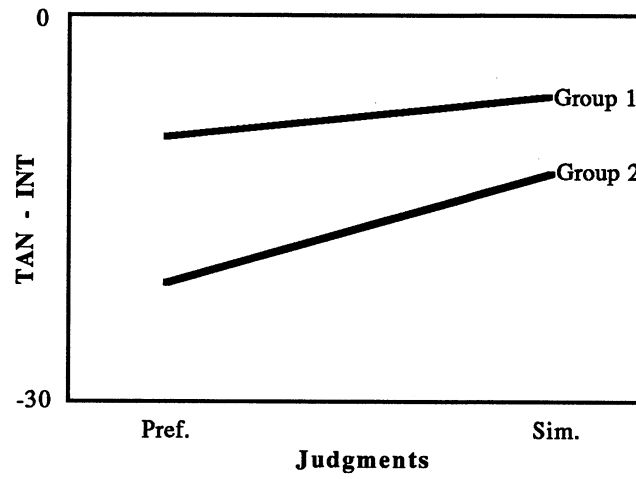


FIGURE 3B
Cars

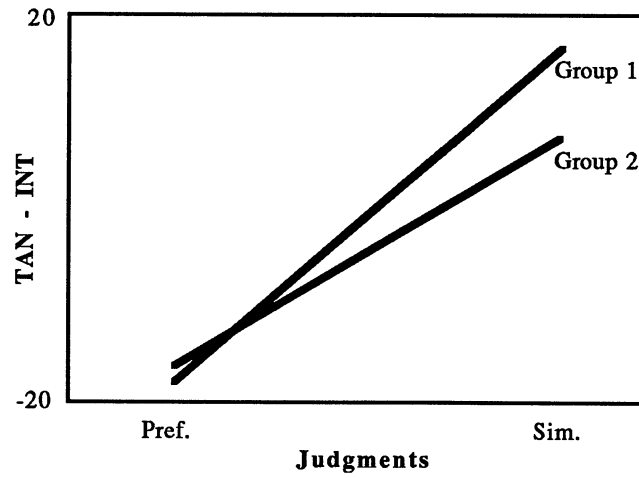


TABLE 4
MANOVA RESULTS

Source	df	Mean Square	F	Prob.
Task	1,41	12,550.8	6.33	0.016
Order	1,41	1,531.9	0.35	0.557
Product	1,41	3,637.0	0.84	0.364
Task*Order	1,41	86.7	0.04	0.836
Product*Order	1,41	230.8	0.05	0.818
Product*Task	1,41	4747.1	2.62	0.113
Product*Task*Order	1,41	696.8	0.38	0.539

to four in order to keep the task fairly simple for the subjects and thus maximize internal validity.

The inclusion of intangible attributes into a conjoint framework is not without critics. In a survey of conjoint users in commercial settings (Cattin and Wittink 1982), some respondents reported that they did not use conjoint analyses when the attributes to define the stimulus objects tended to be "soft." While there are some unitary stimuli such as foods, scents, and aesthetic objects that cannot be easily separated into component parts (Huber 1987), many consumer products can be described in terms of both physical characteristics and intangible benefits and there are conjoint studies that do incorporate both kinds of attributes (i.e. Currim, Weinberg, and Wittink 1981). In fact, the results of the most recent survey of conjoint users (Wittink and Cattin 1989) shows there to be an increase in conjoint applications involving services, and intangibles are particularly important in services.

In many marketing applications, data from similarity and preference tasks are used interchangeably. However, the results from this study suggest that, depending on the judgment task, different kinds of information are more or less important. Since the kind of information presented to consumers is a controllable marketing variable, there are interesting methodological and managerial implications. For instance, the tangible-intangible attribute framework could explain the low convergent validity of different approaches for estimating attribute important weights (Jaccard, Brinberg, and Ackerman 1986). The tangible-intangible attribute framework could also explain the low predictive validity of some new product forecasting applications (Alter 1987). Particularly for managers formulating positioning strategies to alter how consumers perceive and evaluate their products relative to the competition, it is important to distinguish between tangible and intangible attributes. "Me too" products that copy only the tangible attributes of a brand leader's product may ultimately fail to get market share if consumer preferences are primarily driven by the intangible attributes.

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Involvement and Perceived Brand Similarities/Differences: The Need for Process Oriented Models

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The construct of consumer involvement has received a substantial amount of attention by consumer researchers in the past few years. Now, this research appears to be at a crucial point in its development. The current paper discusses the factors that have brought involvement research to this point. It further discusses how the results presented by Brisoux and Cheron (1990) could potentially provide direction in this area so as to keep it from becoming just another passing fad in consumer research. From here, the focus is turned to the area of perceived brand similarities. It is argued that this area will eventually become an important topic within consumer research. It is proposed that the results presented by Lefkoff-Hagius and Mason (1990) have the potential for providing direction to this area in a way that will avoid many of the pitfalls seen in involvement research.

INVOLVEMENT: ARE YOU GETTING OLDER OR BETTER?

Less than ten years ago, involvement was potentially the most researched topic in consumer behavior. The yearly attitude research conference focussed exclusively on involvement. There was a highly influential workshop on involvement at NYU. Every ACR conference had numerous papers on the topic and the major journals were publishing several papers per year which discussed involvement. If consumer research had "in" topics, consumer involvement was "in." If my perceptions are correct, just as fast as involvement came "in," so is it going "out." Journal editors are not as interested in involvement papers. We don't see as many papers at ACR discussing involvement. I sincerely doubt if one would get much support for having a workshop on consumer involvement.

When involvement first started out, a number of people were asking the question "what is it?" After a tremendous amount of work was done defining involvement (see for example, Antil 1984; Muncy and Hunt 1984; Stone 1984), Rothschild (1984) called for people to quit trying to define it:

We don't need more [definitions] at this time. Let's call a ten year moratorium on definitions of involvement; let's go collect data on interesting aspects of involvement and then, in ten years, see if we can (or need to) devise a better definition. (p. 217)

I did not agree with Rothschild's assessment at the time (probably because his comments came in a critical response to one of my papers defining involvement). In retrospect, however, Rothschild was accurately voicing the opinions of the majority of those working in this area: it was time for the definition stage to end and the measurement stage to begin.

And so the measures came. Numerous researchers worked diligently on measuring involvement. This resulted in several good involvement scales (see, for example, Laurent and Kapferer 1985; Slama and Tashchian 1985; and Zaichkowsky 1985). However, there are those who feel that involvement research is now at a place where better measures are not needed. For example, in the current volume, Zaichkowsky (1990) makes the following plea:

I hope the researchers continue to do work in this area, but I implore them to move on from measuring involvement to discovering relationships between consumer behavior and levels of involvement.

Perhaps Zaichkowsky is voicing the opinion of those currently working in this area: it is time for the measurement stage to end and the theory building stage to begin.

This is a crucial time for involvement research. Can we move "from measuring involvement to discovering relationships between consumer behavior and levels of involvement"? I am not sure. I do know that unless such a move is made, this area that has been studied so hard by so many talented people is destined to die a premature death. It is my perception that reviewers and editors are already writing involvement's eulogy.

Such a death is not inevitable. One need only look to the social psychology/communication literature to see that frameworks that are based in large part on involvement have maintained long and sustained interest. Social Judgement Theory (Sherif and Hovland 1961; Sherif, Sherif, and Nebergall 1965; Sherif and Cantril 1947; Sherif and Sherif 1967) was a viable stream of research for years and is still discussed today. The Elaboration Likelihood Model (Cacioppo, Petty, Kao, Rodriguez 1986; Petty and Cacioppo 1981, 1984) seems to be stronger today than it was when it was new. Thus, there is no reason why involvement-based research streams in our discipline need to end before they make substantial contributions to our understanding of the behavior of consumers. We should borrow insights from research in social psychology and communication to see how involvement research can be sustained.

What is the difference between involvement theories that have sustained interest over a long period of time (such as those in social psychology) and involvement theories in consumer research that seem to be dying on the vine? I would argue that the models in consumer behavior are *quantity oriented* whereas the models in social psychology are *process oriented*. Let me explain the difference.

In consumer research, a typical hypothesis regarding involvement has been "as the level of involvement increases, the quantity of information

search increases." Since this is simply a hypothesis about the relationship between the quantity of involvement and the quantity of information search, I would call it "quantity oriented." An example of such a quantity oriented hypothesis in social psychology and communication would be "as communication involvement increases, attention to the communication increases." The problem with these quantity oriented hypotheses is that they really are not that interesting--I would be very surprised if higher levels of involvement were not associated with higher levels of information search, attention, etc.

In contrast, the process oriented models in social psychology and communication focus on fundamentally different modes of processing based on the level of involvement. For example, the Elaboration Likelihood Model discusses two fundamentally different "routes to persuasion" based on the receiver's motivation to process the communication. Further, it shows differences in the resulting persuasion based on involvement (e.g., central route processing results in more enduring persuasion). One could see the same type of process modeling in Social Judgement Theory. Note that this type of process oriented modeling is inherently more interesting than simply postulating quantity differences based on the level of involvement.

Thus, what might keep involvement theory from dying a premature death in consumer behavior is the development of some truly interesting process oriented models. What we need is a theory that will show not just that people process more or less depending on the level of involvement, but that they process differently. This brings me to my discussion of Brisoux and Cheron (1990). As I see it, they have provided a potential starting point for a truly interesting theory of consumer involvement. I strongly disagree with their statement that "the main contributions of this paper lie in conceptual definitions and methodological procedures." Let me explain what I see as the main contribution of their paper.

Figure 1 integrates the conceptual framework of their research with their empirical findings. As indicated on this figure, some of their hypotheses are explicitly stated where as some are simply implied. Also, some of their findings imply other findings. What their model does is trace the process by which a consumer narrows down the number of brands from the whole product category all the way down to the single preferred brand. Their research shows how this varies based on level of involvement.

They found, as one might expect, that consumers who are more involved in a product category are aware of more brands than consumers who are less involved. Intuitively, this is what one would expect. Since the more involved consumers do not have fewer "foggy brands" (i.e., unprocessed brands), and since all aware brands are either foggy brands or processed brands, then these involved consumers must have more processed brands. Thus, consumers who are more involved appear to process more brands. This too is what one would expect intuitively. Thus, the

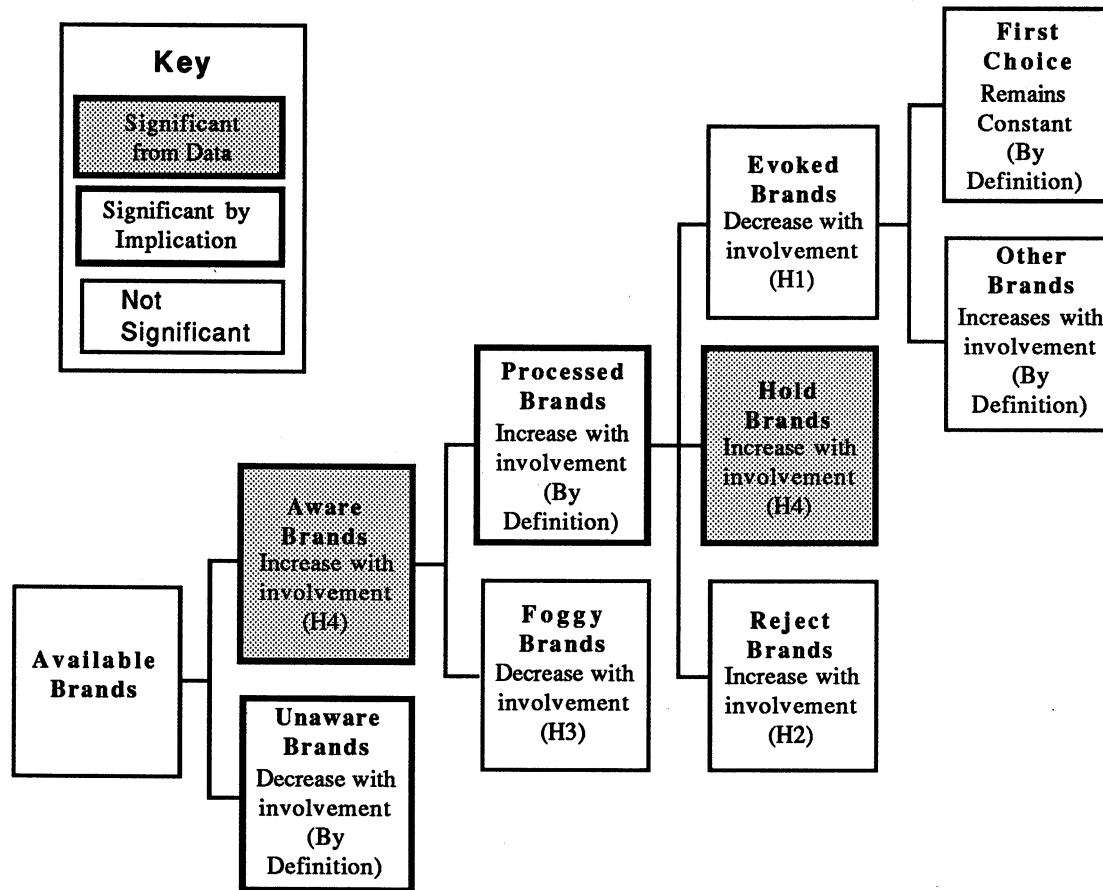
first contribution of this research is that it confirms what one would expect--that consumers who are more involved are both aware of more brands and process information about more brands. Up to this point, their findings are not particularly interesting (or even unique to their research). They are simply quantity oriented.

It is the next part of their research that provides the potential for developing a truly interesting theory of purchasing involvement. Any given brand that the consumer knows about could end up in his or her evoked set (i.e., it could become a brand that he or she considers acceptable for purchase), hold set (i.e, he or she would not have an opinion as to whether it should be accepted or rejected), or reject set (i.e, he or she would consider it unacceptable for consideration). The truly interesting question raised (and tentatively answered) by this research is: *Do highly involved consumers process their known brands differently than do low involvement consumers and if so, what are the differences?*

Here we do not have an intuitively superior expectation. If we were to simply apply Social Judgement Theory without modification to answer this question, we would expect that higher levels of involvement would cause the evoked set (analogous to latitudes of acceptance) to decrease, the hold set (analogous to latitudes of neutrality) to remain constant, and the reject set (analogous to latitudes of rejection) to increase. However, Jarvis (1972) could only find weak support for applying social judgement theory in this manner.

What Brisoux and Cheron found was that, with increased involvement, *the sizes of both the evoked set and the reject set remained relatively constant while the size of the hold set dramatically increased.* The more involved consumer is processing more brands; however, this increase in processing does not result in more acceptable brands or unacceptable brands but in more hold brands (note that this increases the probability that any *processed* brand will end up in the hold set). This raises numerous questions. Perhaps the more involved consumer sees the product category as being more complex and thus sees the process of categorizing any given brand as acceptable or unacceptable as being more difficult. Perhaps he or she does not process as much information about any given brand and thus, though he or she is processing more brands, he or she is not processing them as deep. Or perhaps the more involved consumer faces information overload and thus cannot carry out the processing needed to make brands acceptable or unacceptable. If this is so, the limitations of our processing capabilities may cause the involved consumer to be no better informed than the uninvolved consumer. Note that this is all *highly speculative*. However, it does indicate some of the interesting questions that can be addressed when the area moves away from models of quantity to models of process. I believe strongly that research like that presented Brisoux and Cheron holds tremendous promise for developing such process oriented models.

FIGURE 1
A Model of the Empirical Findings of Brisoux and Cheron (1990)



SIMILARITIES: WHAT DO YOU WANT TO BE WHEN YOU GROW UP?

This brings me to a discussion of perceived brand similarities. I believe that research on *product class* perceived similarities (or differences) is a topic that will inevitably receive the amount of attention that involvement has recently received. Let me explain why.

A few years ago, I did a study on cognitive brand loyalty. For some reason, I included a measure of perceived brand similarities across the product category. I found that, of the seven predictors that I included in my study, perceived brand similarities explained the greatest amount of variance in brand loyalty (even more than involvement). Not long after that, I did another study on information search. I included many of the same variables that I did in my brand loyalty study. To my surprise, I also found that perceived brand similarities explained the greatest amount of variance in information search (again, even more than involvement).

These findings were initially surprising to me. However, after a significant amount of reflection, it became clear to me that perceived brand similarities or

differences *across the product category* should be one of the most important variables for differentiating decision making styles. Consumers who see all the alternatives within a product category as being similar have little reason to be strongly committed to one brand over another. It is only when the consumer perceives that real and significant differences exist between the offerings in a product category that he or she has motivation to be loyal to one particular brand. In a similar way, if a consumer sees all the alternatives in a product category as being the same, why would he or she engage in significant information search? It is only when the consumer perceives that differences actually do exist that he or she is motivated to find out information about what these differences are.

Thus, there appears to be real differences in decision making styles between those instances where the alternatives are seen as being very similar and those instances where the alternatives are seen as being very different. In fact, based on the two studies mentioned above, I believe that perceived brand similarities and differences may eventually have a greater influence on consumer behavior thought than involvement.

If this area develops (as I believe it will), how can researchers avoid the disappointments that have arisen in the area of involvement. We should avoid over-defining the concept. This should not be a problem because it is not as difficult to define as involvement. We should also not spend too much time developing measures of it. This may be difficult because I believe that measuring differences across a product category will be inherently more difficult than measuring involvement. Most importantly, we should not spend too much time on models that are quantity oriented and should instead try to move towards models that are process oriented. Though it might be moderately interesting to discover that people's perceptions of the degree of similarities across a product category affect their level of brand loyalty or degree of information search, it would be more interesting to find that people have different processing styles based on the extent to which they see differences across the product category. It might also be interesting to discover differences in the way that people process similarity judgements from the way they process preference judgements.

This brings me to my discussion of the research presented by Lefkoff-Hagius and Mason (1990). Their paper focuses on the way that consumers develop similarity judgements versus the way they develop preference judgements. They found that there are differences, at least in the extent to which tangible versus intangible attributes are used in forming such judgements. Their research indicates that tangible attributes are relatively more important when making similarity judgements whereas intangible attributes are relatively more important when making preference judgements.

If consumers do use different types of attributes when making similarity judgements than when making preference judgements, then perhaps the evaluation process for similarity judgements is different from the evaluation process for preference judgements. This in turn may indicate differences in decision making strategies as the consumer progresses through the decision making process. For example, when consumers are deciding whether or not to engage in additional information search, they may simply try to discern whether or not the alternatives are similar. According to the research presented by Lefkoff-Hagius and Mason, this may involve looking at more tangible attributes. However, upon deciding that additional information is needed, they may begin looking at more intangible attributes.

Thus, this research by Lefkoff-Hagius and Mason indicates that there is at least promise in developing process oriented models which differ between consumers who perceive large differences and those who perceive small differences across a product category. The sooner this area moves through the definition, measurement, and quantity phases to get to the process oriented modeling stage, the sooner it will make a real contribution to our understanding of consumer behavior.

CONCLUSION

I admit that I have taken two relatively small research findings and have made grandiose speculations. The purpose here has not been to propose any viable framework for research in involvement or perceived similarities/differences. My purpose has been to discuss what I believe such frameworks should focus on and to show that the evidence presented by Brisoux and Cheron (1990) and Lefkoff-Hagius and Mason (1990) shows that it may be fruitful to pursue such frameworks. It is my overriding hope that the current paper will encourage consumer researchers to rethink research like that presented by Brisoux and Cheron (1990) and Lefkoff-Hagius and Mason (1990) in order to develop more interesting models of consumer decision making--ones that differentiate the processing underlying such decision making.

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The Information Processing of Televised Political Advertising: Using Theory to Maximize Recall

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The point of political advertising is to get a candidate elected. In order to do so, a political advertiser must convey to the public the candidate's name, his or her stands on the issues, and a sense of liking or trust in the candidate. The advertisers who can do this can "sell" their candidates.

In some ways micro-level academic research on how television is processed by viewers seems somewhat removed from this endeavour. This paper is intended to demonstrate that specific suggestions regarding the structural aspects of television arise from that research and that these suggestions may be used to bring about significant changes in a commercial's effectiveness with only very small changes in the commercial. One might, for example, be able to create a commercial which improves viewers' memory for the candidate's name without interfering at all in the creative aspect of advertising. Further, the changes illustrated here can be done even in a fairly low budget production. It is argued that the marriage of television processing research with the real world of political advertising might be a good one.

Five variables will be considered in this paper. First, the effects on memory of visual structural complexity will be considered. (By visual structural complexity we mean the number of cuts, edits, zooms, dollies, pans, and general visual busyness that makes up an ad.) Second, the effects of visual and verbal redundancy will be considered. Third, we will look at how message difficulty affects the viewer's memory for an ad. Fourth, the order in which information is presented in a message will be considered. Last, effects of the emotional content of the commercials will be discussed.

Let's consider the political commercial shown in Figure 1. This is an ad for a fictitious politician, Charlie McGuire, who is running for Lieutenant Governor of Washington State. Charlie is relatively unknown in the state and is running for an office that does not have high salience for viewers. It is in this type of situation, when budgets are small, name recognition is low, and there is not a lot of information available about the race, that the improvement in memory resulting from the variables under discussion might make the most difference. How can we use theory to jazz up this basic ad and maximize recall for the candidate's name, what office he's running for, and his stand on the issues?

STRUCTURAL COMPLEXITY

Personal experience watching commercials suggests that visual complexity makes an ad more interesting. The question for researchers has been whether that makes the ad easier to remember or more difficult to remember. There is good evidence at this point to support the idea that visual features like cuts, edits, onsets, and movement increase

attention, in the attentive viewer, to a television advertisement by eliciting a reflexive attentive response called the orienting response (Lang, 1988; Reeves, et al., 1985). There is also evidence that audio structural features, like changes in voice, sudden silence, music, and loud noises, recall the attention of the inattentive viewer (Anderson and Levin, 1976; Thorson and Zhao, 1989). Thus, to some extent television can make you look by putting these elements of visual and audio structural complexity in the commercial.

On the other hand, there is also evidence to suggest that too much of a good thing can be bad (Berry, 1983; Gunter, 1987; Thorson and Lang, 1988; Lang and Thorson, 1989; Lang, in press). It seems that if there is too much complexity, you look but you can't think which results in high levels of attention (which is good) but low levels of memory for the contents of the ad (which is bad).

Where is the middle course and how do we get there? The research suggests, for example, that commercial onsets and scene changes within commercials elicit vigorous orienting behavior in viewers (Lang, 1988), but that information presented concurrently or during the first two seconds following scene changes and commercial onsets is remembered much more poorly than information presented more than two seconds after them (Lang, in press; Thorson and Lang, 1988). This suggests that when producing a commercial it would be wise to choose the two or three points you particularly want viewers to remember (like the candidate's name) and maximize attention to each point with a structural feature such as a scene change, loud noise, or sudden movement at least two seconds before it occurs.

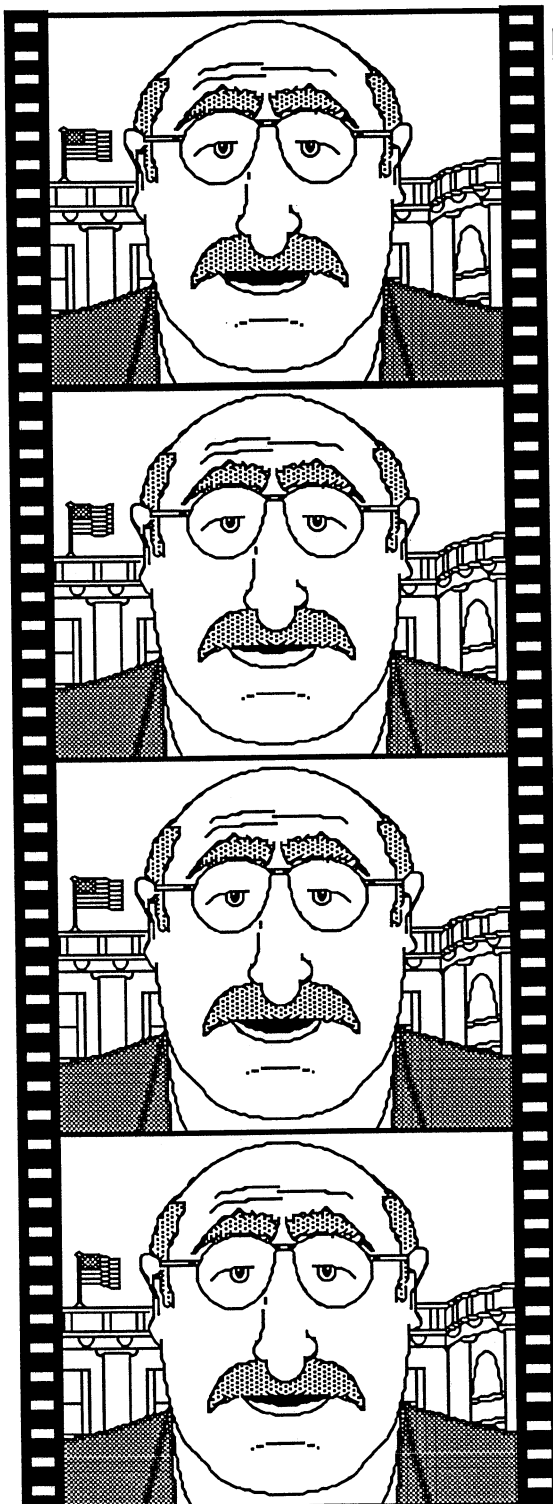
In addition, there is preliminary evidence to suggest that if the structural feature used to attract the viewer's attention is visual it interferes more with information presented visually than it does with information presented verbally (Lang, in press). (Whether audio structural features interfere more with audio messages on television is not yet known, but it seems likely.) Thus, you might want to maximize memory by presenting the information verbally following a visual structural feature or visually following an audio structural feature.

In Figure 2 visual structural features are used to draw attention to Charlie McGuire's name and his stand on environmental issues. The formal feature being used here is a cut coupled with a pause in the audio track. So we have a visual cut to a new scene and a sudden silence in the audio. These should serve to increase attention in viewers who are already watching and recall the attention of those who are not looking. In addition to recalling attention, the pause in the audio track also allows the viewer time to process the new visual scene,

FIGURE 1

Client: Charles (Charlie) McGuire
Title: Original Commercial

Commercial #1.
Timing: 30 Sec.



Scenes:

1. CLOSE-UP OF CHARLIE MCGUIRE IN FRONT OF CAPITOL BUILDING.

CHARLIE: Hello, I'm concerned about our Washington State and the entire Northwest.

2. CLOSE-UP CONTINUATION.

CHARLIE: As a Washington state resident for fifty-five years, I've watched first hand the devastation that pollution has wreaked upon our great state. In the past year we've all witnessed fish kills in our streams that accounted for a ten percent net decrease in migratory salmon, and oil spills that dumped 1,500 cubic barrels off the Olympic Peninsula and in the Puget Sound.

3. CLOSE-UP CONTINUATION.

CHARLIE: As Lieutenant Governor, I'll transform this traditionally ceremonial post into a vehicle to lead Washington and the nation in fighting for a safer and cleaner planet.

4. CLOSE-UP CONTINUATION.

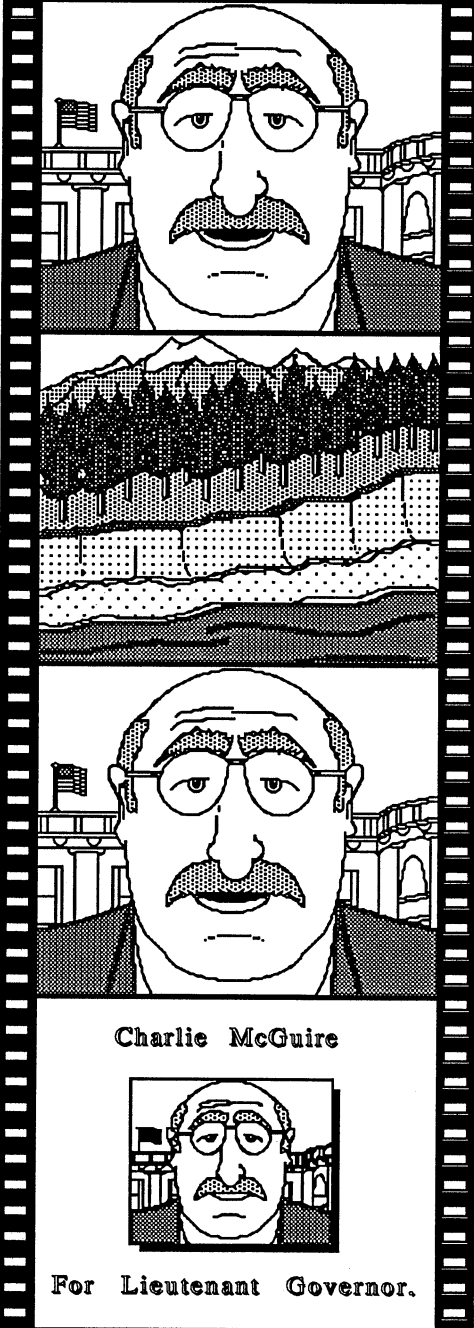
CHARLIE: So please, Vote for me, Charlie McGuire, your next Lieutenant Governor

FIGURE 2

Client: Charles (Charlie) McGuire
Title: Orienting Response Improvement

Commercial #2.
Timing: 30 Sec.

Scenes:



1. CLOSE-UP OF CHARLIE MCGUIRE IN FRONT OF CAPITOL BUILDING.

CHARLIE: Hello, I'm concerned about our Washington State and the entire Northwest. As a Washington state resident for fifty-five years, I've watched first-hand the devastation that pollution has wreaked upon our great state.

2. CUT TO LONG SHOT OF THE OLYMPIC PENINSULA MOUNTAINS FROM PUGET SOUND. (2 SECOND PAUSE)

CHARLIE (VOICE OVER): In the past year we've all witnessed fish kills in our streams that accounted for a ten percent decrease in migratory salmon, and oil spills that dumped 1,500 cubic barrels off the Olympic Peninsula and in the Puget Sound.

3. CUT BACK TO CLOSE-UP OF CHARLIE. (2 SECOND PAUSE)


CHARLIE: As Lieutenant Governor, I'll transform this traditionally ceremonial post into a vehicle to lead Washington and the nation in fighting for a safer and cleaner planet.

4. CUT TO FULL SCREEN SUPER. (3 SECOND PAUSE)

ANNOUNCER (DIFFERENT VOICE): Vote Charlie McGuire for Lieutenant Governor.

SUPER FULL SCREEN: CHARLIE MCGUIRE FOR LIEUTENANT GOVERNOR.

Charlie McGuire



For Lieutenant Governor.

which should lessen any interference of the orienting response with memory for the audio and video information.

AUDIO AND VISUAL REDUNDANCY

Another aspect of the structure of television messages that seems to increase recall and recognition arises when the audio and the video are well matched (Gunter, 1987; Reese, 1984). Reese has shown, for example, that memory for broadcast news is much better when the audio and video tracks carry redundant information. When they are poorly matched, memory is much worse. Figure 2 demonstrates two attempts to take advantage of this effect. In scene two a cut to a visual of the Olympic Peninsula from the Puget Sound is made when Charlie is talking about pollution on the Peninsula and in the Sound. Second, in scene four, Charlie's name and the office he is running for, arguably the two most important pieces of information in the commercial, are carried in both the visual and audio tracks of the commercial.

MESSAGE DIFFICULTY

The next aspect of a commercial to consider is how tough the message is. Are you trying to get across a dense message or a fairly simple one? Thorson and Lang (1988; Lang and Thorson, 1989), among others, have suggested that the difficulty of a televised message alters the effectiveness of the visual structural feature. They showed that when the message being presented orally was difficult or unfamiliar (which is often the case with political advertising) that visual structural features interfered with memory for the oral message both at the time that they occurred and for at least the next seven seconds. On the other hand, when the oral message was simple, visual structural features improved memory for the oral message.

This research suggests that you use appropriately placed visual structural features to improve memory for simple or expected aspects of the message, like the candidate's name, but refrain from using structural complexity during portions of the message that are more difficult, like position statements. Further, it suggests that simple messages are more easily processed than complex messages, and therefore more likely to be completely stored. Thus a balance must be struck between too simple, and therefore boring (after all it is a commercial), and too complex (i.e. attention grabbing but hard to remember). One way to strike this balance is to make sure that only one aspect of the message, either the audio or the video track, is difficult at any one time.

Figure 3 shows how this has been incorporated into Charlie McGuire's ad. In scenes one and two the verbal message has been simplified in two ways. In scene one, more familiar words have been used - "caused" instead of "wreaked" - and in scene two, the position statement has been simplified by taking out the numbers and

percentages and leaving only the descriptive statement.

These changes mean that at the start of the commercial, and just after the cut to a new visual scene (the Olympic Peninsula), which in this commercial is about as difficult as the visuals get, the audio is easier to process. When we return to Charlie's face in scene three, a familiar sight at this point, the audio track is slightly more abstract and difficult.

ORDER OF PRESENTATION OF INFORMATION

As the previous section points out, we must resist the temptation to focus only on the visual aspect of how information is presented. It is also important to consider how information is presented orally. It is the audio/visual nature of television which makes it such a compelling medium. But it is also this audio/visual nature that seems to make the process of gaining information from television a challenging cognitive task, despite its phenomenological ease. Research in both print and television suggests that information presented with a narrative structure (whether referred to as a script, story, or schema) tends to be remembered better than information presented without a narrative structure.

Of course in political advertising we may not want to tell a story all the time. But time is a great organizer, particularly during the type of episodic processing that seems to be associated with watching television (Thorson and Friestad, 1989; Ortony, 1978; Lang, in press b). Some research suggests (Lang, 1989) that to the extent simple chronological order can be maintained when presenting information on television, memory will improve. To some extent, this suggests that to the extent information is presented in your commercial in the order in which it logically occurred it will be better remembered.

Figure 4 shows how Charlie's ad has been reordered slightly to capture the chronological order associated with "meeting a politician." The new order follows the general script, "Hi, my name is ... I'm running for ... I think that ... Vote for me."

EMOTION

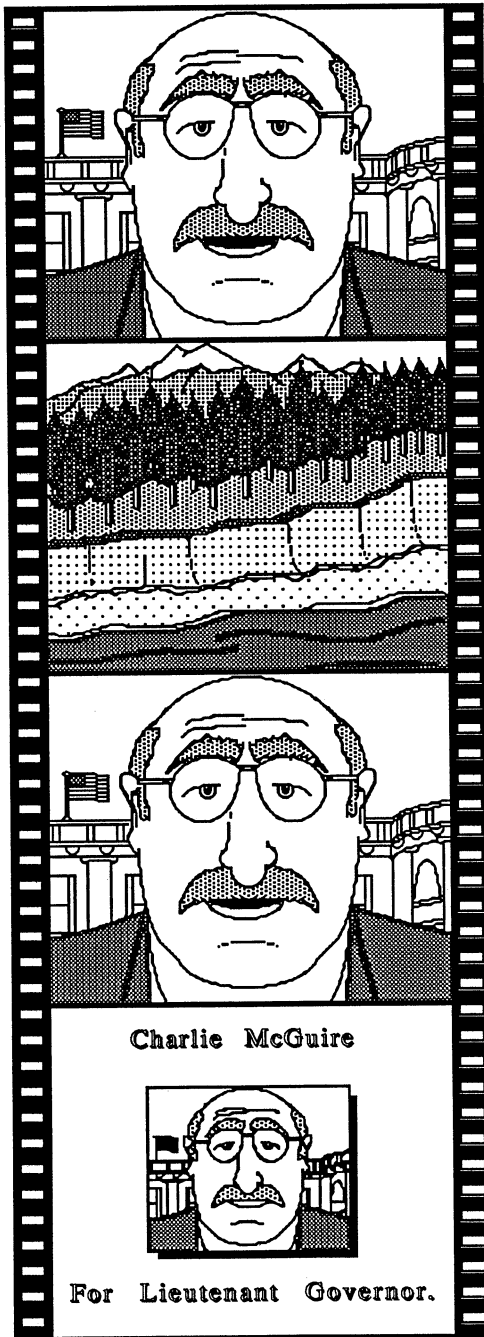
Having left the most interesting and complex issue until last, let's consider how emotion affects the processing of television commercials. This is a question of considerable interest and debate, especially in the context of the most recent presidential election. Does emotion help memory for commercials? Does it matter if the emotion is positive or negative? Does it affect memory for different types of information in different ways?

First, it seems fairly clear that overall memory for product commercials (Friestad and Thorson, 1985; Lang and Friestad, 1987), public service announcements (Lang, 1989; Reeves et al., 1989), and political commercials (Lang, in press; Shapiro and Rieger, 1989;) can be improved by the presence of emotion. Further, several of these

FIGURE 3

Client: Charles (Charlie) McGuire
Title: Message Difficulty Improvement

Commercial #3.
Timing: 30 Sec.



Scenes:

1. CLOSE-UP OF CHARLIE MCGUIRE IN FRONT OF CAPITOL BUILDING.

CHARLIE: Hello, I'm concerned about our Washington State and the entire Northwest. As a Washington state resident for fifty-five years, I've watched first-hand the devastation caused by pollution in our great state.

2. CUT TO LONG SHOT OF THE OLYMPIC PENINSULA MOUNTAINS FROM PUGET SOUND. (2 SECOND PAUSE)

CHARLIE (VOICE OVER): In the past year we've all witnessed fish kills in our streams and oil spills off the Olympic Peninsula and in the Puget Sound.

3. CUT BACK TO CLOSE-UP OF CHARLIE. (2 SECOND PAUSE)

CHARLIE: As Lieutenant Governor, I'll transform this traditionally ceremonial post into a vehicle to lead Washington and the nation in fighting for a safer and cleaner planet.

4. CUT TO FULL SCREEN SUPER. (3 SECOND PAUSE)

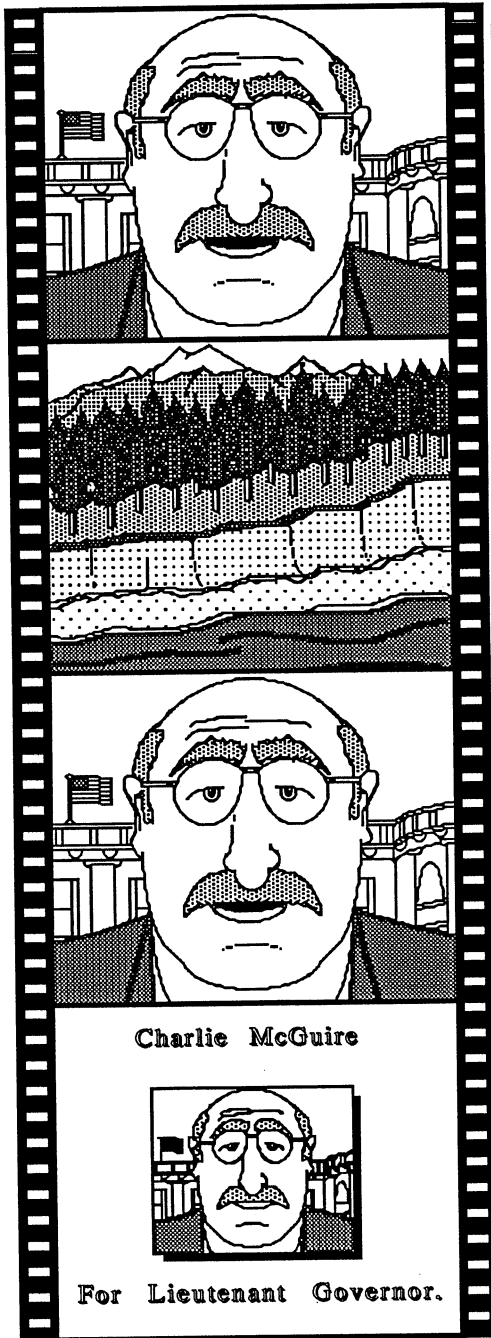
ANNOUNCER (DIFFERENT VOICE): Vote Charlie McGuire for Lieutenant Governor.

SUPER FULL SCREEN: CHARLIE MCGUIRE FOR LIEUTENANT GOVERNOR.

FIGURE 4

Client: Charles (Charlie) McGuire
Title: Narrative Improvement

Commercial #4.
Timing: 30 Sec.



Scenes:

1. CLOSE-UP OF CHARLIE MCGUIRE IN FRONT OF CAPITOL BUILDING.

CHARLIE: Hello, I'm Charlie McGuire and I'd like to be your next Lieutenant Governor because I'm concerned about Washington state and the entire Northwest. As a Washington state resident for fifty-five years, I've watched first-hand the devastation caused by pollution in our great state.

2. CUT TO LONG SHOT OF THE OLYMPIC PENINSULA MOUNTAINS FROM PUGET SOUND. (2 SECOND PAUSE)

CHARLIE (VOICE OVER): In the past year we've all witnessed fish kills in our streams and oil spills off the Olympic Peninsula and in the Puget Sound.

3. CUT BACK TO CLOSE-UP OF CHARLIE. (2 SECOND PAUSE)

CHARLIE: As Lieutenant Governor, I'll transform this traditionally ceremonial post into a vehicle to lead Washington and the nation in fighting for a safer and cleaner planet.

4. CUT TO FULL SCREEN SUPER. (3 SECOND PAUSE)

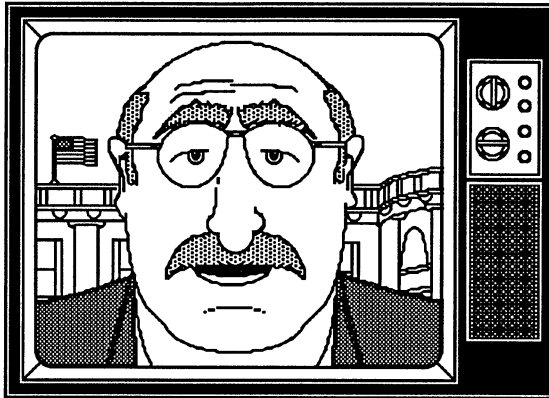
ANNOUNCER (DIFFERENT VOICE): Vote Charlie McGuire for Lieutenant Governor.

SUPER FULL SCREEN: CHARLIE MCGUIRE FOR LIEUTENANT GOVERNOR.

FIGURE 5

Client: Charles (Charlie) McGuire
Title: Negative Emotion to Maximize Recall.

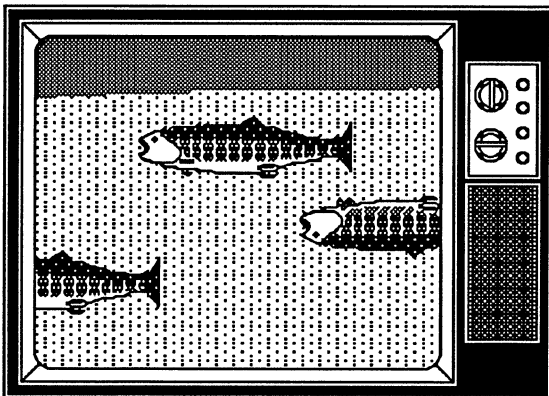
Commercial #5.
Timing: 30 Sec.



Scenes:

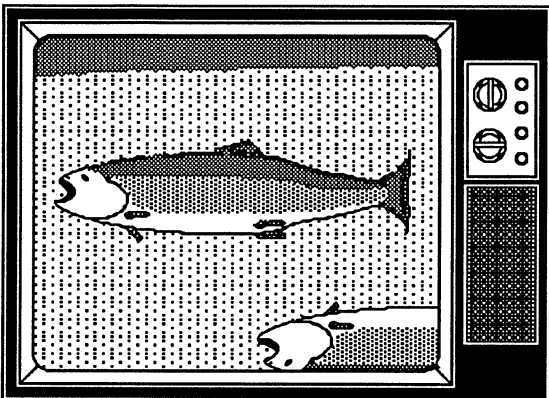
1. CLOSE-UP OF CHARLIE MCGUIRE IN FRONT OF CAPITOL BUILDING.

CHARLIE: Hello, I'm Charlie McGuire and I'd like to be your next Lieutenant Governor because I'm concerned about Washington state and the entire Northwest. As a Washington state resident for fifty-five years, I've watched first-hand the devastation caused by pollution in our great state.



2. CUT TO MEDIUM SHOT. DOLLY IN ON DEAD SALMON LAYING ON STREAM BANK.

SFX: SILENT FRAME.



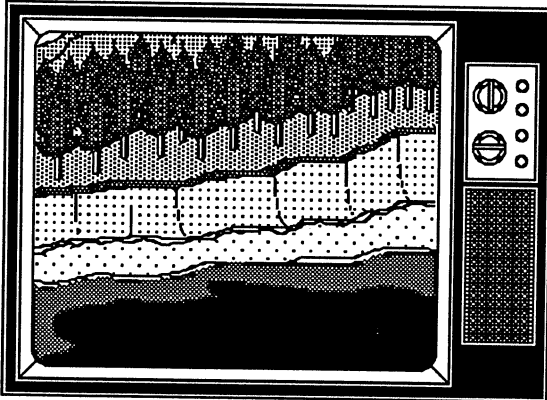
3. FINISH DOLLY TO CLOSE-UP OF DEAD SALMON. (2 SECOND PAUSE)

CHARLIE (VOICE OVER): In the past year we've all witnessed fish kills in our streams.

FIGURE 5 (CONT.)

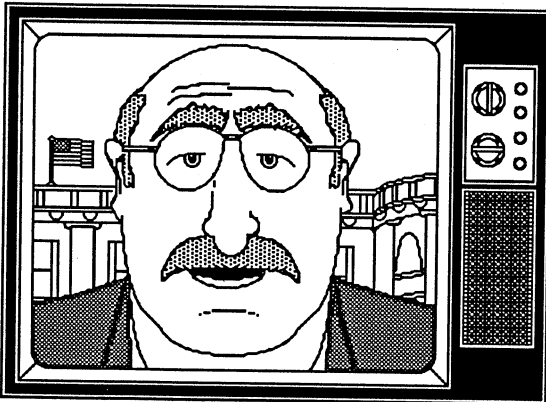
Client: Charles (Charlie) McGuire
Title: Negative Emotion to Maximize Recall.

Commercial #5.
Timing: 30 Sec.



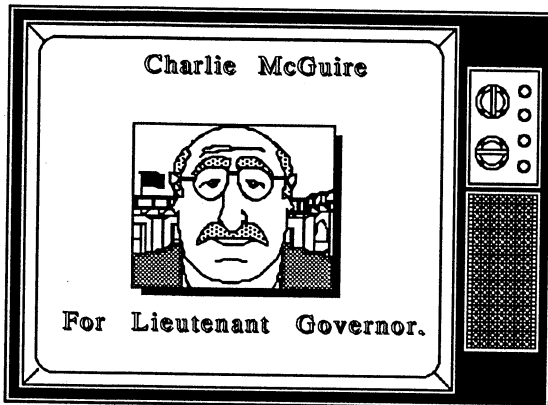
4. CUT TO LONG SHOT OF PUGET SOUND OIL SPILL. (2 SECOND PAUSE)

CHARLIE: And oil spills off the Olympic Peninsula and in the Puget Sound.



5. CUT BACK TO CLOSE-UP OF CHARLIE. (2 SECOND PAUSE)

CHARLIE: As Lieutenant Governor, I'll transform this traditionally ceremonial post into a vehicle to lead Washington and the nation in fighting for a safer and cleaner planet.



6. CUT TO FULL SCREEN SUPER. (3 SECOND PAUSE)

ANNOUNCER (VOICE OVER): Vote Charlie McGuire for Lieutenant Governor.

SUPER FULL SCREEN: CHARLIE MCGUIRE FOR LIEUTENANT GOVERNOR.

studies (Friestad and Thorson, 1985; Lang and Friestad, 1987; Shapiro and Rieger, 1989; Reeves et al, 1989; Thorson, 1988) suggest that negative commercials are remembered better than positive commercials. In some of these studies (Shapiro, 1989), the negative commercials were attack commercials; in others (Friestad and Thorson, 1985; Lang and Friestad, 1987) the commercials elicited sad or unpleasant feelings in viewers. But, in general, all of these studies and streams of research suggest that both negative and positive emotional commercials seem to be recalled better than neutral commercials.

This research suggests, as does practical experience judging from recent political advertising, which seems to be predominantly emotional, that a judicious use of emotion in a commercial can improve memory for the commercial. But exactly what part of the commercial does it improve memory for?

This is a more difficult, but perhaps more interesting, question to answer. Some of the recent research has attempted to distinguish between visual and verbal memory for commercials (Lang, in press; Lang, 1989; Lang and Friestad, 1987). This research might be of particular interest to the political advertiser who is trying to get across primarily "verbal" information, i.e., the candidate's name and his stand on an issue. Lang (in press; Lang, 1989; Lang and Friestad, 1987) has shown consistent evidence that negative emotion in commercials improves memory for the visual aspects of the messages. Thus, a commercial that is emotionally negative and has a strong visual image, like the famous revolving door ad from the Bush campaign, may be especially memorable.

In addition, some research suggests (Lang, 1987; Lang, 1988) that the emotional content of a commercial increases attention to the commercial and thereby increases memory for the commercial. Lang has reported preliminary evidence that the visual structural features in emotional commercials elicit more vigorous orienting responses than those in nonemotional commercials.

This research suggests, then, that when producing a commercial you should use emotion, as it is likely to increase both attention and memory. Further, if you use negative emotion you may want to present your main message visually. If you are using positive emotions your message can be presented either visually or verbally.

In Figure 5 negative emotion has been added to the commercial by using a strong visual image to underline Charlie's stand on environmental issues. The image of dead fish introduced in scene two carries the negative emotions associated with a fish kill (particularly salmon) in the Pacific Northwest and is a good match with the audio content. Thus visual and verbal redundancy are increased along with the introduction of emotion.

In addition, to increase attention at this point (to maximize the likelihood that the emotion will be engendered in the viewer), both an audio and a visual

structural feature are included. Visually, we have a cut to the dead fish followed by a dolly (not a zoom) forward towards the fish. Evidence suggests that putting the camera on a dolly and pushing forward, instead of zooming, increases both attention to the picture (Lang, 1987; Anderson and Levin, 1976) and memory for the scene (Kipper, 1986).

Because of the increase in arousal the still picture of the dead fish and the start of the dolly forward are accompanied by silence in the audio track. This should help recall inattentive listeners who may continue to watch the visually compelling image. In addition, it allows time to fully process the visual before the audio information begins.

This paper has shown how theory can be incorporated into the production of political, or product, commercials. While some of the specific findings relied upon in this paper are preliminary, the changes they suggest do not necessitate a major overhaul of the creative premise of an advertisement. Because of this, the advertiser can easily incorporate the findings of micro-level research into an advertisement with very little risk. It is unlikely that delaying the announcement of the candidate's name two seconds after a scene change, for example, will make a perceptible difference in the creative aspect of an advertisement, but the possible gain in memory may make it well worthwhile. The risks are low, the possible gains significant.

Further, most of the changes suggested and illustrated in this paper can be done on a relatively low budget. This is important since it is in the lower visibility campaigns or with candidates who have low name recognition that these structural changes are likely to make the most difference and these, of course, tend to be the situations where money is likely to be lacking.

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Effects of Commercial Complexity, the Candidate, and Issue vs. Image Strategies in Political Ads

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In the 1940s, when the classic political communication studies were conducted, presidential campaigns would have been wise to severely limit their advertising expenses. The mass media were found to have almost no impact on attitudes, voting preferences and political knowledge. More than 80 percent of the voters decided who they would vote for before the campaign began and political party affiliation and interpersonal communication had the greatest effect on voting behavior (Lazarsfeld, Berelson & Gaudet, 1944; Berelson, Lazarsfeld & McPhee, 1954). But the "media" described by the classic studies did not include television.

Recent research indicates that many of today's voters identify themselves as people who vote for the candidate rather than the party and that the television plays a larger role in their voting decisions than interpersonal communication (Mendelsohn & Crespi, 1970; DeVries & Tarrance, 1972). Today campaign officials consider it wise to advertise, and they have been allocating ever increasing percentages of their funds to television advertising (Shyles, 1986). There's no doubt that campaigners consider television an effective means for conveying political information. Current research tends to back up this perception. Today's voters report learning about presidential candidates from television commercials, and they even say they "became better acquainted" with candidates from television advertising (O'Keefe & Sheinkopf, 1974; Mendelsohn & O'Keefe, 1976). Much research has found a high correlation between exposure to political ads and presidential candidate knowledge (Patterson & McClure, 1976; Atkin & Heald, 1976; Hofstetter & Buss, 1980). The purpose of this study is to assess whether television advertising presents political information in a way that allows viewers to learn more about candidates and store information that will be useful at the time a final voting decision is made. This work examines how different characteristics of actual 1988 presidential campaign commercials affected the way people thought about the candidates.

The first research question addresses whether commercials that emphasize issues elicit more attention and are better remembered than image-oriented ads. Next, this study asks whether the type of candidate advertised influences the effectiveness of the advertising strategy adopted and whether the

candidate type and strategy interact to affect cognitive processing. Finally, the effect of overall commercial complexity and its interaction with strategy and candidate type is assessed.

Issue vs. Image Strategy

Much political advertising research has focused on the clash between commercials that adopt the rational, issue-oriented, approach and those that adopt the image model (Hellweg, Dionisopoulos & Kugler, 1989). The results of some of these studies suggest that issue concerns are primary to voters (Rusk & Weisberg, 1972). But most studies have found image-oriented political messages more effective on measures such as perceptions of the candidate (Kraus & Smith, 1977; Dennis, Chaffee & Choe, 1979) and candidate preference (Marshall, 1983). Clark (1979) argues that to gain as many votes as possible, candidates must appear to address issues while running their campaign with an image-oriented strategy.

Natchez and Bupp (1986) found candidate image to be the best predictor of voter behavior and attributed this to the ease with which image information is processed. The authors concluded that thinking about issues is more difficult than thinking about images because issues need more information to support them. Image-oriented advertisements have also produced higher content recall scores than issue ads in an experimental setting (Kaid & Sanders, 1978). In addition, when survey respondents were asked to remember information presented in political advertisements, they most often reported image information (O'Keefe & Sheinkopf, 1974).

Few issue vs. image studies of political advertising directly address the effect strategy has on the cognitive processing of candidate information. Still, based on this review of the literature, it seems reasonable to predict overall higher attention and memory scores for image-oriented ads.

Candidate Type

The 1988 Presidential Campaign offered the unique opportunity to compare commercials for two types of candidates: A familiar national figure and a relatively unknown, novel politician. George Bush had been the Vice President of the United States for eight years prior to his election. He had spent many years in high visibility positions with the federal government. In addition, he emerged early in the campaign as the Republican Party front runner and received much more media coverage as a result than Michael Dukakis, the Democratic nominee. Dukakis may have been well-known in Massachusetts where he served as governor, but to the rest of the nation he was a political new-comer.

Generally, when a new product is introduced, a rational, information-oriented advertising

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campaign is used. The public needs to know what this new product has to offer. If a new political candidate is analogous to a new product, perhaps commercials advertising him (or her) should focus more on issues than on image. But for a well-known politician who has been around a long time, it's logical to assume that an image approach would work better, just as it works better for old, well established products like Coca-Cola.

People have more to learn about a novel candidate in a shorter period of time. Consequently, they may be motivated to attend to and remember more pieces of information about Dukakis than about Bush. If this is the case, highly complex Dukakis commercials -- especially if issue-oriented -- should result in better cognitive processing scores.

Commercial Complexity

Natchez & Bupp (1986) thought that image ads were less complex than issue ads and that this lack of complexity lead to better processing of image commercial information. If Natchez & Bupp (1986) are correct, overall low complexity ads should result in better cognitive processing even if Dukakis issue-oriented ads specifically benefit from high complexity executions. Bush image-oriented ads that are low in complexity should be processed more effectively than any other type of ad.

In this study, complexity is a formal characteristic of commercials and is defined by the amount of visual and verbal information present in commercials per time unit. In a program of work that has investigated complexity's effects on attention and memory, Schleuder, Thorson and Reeves found that simple product commercials have elicited more attention than complex ones (Thorson, Reeves & Schleuder, 1985; 1987; Schleuder, Thorson & Reeves, 1987; 1988; Schleuder & Gaiser, 1989). Although this finding has been rigorous with product commercials, it would be interesting to see if political ads also elicit more attention and result in better memory when they are kept simple. Beginning to examine how a commercial formal feature, such as complexity, and content features, such as the advertising strategy adopted and the candidate promoted, is important to developing an understanding of how viewers process the information contained in television commercials.

Based on past research and speculation in the issue vs. image political advertising strategy literature, overall low complexity is expected to result in higher cognitive processing scores and offer special facilitation to issue-oriented advertisements for Bush. Dukakis advertisements about issues are expected to benefit from high complexity approaches.

Attention and Memory

Attention is an on-going process that refers to how viewers allocate mental resources to information in television messages (Schleuder, Thorson & Reeves, 1988). Mental resources refer to visual and auditory sensory systems and the memory mechanisms that determine how new information

will be integrated with the old. This definition derives from Kahneman's (1973) general capacity model of attention and from multiple resources theory (Wickens, 1984) and rests on the assumption that the ability to attend to more than one simultaneous event is limited (Broadbent, 1958).

The secondary task reaction time method allows advertising and mass communication researchers to measure attention as an on-going process. In the typical secondary task experiment, viewers are told to concentrate on watching television, but to also respond as quickly as they can to periodic tones by pressing a reaction time button as quickly as possible. The assumption underlying use of the task is that performance on the secondary task decreases as attention to the primary task increases. As more attention is allocated to television viewing, less attention is left over to use in responding to the secondary task. To insure that this assumption holds, secondary task experiments should incorporate a manipulation check to assess speed-accuracy trade-offs. If subjects focus attention on the button-pressing task rather than television viewing, the reaction time measures become meaningless.

Visual and verbal recognition memory refers to the process by which information picked up from viewing commercials is stored in long-term memory and retrieved in response to a cue. Recognition is used, rather than recall because recognition methods focus on identifying the strength of the encoding process (Klatzky, 1980). The distinction between visual and verbal information retrieval is made because television is both a visual and verbal medium. In addition, as Garramone (1989) has suggested, auditory and visual processing schemes may differ in response to issue vs. image advertising strategies.

Hypotheses

The issue vs. image strategy adopted by the advertiser is a fundamental decision and, based on recent studies (O'Keefe & Sheinkopf, 1974; Kaid & Sanders, 1978; Natchez and Bupp, 1986), is expected to have an effect on attention and memory no matter how other political ad characteristics vary. Candidate type advertised also is expected to have an effect on how political information is processed. In addition, because novelty should lead to enhanced processing of ads for Dukakis (Reeves, Thorson & Schleuder, 1987), Candidate type is expected to interact with strategy and also with complexity. Commercial complexity is expected to affect how the information in political ads is processed. In addition, a low level of complexity is expected to enhance attention and memory for Bush issue strategy commercials while a high level of complexity is expected to enhance attention and memory for Dukakis ads about issues.

H1: Overall, attention as indicated by secondary task reaction time, and visual and verbal memory recognition scores are expected to be higher for Image

Strategy commercials than for Issue Strategy commercials.

- H2:* Overall, attention, and visual and verbal memory are expected to be higher for Dukakis commercials than for Bush commercials.
- H3:* Overall, Low Complexity executions of ads are expected to result in higher attention, and visual and verbal memory than High Complexity executions.
- H4:* High Complexity Dukakis ads are expected to produce higher cognitive processing scores as indicated by attention, and visual and verbal memory scores, than Low Complexity Dukakis ads.
- H5:* Low Complexity Bush ads are expected to produce higher cognitive processing scores than High Complexity Bush ads.
- H6:* High Complexity Dukakis ads, especially those about Issues, are expected to produce higher cognitive processing scores than other types of Dukakis ads.
- H7:* Low Complexity Bush ads, especially those that emphasize the candidate's Image, are expected to produce higher cognitive processing scores than other types of Bush ads.

METHOD

Subjects

A total of 44 people participated. Twenty-one adults were recruited from churches and social groups in Travis County, Texas and their organizations were paid \$5 for their participation. The 23 University of Texas undergraduate communication students participated for course credit. An additional 44 subjects (half were students and half were recruited from the community) participated as members of the secondary task manipulation check control group.

Stimuli

Eight 30-second political advertisements, four for George Bush and four for Michael Dukakis, were selected from 34 positive appeal commercials that had aired for the two candidates by October 1, 1988 (the time the experiment was run). The 34 ads were collected from the Democratic and Republican parties, from the Political Advertising Archive at The University of Oklahoma and by recording them off-air. Two commercials for Bush and two for Dukakis used issue strategies, and two for each candidate used image strategies. The Bush issue strategy ads included an ad suggesting Bush would "keep America at work," and a talking head

execution in which Bush talked about the need for American trade to become more competitive with foreign countries. The Bush image strategy ads included an ad describing Bush's government experience and a biographical ad which stressed Bush's role as a family man. The Dukakis issue strategy ads included a union member talking about the need to create more jobs and a talking head form ad in which Dukakis discussed balancing the federal budget. The Dukakis ads that stressed image included Tipp O'Neill describing Dukakis' character and a biography of Dukakis' life. Eight advertisements were used in the experiment to enhance generalizability of the effects to other political advertisements (Jackson & Jacobs, 1983).

The Bush and Dukakis ads, along with eight product commercials, were embedded in a half-hour episode of the situation comedy *Cheers*. In order to keep the viewing experience as natural as possible, each subject saw only four of the eight political ads during their half-hour viewing session. One political ad was placed in each of four 90-second commercial pods. The order in which the political commercial fell in the pod (first, second or third) and the pod order (four orders) were counterbalanced to control for practice and fatigue effects. Which four ads each group of subjects saw was determined by their random assignment to one of two strategy conditions. Clearly audible secondary task tones were triggered by four cues that were placed at random intervals in each political and product commercial. Cues were also placed in the programming so that subjects did not suspect that the experiment focused on the advertisements.

Strategy and Candidate. The 22 subjects assigned to the Issue Strategy Condition watched the two Bush and two Dukakis ads judged to be the most prototypical examples of commercials about "economic issues important to the 1988 Presidential Campaign". There was no variation in the four coders' rating scores for these commercials. The ads used were ranked first (most prototypical) or second out of 17 Bush ads, and first or second out of 17 Dukakis commercials by all four coders. The coders were graduate students in an introductory research methods course.

The ads selected for the Image Strategy Condition were those judged, by the same coders, to be the most representative of ads for Bush and Dukakis that "focus on the image of the candidate as a leader." There was little variation in the rankings for the four advertisements selected. Three of the coders rankings were identical and the fourth coder included the same ads in the top rankings for each candidate, but the Dukakis ad rankings were in reverse order.

Complexity. Prior to being coded for advertising strategy, each of the 34 political advertisements was rated for complexity following the rating procedure used in several recent attention and memory studies (see Schleuder, Thorson & Reeves, 1988). Verbal complexity was indexed by coding the presence of music, voice-overs and natural sound and by counting the number of macro-

propositions, or idea units). Messages with more types of sound and more propositions were considered more complex. Video complexity was assessed separately but combined with the verbal complexity score to determine each ad's overall complexity ranking. High video complexity scores were given to messages with many scene changes, dissolves and edits, much camera movement such as pans or zooms, much person and object movement and many superimposed images.

In addition, a group of 32 people provided subjective ratings of complexity during a pretest. These subjects were asked to view the 34 commercials and estimate on a 100-point scale the magnitude of complexity of the video, verbal or both channels. The subjective ratings provided a manipulation check on the complexity categories assigned to the political commercials and ensured that an ad rated low in complexity was perceived to be low in complexity to most viewers. Four of the eight ads used in this experiment were categorized as High Complexity and four were categorized as Low Complexity. The Bush Issue Strategy ad about keeping America working was a High Complexity ad, and his ad about foreign trade competition was Low Complexity. The Dukakis Issue Strategy ad about balancing the federal budget was High Complexity and his ad about the creation of new jobs was Low Complexity. The Bush Image Strategy ad about his life and role as a family man was High Complexity and the ad about his government experience was Low Complexity. The Dukakis Image Strategy ad about his life was High Complexity and Tip O'Neill's character appraisal was Low Complexity.

Experimental Procedure

Subjects were run one at a time after being randomly assigned to view either four Issue Strategy ads or four Image Strategy ads. Subjects were told that the purpose of the study was to see how much they could remember from watching television. They were also told to press the reaction-time button in front of them as quickly as they could whenever they heard a tone. Each subject "practiced" hitting the reaction time button in response to a tone before the experiment began so that 36 baseline simple reaction times could be collected and later used to assess individuals' basic motor speed. Then each subject viewed a brief episode of "Cheers" and a product commercial on a practice tape. They got practice responding to the tone secondary task and were given visual and verbal recognition tests about information in the practice program and in the commercial.

Subjects next viewed the one-half hour situation comedy and commercials. They were given visual and verbal recognition tests following the viewing period. The tests asked questions about "Cheers" and about product and political advertisements. Subjects then answered several questions about the upcoming presidential election including their intention to vote and their feelings about the two presidential candidates. The procedure

for the 22 subjects in the secondary task manipulation check control group was identical except there was no secondary task.

Apparatus

The subjects watched Cheers, the embedded commercials and video-frame recognition tests on a 19-inch Panasonic 2010 video monitor placed five feet from their chair. The advertisements and programming were played on a Panasonic 6500 videotape recorder. An IBM AT microcomputer, with Labpac and Timecode reader/generator cards, controlled the tone presentation and the presentation of stimuli. Reaction-time responses were collected by a button box built by university technical staff.

Design

The study was a 2 X 2 X 2 mixed-factors design. Advertising Strategy was a between-subjects factor with two conditions: Issue vs. Image Strategy. Candidate was a within-subjects factor with two conditions: Bush vs. Dukakis. Complexity was a within-subjects factor with two levels: Low vs. High. For the attention measure, there were four repetitions of reaction-time nested in each cell of the Advertising Strategy X Candidate X Complexity factorial design.

There were also two between-subjects control factors, each with three levels -- commercial pod order and political commercial position within each pod order. There was also a secondary task vs. no-secondary task between-subjects factor included in the design as a manipulation check so that speed-accuracy trade-offs on the reaction time and memory test tasks could be detected if they existed.

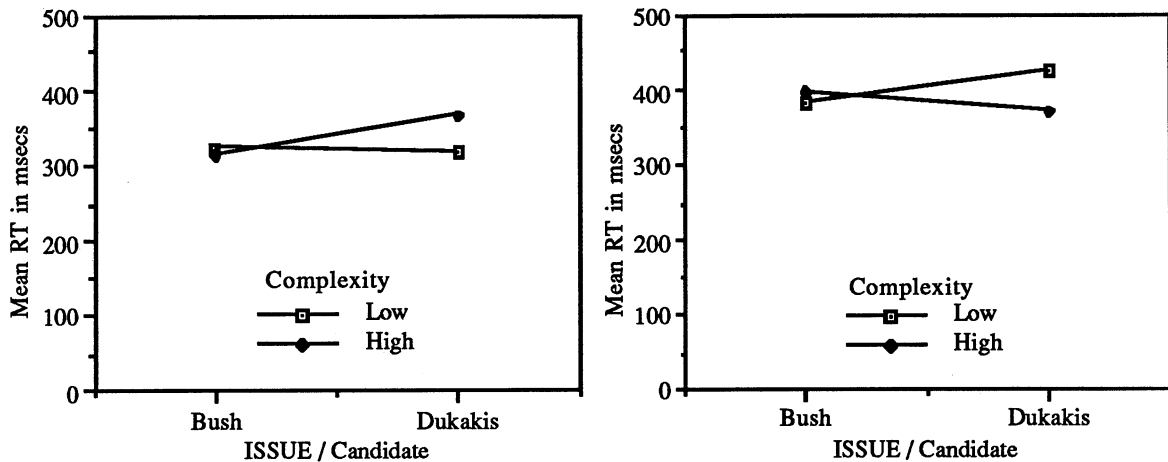
Dependent Measures

Attention. The secondary task reaction time method was used as an indicator of how intensely viewers paid attention to the political commercials. Subjects were instructed to pay primary attention to the television, but also to press a reaction time button as quickly as they could in response to periodic tones. Slower reaction time on the button pressing task indicated that subjects paid more attention to viewing. When the intensity of viewer attention to the political commercials was low, subjects had more attentional resources left over to use in hitting the reaction time button and reaction time scores were faster. Attention scores were expressed in msec. units.

Visual memory was measured for each political advertisement by frame recognition tests administered after the 30-minute program was complete. The political ad was identified and six 1/15-second frames were flashed on the screen consecutively. Some of the frames were images that subjects had seen in the political ads and some were not. The number correct out of six frame identification items was the score for each political commercial.

Verbal memory was measured by giving subjects a six-item multiple-choice test for each political commercial. This test was administered

FIGURE 1
Mean reaction time as a function of Strategy, Candidate and Complexity



Strategy x Candidate x Complexity:
($F(1,41) = 5.66, p < .05$)

after the visual recognition test. Each question offered four alternative choices. The number correct on the six-item test was the verbal recognition score for each news story.

Manipulation Check for Speed-Accuracy Trade-offs

When the pattern of memory scores for subjects in the secondary task condition were compared to those in the no-task control condition, speed-accuracy trade-offs were not apparent. If subjects were trading speed on the button-pressing task for accuracy on the memory test, the memory scores would be significantly better for the control subjects than for the secondary task subjects -- this was not the case for visual recognition tests [$F(1,84) = .00, p = .96$] or for verbal recognition scores [$F(1,84) = 3.28, p < .08$].

RESULTS

Attention

H_1 predicted that Image Strategy ads would elicit more cognitive processing than Issue Strategy ads. This hypothesis was supported by the results of the 2 (Issue v Image) X 2 (Bush v Dukakis) X 2 (Low v High Complexity) mixed-factors Analysis of Covariance for attention scores ($F(1,41) = 4.91, p < .05$). Mean reaction time in msec. was 329 for Issue ads and 392 for Images ads.

ANCOVA was used only when between-group reaction time comparisons were made. People vary tremendously in their basic motor skills. Controlling for this by collecting baseline reaction time prior to the beginning of experiments allows

the variation due only to differences in individuals' motor skills to be removed before differences due to the experimental manipulation are assessed.

There was also a three-way interaction among Strategy, Candidate and Complexity factors ($F(1,41) = 5.66, p < .05$), as shown in Figure 1. Attention paid to Bush commercials was not affected by Complexity in either Strategy condition. However, Duke commercials' ability to elicit viewer attention was facilitated by Low Complexity when ads stressed the candidate's Image, but by High Complexity for ads that stressed Dukakis' stands on economic issues, as predicted by H_6 . Support for H_2, H_3, H_4, H_5 , and H_7 was not produced by the attention data.

Visual Memory

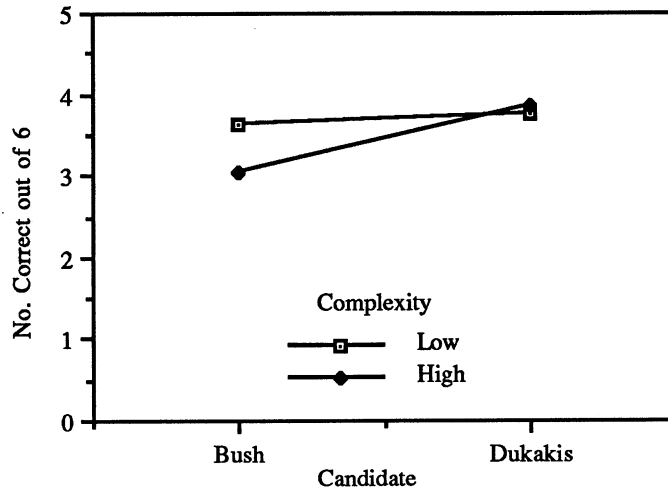
H_1 , which predicted higher cognitive processing scores for Image Strategies, was not directly supported by the visual recognition findings. The 2 (Issue v Image) X 2 (Bush v Dukakis) X 2 (Low v High Complexity) mixed-factors Analysis of Variance did not produce a main effect for Strategy.

As predicted by H_2 , overall visual memory was better for Dukakis than for Bush commercials ($F(1,42) = 9.40, p < .005$), with a mean score of 3.81 out of 6 for Dukakis and 3.34 for Bush. The Candidate and Complexity factors interacted ($F(1,42) = 4.92, p < .05$) in the manner predicted by H_4 and H_5 (see Figure 2).

Strategy interacted with Candidate and Complexity and there was a three-way interaction. As shown in Figure 3, Issue and Image Strategies work equally well for Bush ads. But, as predicted by H_6 , the visual elements of the Dukakis Issue ads

FIGURE 2

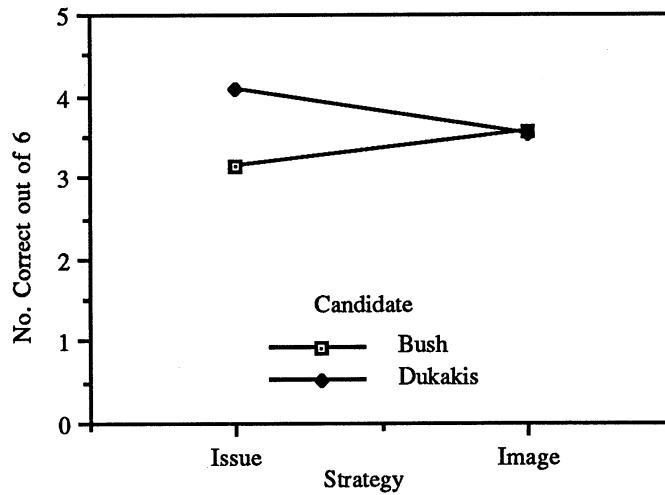
Visual recognition number correct as a function of Candidate and Complexity



Candidate x Complexity:
(F(1,43) = 13.29, p < .001)

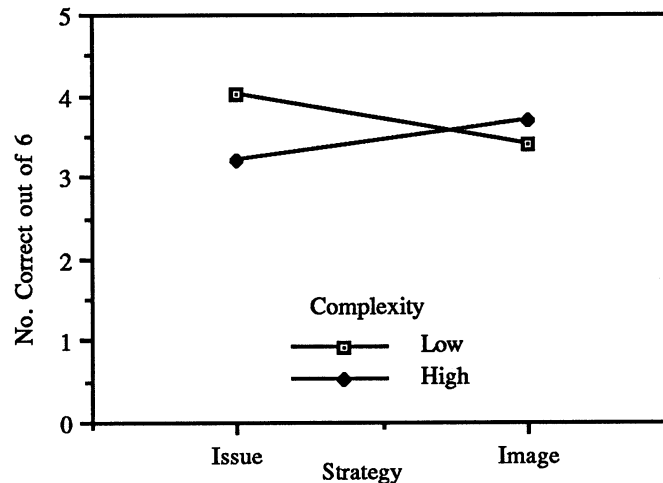
FIGURE 3

Visual recognition number correct as a function of Strategy and Candidate



Strategy x Candidate:
(F(1,42) = 10.34, p < .005)

FIGURE 4
Visual recognition number correct as a function of Strategy and Complexity



Strategy x Complexity:
($F(1,42) = 13.29, p < .001$)

were remembered better than the Image visuals ($F(1,42) = 10.34, p < .005$). Figure 4 shows the Strategy X Complexity interaction. Counter to *H4* and *H5* predictions, visual recognition scores for Image Strategy ads were not affected by Complexity level, and scores for Low Complexity Issue ads were slightly higher than for High Complexity Issue ads.

The three-way interaction ($F(1,42) = 40.26, p < .001$), shown in Figure 5, suggests that, counter to predictions, visual memory for Dukakis ads did not vary as a function of Strategy or Complexity. In addition, High Complexity Bush ads about Issues resulted in much lower visual memory scores than any other Bush ad approach.

Verbal Memory

The 2 (Issue v Image) X 2 (Bush v Dukakis) X (Low v High Complexity) mixed-factors ANOVA produced the predicted main effect for Strategy. Verbal memory for Image Strategy ads was better than for Issue Strategy ($F(1,42) = 5.89, p < .05$), with mean scores of 2.81 out of 6 for Issue and 3.43 for Image ads. Strategy did not interact with any other experimental factor, but, as predicted by *H4* and *H5*, the Candidate and Complexity factors interacted ($F(1,42) = 14.76, p < .001$). As shown in Figure 6, verbal memory scores were higher for High Complexity Dukakis ads than for Low Complexity Dukakis ads, and scores were higher for Low Complexity Bush ads than for High Complexity Bush ads.

DISCUSSION

The primary purpose of this study was to see if two important content characteristics of political

ads -- the issue vs. image strategy and the candidate type -- interacted with commercial complexity to affect information processing. In general, the moment-to-moment attention results and the visual and verbal memory scores supported the idea that strategy, candidate and complexity are important ad characteristics that can be manipulated in a manner that will result in optimal cognitive processing of political information.

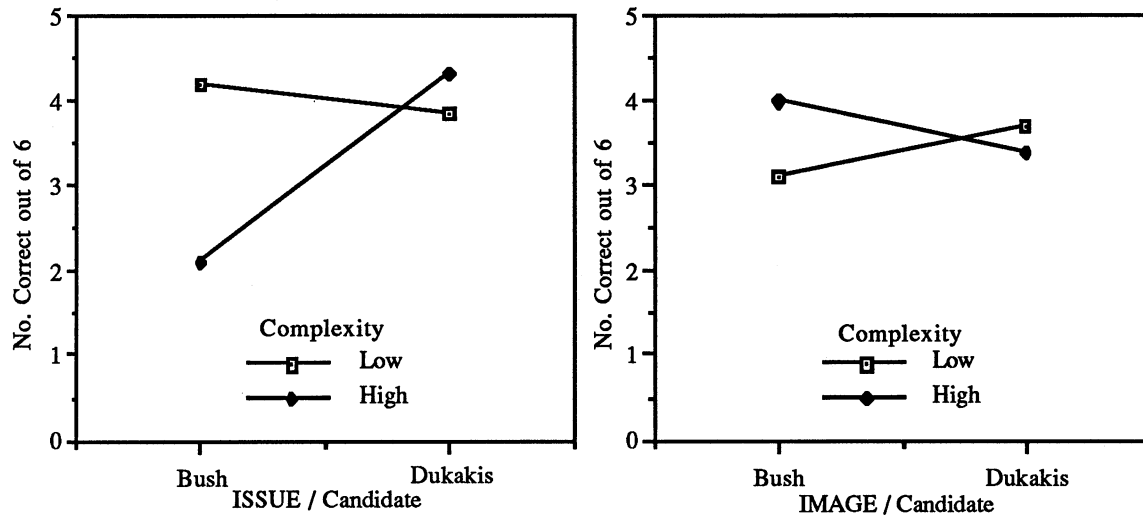
Image-oriented ads elicited more attention than issue ads. Their verbal message was also better remembered. Visual memory was better for ads about Dukakis, especially Dukakis issue ads. In general, both visual and verbal memory were better for high complexity Dukakis ads and for low complexity Bush ads.

Viewers paid more attention to high complexity issue ads for Dukakis as expected. This is probably because a novel political candidate, like a new product, benefits from a rational promotion approach and a high level of motivation on the part of the viewer to learn what the new entity has to offer. Low complexity image ads for Bush also elicited a lot of attention, probably because Bush is an old, familiar national politician. Like many familiar products, he benefited from ads that pitched his image with simple executions. This would give viewers plenty of time to devote to thinking about old memories they have about Bush (see Thorson, et al., 1985), and it's possible that this active processing of simple, familiar information is what causes the high level of attentional intensity.

Visual memory for political commercial information is highly specialized. Viewers remembered the visual information about Dukakis issue ads and Bush image ads best. Low complexity

FIGURE 5

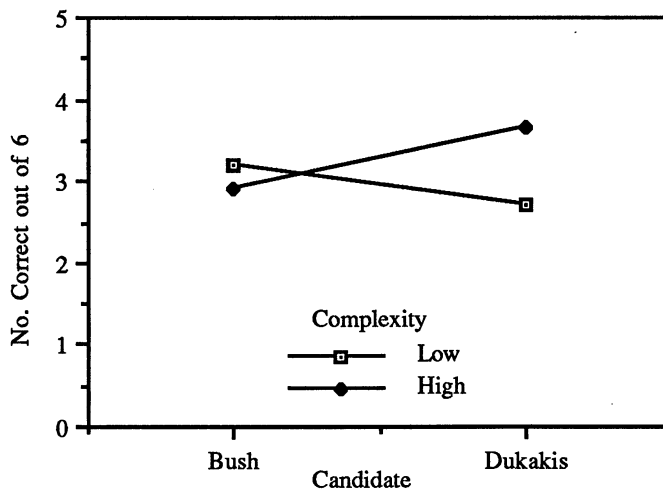
Visual recognition number correct as a function of Strategy, Candidate and Complexity



Strategy x Candidate x Complexity:
 (F(1,42) = 40.26, p < .001)

FIGURE 6

Verbal recognition number correct as a function of Candidate and Complexity



Candidate x Complexity:
 (F(1,42) = 14.76, p < .001)

issue ads worked best. Visual memory was best for low complexity Bush ads about issues and for high complexity Bush ads about images. It appears that there is a mental trade-off process, or a time-sharing function, at work between the visual sensory system and attentional mechanisms when interactions among all three ad characteristics are examined.

This type of trade-off has been observed between auditory and visual sensory systems, between auditory and attentional systems and between visual and attentional systems (Thorson, et al, 1985; 1986; Schleuder, et al., 1987; 1988). Identifying exactly what commercial characteristics trigger the

cognitive time-sharing observed in this study should be a goal of future research.

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Measuring Material Values: A Preliminary Report of Scale Development

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ABSTRACT

Belk's pioneering work to develop scales measuring traits associated with materialism has facilitated numerous investigations by consumer behavior researchers. Materialism, however, is a multi-dimensional concept which includes not only traits, but attitudinal, behavioral, and value components as well. This paper reviews some of the existing knowledge about materialism and concludes that the construct is appropriately measured as a value within the constellation of a personal or cultural value system. Empirical work to develop measures of material values are reported.

INTRODUCTION

The study of the culture of consumption has become an important topic in the consumer behavior literature. One concept frequently addressed in this literature is materialism. Current measures of materialism emphasize traits associated with materialism and have greatly facilitated both theoretical development and empirical analysis. In this paper, we review key conceptualizations of materialism, suggest some additional dimensions of materialism, and report the preliminary results of research in progress to develop measures of these dimensions.

BACKGROUND

Materialism is such a complex, multifaceted concept that agreement on its meaning is only approximate. The concept has been popularized in the mass media in response to America's apparent preoccupation with consumer goods and has been variously and often loosely defined in the academic literature. Several treatises and studies that have examined materialism or related concepts form the theoretical basis for establishing the materialism dimensions and measures suggested here. For sake of discussion, we categorize these into political/historical, anthropological/sociological, and marketing orientations.

Political/Historical Orientations

Though theoretical notions about materialism have benefited from a number of historical analyses (e.g., McKendrick, Brewer, and Plumb 1982; Mukerji 1983), Inglehart's (1981) work is particularly relevant. Using a political perspective, Inglehart suggests that materialism is evident by the degree to which nations or other social groups emphasize values involving material things. Influenced by Maslow's hierarchy of needs, Inglehart posits that

Western societies have satisfied the majority of needs involving material well-being and are now primarily concerned with post-materialistic values such as family, friends, and social welfare. Perhaps because definitive data is lacking and because materialism is inferred rather than explicitly measured, his thesis has been quite controversial (Marsh 1975; Mastekaasa 1983) and difficult to accept given the consumption ethos in America during the 1980s (Yankelovich 1981). Nevertheless, Inglehart's argument that materialism is a value situated within the constellation of a value system has important implications for measure development.

Anthropological/Sociological Orientations

This genre of study has provided perhaps the richest underpinnings for understanding materialism (cf. Appadurai 1986; McCracken 1988). An especially valuable perspective is provided by Csikszentmihalyi and Rochberg-Halton (1981) who have studied attachment to and meaning associated with possessions. Broadly, these authors develop a powerful conception of materialism:

"If things attract our attention excessively, there is not enough psychic energy left to cultivate the interaction with the rest of the world. The danger of focusing attention excessively on the goal of physical consumption - or materialism - is that one does not attend enough to the cultivation of self, to the relationship with others, or to the broader purposes that affect life" (p. 53).

Among the many findings of their research, two points are particularly relevant: (1) that the types and saliency of meanings associated with objects vary over the life span, and (2) that the degree of psychic energy invested in objects appears related in a curvilinear manner with well-being and happiness. While excessive reliance on the symbolic power of objects leads to a narrow definition of self and to unhappiness, those individuals who are most adamant about the meaninglessness of objects are often the most lonely. Possessions may serve a positive function by solidifying and making concrete the ties that we develop with family and friends.

Csikszentmihalyi and Rochberg-Halton separate materialism into two components: (1) terminal materialism, in which consumption is an end of itself, there is little interaction between owner and object, and image or status associated with an object is of primary value; and (2) instrumental materialism, where objects are used in order "to make life longer, safer, more enjoyable" (Csikszentmihalyi and Rochberg-Halton 1978, p. 8).

¹Thanks to Teri Root-Shaffer for her assistance in item generation and data collection during the early phases of the project and to Russ Belk for his helpful insights during measure development.

While these distinctions in the meaning of materialism have been used as a basis for evaluating themes in advertising (Belk and Bryce 1986; Belk and Pollay 1985), psychometric work has not proceeded to develop measures of these constructs. This may be because terminal and instrumental materialism are subjective terms so pregnant with meaning that they defy unidimensional measurement. While the scales described in the current measurement effort are not designed to measure terminal and instrumental materialism, elements of both concepts are evident in their content.

Marketing Orientations

In the marketing literature, a simpler definition of materialism comes from studies of child and adolescent socialization. Ward and Wackman (1971, p. 422) defined materialism as "an orientation which views material goods and money as important for personal happiness and social progress." This definition and adaptations of their measures (Wackman, Reale, and Ward 1972) have been used in later research by Moschis and his colleagues (Churchill and Moschis 1979; Moschis and Moore 1982).

Without doubt, Belk's (1984, 1985) work on defining and measuring materialism has been the most useful to researchers working empirically in this area. According to his definition (Belk 1984, p. 291):

"Materialism reflects the importance a consumer attaches to worldly possessions. At the highest levels of materialism, such possessions assume a central place in a person's life and are believed to provide the greatest sources of satisfaction and dissatisfaction in life."

This definition is similar to others in its emphasis on degree of object attachment and an associated state of well-being. Belk developed measures of three traits associated with materialism--envy, nongenerosity, and possessiveness. These measures have been used in a number of studies (e.g., O'Guinn and Faber 1989; Wallendorf and Arnould 1988).

DEFINING THE DOMAIN OF MATERIALISM

After reviewing the conceptualizations, definitions, and operationalizations above, several issues guided the development of a new measure of materialism. First, materialism is a complex construct with multiple components that may be related or orthogonal. Second, any definition of materialism should be value neutral and not reflect some normative prescription of its authors. Material possessions do serve an important role in establishing and maintaining a positive affective state. As noted above, Csikszentmihalyi and Rochberg-Halton (1981) determined that those individuals who were the most lonely also found objects the least meaningful. Possessions serve a potent role in definition of self, and loss due to

institutionalization or theft may result in negative affective states (Belk 1989). This facet of material objects has been perhaps the greatest obstacle to clarity of semantic meaning. "Materialism" carries with it a negative connotation that is not always justified.

A third issue in deriving a measure of materialism is that it should strive to transcend cultures, subcultures, and economic systems. Better understanding of consumption culture through cross-cultural comparison (Rassuli and Hollander 1986) is facilitated when concepts such as materialism and their measures demonstrate validity and reliability across cultural systems.

Finally, a critical issue is whether materialism is best approached as a trait, an attitude, or a value. Traits are personal characteristics that (1) are formed at an early age, (2) are relatively unchanging over the life span, and (3) the underlying trait itself is generally impervious to environmental stimuli. The theoretical work reviewed above suggest that one's relationship with material items changes over time. Further, examinations of materialistic themes in advertising (Belk and Pollay 1985), brand names in novels (Friedman 1985), goals and satisfactions within societies (Inglehart 1981), and broad societal trends (Henkoff 1989; Yankelovich 1981) all suggest that materialism is affected by broader environmental stimuli. Thus, the common but approximate conception of materialism gleaned from the literature suggests that this construct does not fit the accepted characterization of trait. It seems likely, however, that some traits may be associated with materialism, as Belk (1984) has suggested.

Though many definitions of attitude exist, a favored conception is that an attitude "represents a person's favorable or unfavorable feelings toward the object in question" (Peter and Olson 1987, p. 192). Such a definition seems too narrow for approaching materialism in that it speaks to specific objects, rather than broader systems of behavior.

Materialism may be best viewed as a value. Values "are (a) concepts or beliefs, (b) about desirable end states or behaviors, (c) that transcend specific situations, (d) guide selection or evaluation of behavior and events, and (e) are ordered by relative importance" (Schwartz and Bilsky 1987, p. 551; see also Maslow 1959, Rokeach 1973). They may emphasize individualistic or collective interests and may be used to characterize individuals, small groups, and societies. Values change with social conditions and with age, two important features which appear endemic to materialism. Schwartz and Bilsky (1987) used smallest space analysis to map Rokeach's (1973) 36 instrumental and terminal values. In the resulting structure, prosocial values (e.g., equality, belief in God) and security (family and national security) were polar opposites of achievement values (social recognition, ambitious) and enjoyment values (comfortable life, pleasure) and self-direction. This structure is consistent with Inglehart's (1981) theoretical analysis of materialistic and post-materialistic values.

These findings and Belk's definition of materialism quoted above suggest that materialism may be viewed as an organizing or second-order value that incorporates both the importance placed on certain end states (achievement and enjoyment values) and beliefs that possessions are appropriate means to achieve these states. This perspective was the basis of construct definition for the measures developed here.

Building on Belk's work and the values literature, the domain of materialism for purposes of measure development was framed in terms of the motivations, expectations, and affective states that characterize individuals' values with respect to material objects. First, as a motivation, materialism has a status component which reflects the intended and actual use of material objects as a means of social recognition and to symbolize one's personal success. Second, the expectation or aspirational component of materialism concerns the extent to which an individual believes that acquisition of material objects will lead to personal happiness and enjoyment in life. Third, materialism has an affective component, represented by the degree to which an individual actually does find possessions to be a source of satisfaction. Finally, the notion of centrality is important to materialism. As noted by many writers, objects assume a central position in the lives of materialistic people. We do not posit these to be the only concepts representing materialism, and encourage the conception of additional facets.

METHODS

Exploratory Research and Item Generation

The adequacy of the materialism domain described above was examined in exploratory research. A convenience sample of 11 adult consumers was asked to describe in an open-ended format the attitudes and values of materialistic people they knew and of materialistic people in general. The sample was evenly split among males and females and spread across several age and income categories. Frequently-mentioned attitude descriptions were converted into items. In addition, the researchers constructed items designed to represent the motivation, expectation, affective, and centrality aspects of materialism described above. Another source for item generation was characterizations of materialistic people described in the literature and mentioned by social critics. Finally, a few items were adapted from earlier studies in which materialism and related constructs were measured (Belk 1985; Heslin and Johnson 1985, 1989; Richins 1987; Wackman, Reale, and Ward 1972; Yamauchi and Templer 1982). In every case, items were cast to reflect values, attitudes, and feelings about possessions rather than the more specific behaviors or traits measured by Belk's scales. Effort was also taken to avoid items that might prove specific to American culture.

During the three data collection efforts described in this study, more than 120 items were

generated. Redundant, ambiguous, leading, and other faulty items were eliminated in initial screening. Subsequent screening was based on empirical tests of reliability, validity, and social desirability bias.

Data Collection

Data were collected from students at three separate universities. In the first data collection, 50 items were administered to 448 students at Louisiana State University. The second sample consisted of 191 undergraduates at the University of Massachusetts who completed 66 potential materialism scale items. The third sample, 194 undergraduate and MBA students at Portland State University, completed 66 items. This sample was somewhat older than the other two because it included more part-time students and students in an evening MBA program; 30% were over the age of 30, 38% were married, and 35% worked 30 hours or more per week.

The materialism measures varied across data collection efforts as we revised items, deleted weak items, and added others to improve the reliability and validity of scale components. Standard scale development practices described by Nunnally (1978) and Churchill (1979) were used in item purification.

The survey instruments contained several other measures that assisted in scale refinement. Two administrations (LSU and UMass) included the Marlowe-Crowne (Crowne and Marlowe 1960) social desirability measure. While materialism seems to be more socially acceptable today than in past eras, we had some concern about the potential for social desirability bias. Twelve items from the scale were included to identify those materialism items most subject to this type of bias. The original dichotomous scaling format used by Crowne and Marlowe was changed to a five-point Likert format.

Several other measures were included for validation purposes in some or all of the data collections.

(1) Life satisfaction. Because prior research has found a negative relationship between happiness and materialism (Belk 1985; Richins 1987), satisfaction with five life domains was measured on seven-point scales in the UMass and PSU data collections: amount of fun, family life, income or standard of living, relationships with friends, and life as a whole. The LSU questionnaire included only three domains.

(2) Values. To assess the relationship of material values to other values, the List of Values scale (Kahle, Beatty, and Homer 1986; Veroff, Douvan, and Kulka 1981) was included in the questionnaire for all data collections. The scale was modified by adding two values that might be related to materialism: "financial security," and "having enough money to buy nice things." Respondents were asked to rank their four most important values.

(3) Self esteem. Several authors have argued that possessions provide a basis for self-identity (Belk 1989; James 1890) or that acquisitiveness is an effort to establish self-respect (Horney 1937). If this is the case, possessions might be more valuable

to those who have less self-respect or whose self-image is less secure. Thus, a negative relationship between materialism and self-esteem is hypothesized. Rosenberg's (1965) self-esteem measure was used in the UMass survey.

(4) Self-monitoring. This scale, developed by Snyder (1974), is designed to measure the extent to which people adjust their expressive behavior and self-presentation to different situations. While the precise latent construct measured by the self-monitoring scale is not agreed on (see Snyder and Gangestad 1986), it seems clear that high self-monitors are more concerned about self-presentation than low self-monitors. To the extent that one's possessions publicly represent the self, a positive relationship between self-monitoring and materialism is expected.

(5) Public self-consciousness. Public self-consciousness is the tendency to think about those self-aspects that are matters of public display; for example, one's overt behavior, mannerisms, and expressive qualities (Scheier and Carver 1985). Since many of one's possessions are displayed publicly, a positive relationship between public self-consciousness and materialism is expected. This scale was included in the UMass questionnaire.

RESULTS

Rather than describe in detail the analyses and results of each data collection, this section summarizes what's been learned over the course of scale development efforts.

Factor Structure

Principal components analysis of the materialism items in all data collections yielded large numbers of factors with eigenvalues greater than one. Item purification improved the parsimony of the item set, such that the analysis of the last data set was refined to 29 items with an associated set of 6 factors with eigenvalues greater than one. We have chosen to postpone further item purification until data are obtained from large consumer samples.

Scree tests on the various data sets suggested that three, four, or five factors be retained. In the first data collection effort, one of the factors had 10 items with high loadings. On further inspection, these items were all truisms, including such statements as "The desire for more things or money causes a lot of problems in our society" and "People place too much emphasis on material things." While the reliability of these items was acceptable (Cronbach's $\alpha = .76$), they had weak relationships with validating variables. The truistic statements appear to measure respondents' attitudes about materialism and society in general rather than personal values that apply to respondents themselves. Because of the general nature of these items and their low relationship with validation variables, truistic items were excluded from subsequent data collection efforts.

Four factors emerged consistently from analysis of the three data sets, interpreted as follows.

(1) Possessions as symbols of success. This factor reflects the extent to which one uses possessions to impress others or perceives possessions as indicators of success and achievement in life. This factor coincides with the motivational aspects of material values identified in the literature review. Sample items with high loadings on this factor are "The things I own say a lot about how well I'm doing in life," and "I like to own things that impress people."

(2) Possessions as a source of pleasure. This factor reflects the extent to which one derives pleasure or satisfaction from the possessions they own and corresponds with the affective component of materialism. The factor had few items with high loadings in the initial data collection, but revisions to the item set improved it considerably. Sample items with high loadings on this factor include "I have some special possessions that I care quite a lot about" and "The things I own help make me happy."

(3) Belief that more possessions lead to more happiness. Respondents scoring high on this factor believe that their lives would be better if they had more or different possessions. This factor concerns the aspirational element of materialism. Some of the items with high loadings on this factor are "My life would be better if owned certain things I don't have" and "I have all the things I really need to enjoy life" (reverse scored).

(4) Asceticism. The opposite of materialism is asceticism. The ascetic ideal involves a hostility toward luxury, a suspicion of riches, and the belief that frugality is good (Shi 1985). This factor initially consisted of items all scored in the same direction. In subsequent data collections, items scored in the reverse direction were added but were only partially successful in balancing the scale. The asceticism factor might as aptly be named anti-materialism. Items include "I try to keep my life simple, as far as possessions are concerned" and "I like a lot of luxury in my life" (reverse scored).

Because the analyses were exploratory, in early factor analyses we preferred to err on the side of over-factoring rather than under-factoring the data and retained more than four factors for rotation. Several of the later factors were coherent and interpretable, including propensity to splurge, enjoyment of shopping, and others. While these are interesting in their own right, they measure what might be outputs or consequences of materialism rather than materialism itself. Attempts were made to eliminate such factors in later data collections.

Part of the domain of materialism identified in the literature review was centrality of possessions to one's life. Items such as "I spend a lot of time thinking about the things I own" and "The things I own are an important part of my life" were included with the hope that they would form an identifiable factor. They did not. Over three data collection efforts, we were unable to generate a factor representing this domain. The centrality items

TABLE 1
Relationships with Validation Variables

Validation Variable	Factor Subscales			
	1	2	3	4
Life Satisfaction				
Overall Satisfaction			-	
With Standard of Living	-		--	
Values				
Self-Respect	-		-	
Financial security	++	+	+	
Money to buy nice things	+	+	++	-
Self esteem	--		-	
Self-monitoring				
Factor 1--social deception	+++		+	
Factor 2--social presence				-
Public self-consciousness	+++	+	++	-
+/-	Correlations generally between .20 and .29			
+ +/--	Correlations generally between .30 and .39			
+ + +/--	Correlations generally .40 or greater			

spread themselves across the factor space or had low communalities. The reason for this failure may lie with the notion of centrality. Possessions may be important for a number of reasons: they may bring pleasure (musical instruments), they may signify important events or relationships (a wedding ring), they may demonstrate the kind of person one is (Birkenstock sandals), or they might cause others to notice, admire, or envy the owner (fashion clothing or sports cars). This diversity in reasons for importance may have caused the centrality items to spread across factors rather than form one of their own.

Reliability

While a final version of the scale was not generated from the student data, preliminary subscales to measure the various domains of materialism have been formed. They vary in precise content and length across the evolution of the project, so only general statements of reliability will be made. Factor 1, possessions as symbols of success, consistently had the highest reliabilities. In the various forms, the scale performs in the range of .80 to .85 for coefficient alpha. Factor 2, possessions as a source of pleasure, started out with few items and low reliability. At the final data collection, this subscale consisted of 7 items with a reliability of .76. The subscale for the third factor, belief that more possessions lead to more happiness, generally has reliabilities between .75 and .80. The asceticism subscale has been the most difficult to construct, with reliabilities in the .59 to

.67 range. This scale needs further refinement using adult consumer samples.

Social Desirability Tests

While social desirability doesn't seem to be a serious problem with any of the subscales, there were small but significant correlations between the social desirability scale and two subscales-- asceticism ($r \approx .20$) and possessions as indicators of status ($r \approx -.25$).

Construct Validity

Results of some of the validity tests are shown in Table 1. The reported analyses are based on summed subscales that represent the factors. Analysis using factor scores produced similar results. The validity tests suggest that the materialism scales perform in the predicted manner among college students.

DISCUSSION

Analysis of the literature concerning materialism suggests that this construct is best measured as a value. Toward this end, we have embarked on a program to measure some of the relevant aspects of material values. Empirical studies conducted on student samples suggest that at least three aspects of material values can be measured reliably and with some validity: possessions valued as symbols of success, possessions as a source of pleasure, and beliefs that more possessions lead to happiness. The validity of the fourth factor emerging from data analysis

(asceticism) remains to be demonstrated. At this time, it is unclear whether this factor should be treated as a separate subscale or merely represents very low materialism across the three other subscales. Internal consistency of the asceticism items is also lower than desired.

A research program to refine the material values measures is underway. It includes collecting data from consumer samples in three separate cities of the U.S. The goals of this program are three-fold: to determine the final set of scale items, to measure the reliability of scale items in a consumer sample, and to examine the nomological network of material values by studying their relationship with other personal values, psychological constructs, and Belk's trait measures.

This research has identified some of the ways in which possessions are linked to personal values, but the possibilities extend beyond the domain identified here. The empirical study of values in consumer behavior has not been especially fruitful in the past. While values are prominently discussed in consumer behavior texts, the 1984 ten-year index for JCR doesn't even include a heading for values; the 1989 five-year index has a heading but only one article is listed. The limited empirical attention to values stems in part from measurement problems. The current measurement approaches generally involve ranking of rather abstract constructs. While these are useful in identifying the relative importance a consumer assigns to a set of values, it is difficult to use the measures for other purposes. In addition, the ordinal, ipsative nature of the resultant data is not amenable to many data analysis techniques. By providing a values measure of a more limited domain but greater depth, we hope to encourage a new approach to the study of consumption-related values.

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German and Canadian Data on Motivations for Ownership: Was Pythagoras Right?

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ABSTRACT

To test the Pythagorean hypothesis that women are more sharing than men, gender differences in materialism were sought in re-analyses of 1969 West German university student data and 1986 Canadian adult data. The West German data, taken from the *Multinational Student Survey*, included two questions on attitudes towards the institution of private property and six scales from Gordon's *Survey of Interpersonal Values*. Women were found to be more sharing than men, and female gender was distinguished by more favorable attitudes towards private property and by preferences for benevolence over dominance and for independence over benevolence. The Canadian data were from two samples of adults, one school teachers, the other general public. They completed Belk's scales of materialism and 10 scales from Jackson's *Personality Research Form*. In both samples, women were more generous, more nurturant, and less dominating than men. These findings are discussed in the context of a feminist materialism.

INTRODUCTION

Pythagoras was born in the sixth century B.C. on the Island of Samos in the Aegean Sea. There he studied with Thales and Anaximander, and then went to Egypt and later Babylon for further studies (Vogel, 1966). In addition to mathematics and science, Pythagoras studied Orphic mysticism. This religious philosophy, akin to modern Hinduism, emphasized that all life is a unity, sharing a common divine spirit which is isolated, trapped, and confused in the material world (Cornford, 1912). The goal of life is to rise through successive transmigrations of the soul and to transcend the irrational material world.

At the age of 40, Pythagoras began teaching in Croton, on the southeast coast of Italy. In accord with Orphism, he emphasized social harmony and the equality of all, including women, children, slaves, and animals. His school was communal since private property was seen to foster materialism. Pythagoras also gave public lectures, fragments of which are known through secondary sources (Vogel, 1966). His fourth lecture, addressed

to women, argued that women are more just, social, and sharing than men. Pythagoras said of women:

"They must not destroy the reputation they had acquired through tradition and not put the writers of myths in the wrong; on the grounds of their recognition of the justice of women, because they give away clothes and adornments without witnesses when others have need of them, without this trustfulness resulting in lawsuits or quarrels, these poets created the myth that three women had but one eye between them because there was such concord among them. If one was to apply this to men and say that one who had first obtained something could easily part with it and even willingly added something of his own, nobody would believe it. For it is not in the nature of men." (Pythagoras, in Vogel, 1966, pp. 132-133)

As suggested in this passage, that women are more sharing than men may be only a myth, or it may be an enculturated characteristic, or it may be an inherent gender difference in the psychology of property.

Although this might have been "a remarkable psychological insight", as Vogel (1966, p.133) argues, it received relatively little subsequent attention. Pythagorean philosophy strongly influenced Greek, Roman, and Western thought generally, but the question of gender differences in materialism was raised infrequently, if at all, for more than two millennia. It was not until the development of modern psychology that there began to appear incidental reports of gender differences in the materialism of young children. William James (1890) started this when he argued that the Self is created by the act of possession and materialized by the instinct for acquisition, evidence for which should be sought in the natural, unsocialized behaviors of young children.

For example, in children's collecting behaviors, Kline and France (1898) found that more girls than boys collect things. Wiltse and Hall (1891), Burk (1900), Whitley (1929) and Witty and Lehman (1931; 1933) all found that girls' collections reflected social attachments and personal achievements, while boys' collections had a more competitive quality, reflective of games, conquests, and trading. McElwain (1937) found that girls were more individualistic in their choices of possessions. In children's development of personal pronouns and possessive behavior, Cooley (1902) reported that his daughter was more advanced than had been her older brother, but attributed that to birth order rather than to gender. In a study of preschool children, Dawe (1934) found that boys quarreled more than

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girls and that most quarrels, particularly for boys, were about possessions.

In the past five decades, the psychology of material relations has developed extensively. However, this is not commonly recognized because the research is dispersed among isolated sub-fields and disciplines. [See bibliographies by Rudmin (1986) and Rudmin, Belk and Furby, 1987.] Gender differences in the psychology of property, ownership, and possession have yet to be the focus of much attention, despite the importance of this topic to the moral, political, and economic concerns of the feminist movement. The purpose of the present report is to explore two existing data bases for gender differences in materialism, with the hope that such re-analyses might contribute to the development of a feminist theory of materialism. The perspectives and values of both genders need representation if a coherent and useful understanding of the psychology of property is ever to be developed.

STUDY I: GERMAN DATA

The first study examined gender differences in attitudes towards the institution of private property for a sample of West German university students. The data come from the *Multinational Student Survey (MSS)*. This was a collaborative questionnaire survey of sociopolitical knowledge, attitudes, and values in 17 nations (Iversen, 1969). The target population was male university students, aged 22 to 24. However, the German researchers fortuitously collected responses from both sexes, and hence their data are suitable for an exploration of gender differences.

The respondents were 65 German students from two different universities. However, only 43 had complete data on the variables of interest here. The mean age was 23, with a range of 20 to 28. The sample was almost evenly divided between the sexes, 22 women and 21 men. Although this is admittedly a small sample, it does have the conservative virtue of making statistical significance less likely to occur. The original research questionnaire, translated into German, consisted of 190 multiple-choice questions, 14 demographic questions, and 5 open-ended interview questions. Of these, the present study examined two questions on attitudes towards the institution of private property and the 90-item *Survey of Interpersonal Values (SIV)* (Gordon, 1976).

The two property questions were separated among 47 other questions on sociopolitical values:

"The institution of private property is a sound basis on which to build a society which fulfills the needs of its members."

"The acquisition of private property is based, in the final analysis, too much on force, fraud, and violence."

Scoring was on a 7-point scale, from strongly agree (value 1) to strongly disagree (value 7). To allow

both questions to represent measures of preference for private property, the first question was reversed by subtracting its score from 8.

The SIV measures interpersonal values of Support, Conformity, Recognition, Independence, Benevolence, and Leadership. It has 30 triads and uses a forced-choice preference paradigm in which respondents must choose one of the statements in each triad as most important to themselves and one as least important. Such scales are ipsative (i.e. negatively intercorrelated) because accumulating points in one scale necessarily limits accumulation in other scales. On the positive side, the forced-choice design tends to reduce acquiescence and social desirability contamination (Mueller, 1985). Also, the SIV is considered robust for cross-cultural use (Hofstede, 1976).

On the negative side, ipsativeness confounds multivariate analyses. Therefore, an alternative scoring procedure was devised to minimize negative intercorrelations (Rudmin, 1988a). Usually, the SIV is scored by counting the number of times each scale is preferred over the other scales. In any triad, the scale item chosen as most important is scored 2 because it was preferred over the other 2 items. The scale item chosen least important is scored 0 because it was not preferred over any other scale. The undesignated item in the triad is scored 1 because it was preferred to the least important item. Because SIV scores represent preference decisions, an alternative scoring procedure is to tabulate preferences specifically for the paired options. For six scales, there are 15 preference pairs (e.g. Independence preferred to Support, Independence preferred to Benevolence, Independence preferred to Conformity, etc.), which if labelled with the SIV scale initials are: IS, IB, IC, IL, IR, SB, SC, SL, SR, BC, BL, BR, CL, CR, and LR. A preference score is incremented by one each time the first scale is preferred over the second. The total scores for each of the 15 scale pairs are divided by the number of times the preference pair is offered on the SIV. This ranges from 2 for SR to 9 for IR. The labelling of preference pairs can be reversed by using complementary scores (e.g. LC = 1 - CL). Whereas the six SIV scales have a mean intercorrelation of $r = -.20$ for random data (Hofstede, 1976), the 15 preference pair scores have a mean absolute intercorrelation of only $r = .05$ (Rudmin, 1988a).

Cronbach alpha coefficients of reliability for the SIV were: Independence .65, Support .80, Benevolence, .84, Conformity, .78, Leadership, .82, and Recognition .31. Thus, with the exception of Recognition, which was dropped from the analysis, the SIV scales represent coherent constructs, even when translated into German and administered to a small sample. Finally, because the two property questions were significantly correlated ($n=43$, $r=.38$, $p<.01$), they were summed as a two-item scale of preference for the institution of private property.

An examination of the data for gender differences found that women valued Leadership less than did men ($n=43$, $t=-2.55$, $p=.01$; $r=-.37$, $p<.01$),

and in particular, women preferred Benevolence to Leadership more than did men ($n=43$, $t=2.33$, $p<.05$; $r=.34$, $p=.01$). One of the Benevolence items directly asked whether or not it is important "to share my belongings with others", and women chose this item more frequently than did men ($n=43$, $t=2.11$, $p<.05$; $r=.31$, $p<.05$). These gender differences remained statistically significant even after partialling out any age effects.

Multiple regression showed that female gender correlated ($R=.52$, $p<.01$) with preference for Benevolence over Leadership ($\beta=.50$), with preference for private property ($\beta=.33$), and with preference for Independence over Benevolence ($\beta=.18$). As a discriminant function, these three measures alone correctly distinguished 77% of the females and 67% of the males.

These data and analyses do support the Pythagorean hypothesis. Sharing was more typical of women than of men. The reason for this appears to relate to the fact that the women more strongly preferred Benevolence to Leadership as an interpersonal value. Whereas the Benevolence scale of the SIV was defined as "doing things for other people; sharing with others; helping the unfortunate; being generous" (Gordon, 1976, p.1), the Leadership scale emphasized interpersonal dominance, "being in charge of other people; having authority over others; being in a position of leadership or power" (Gordon, 1976, p.1). Thus, in rejecting Leadership and choosing Benevolence, women prefer the care of people to the control of them.

However, it is most important to emphasize the implications of the multivariate analysis. As characteristics which reliably distinguish women from men, preferring caring to control goes along with positive attitudes towards private property and with preferring autonomy to caring. To state it most forcefully and thus set forth an hypothesis for challenge, discussion and research, it would seem that women have higher regard for the institution of private property, not for the dominance opportunities it allows, but for the benevolence and, to a lesser degree, independence opportunities.

It may seem that such interpretations are too broad for so small and so unique a sample, and for so post-hoc an analysis. However, a study of MSS data for only male university students in 15 societies found a preference for dominance to be the strongest and most replicated correlate of favoring private property (Rudmin, 1988b). Much more remote and therefore stronger support comes from the literature on gender differences in wishes. Wilson's 1939 study of U.S. university students, Wheeler's 1963 study of Australian adolescents, and Winkley's 1982 study of British school children all found that females wish less for having power and money, indicating rejection of dominance, and wish more for philanthropic activities, pets, and benefits for relatives, and for opportunities, accomplishments, and scholastic achievement, indicating preferences for benevolence and independence. That females have more of a

preference for private property gains some support from the finding by Dixon and Street (1975) that girls have a greater frequency of identifying possessions as part of themselves, and by Kline and France's (1898) and Furby's (1976) findings that, when asked, girls mention more possessions than do boys.

STUDY II: CANADIAN DATA

Further support for the Pythagorean hypothesis was sought in post-hoc analyses for gender differences in two samples of Canadian adults who had completed a questionnaire on materialism (Rudmin, 1988c;d). The first sample consisted of 102 public school teachers attending university summer session. The mean age was 34, with a range of 24 to 55; 64 were women and 38 were men. The second sample consisted of 38 men and 35 women recruited in a car ferry queue. Their mean age was 41, with a range of 21 to 76. In both samples, respondents had been eliminated if they were younger than 21 or if they had incomplete data on the variables of interest.

Both samples completed Belk's (1984; 1985) scales of materialism and 10 scales from Jackson's (1984) *Personality Research Form* (PRF). The scales of materialism consisted of Possessiveness (9 items), Nongenerosity (7 items), Envy (8 items), and a combined measure of Materialism (24 items). These were rated on a 5-point Likert scale from strongly disagree (value 1) to strongly agree (value 5). The 10 PRF scales were Abasement, Affiliation, Autonomy, Change, Defence, Dominance, Nurturance, Order, Social Recognition, and Desirability. Each of these consists of 16 true-false items.

Cronbach alpha coefficients of reliability for the materialism scales for the teachers and ferry passengers respectively were Possessiveness .26, .37; Nongenerosity .68, .54; Envy .51, .09; and the combined Materialism scale .57, .48. Alpha coefficients for the 10 PRF scales for the two samples were Abasement .39, .51; Affiliation .80, .78; Autonomy .75, .61; Change .56, .61; Defence .72, .72; Dominance .79, .84; Nurturance .61, .64; Order .89, .89; Social Recognition .69, .64; and Desirability .51, .53. Thus, with the exceptions of the Possessiveness, Envy, and Abasement scales, which were deleted from further analyses, the measures used were coherent for the two special samples under study. In both samples, Possessiveness items 8 and 9, and Envy item 2 had negative item-total correlations, suggesting that these three items should be carefully examined in future revisions of the materialism scales.

To be conservative, only those findings are reported which were statistically significant in both samples. Data on the semantic similarity of 24 verbs to the verb "own" were collected in this study (Rudmin, 1988d), but are not reported here because the analysis is too complex and the results too weak. However, the search for gender differences in the materialism and personality scales found that

females expressed less Nongenerosity in the teacher sample ($n=102$, $t=-1.98$, $p=.05$; $r=-.19$, $p<.05$) and in the ferry sample ($n=73$, $t=-3.13$, $p<.01$; $r=-.35$, $p<.01$). Females showed less Dominance in the teacher sample ($n=102$, $t=-2.81$, $p<.01$; $r=-.27$, $p<.01$) and in the ferry sample ($n=73$, $t=-3.71$, $p<.01$; $r=-.40$, $p<.01$). Females showed more Nurturance in the teacher sample ($n=102$, $t=2.97$, $p<.01$; $r=.29$, $p<.01$) and in the ferry sample ($n=73$, $t=4.66$, $p<.01$; $r=.48$, $p<.01$). Partialling out age and social desirability effects did not reduce any of these gender differences.

Multiple regression showed that female gender correlated in the teacher and ferry samples ($R=.40$, $p<.01$; $R=.60$, $p<.01$) with Nurturance ($\beta=.19$; $.39$), with Dominance ($\beta=-.29$; $-.32$), and with Nongenerosity ($\beta=-.16$; $-.14$). As a discriminant function, these three measures alone correctly distinguished the gender of 69% of the females and 68% of the males in the teacher sample, and 84% of the females and 77% of the males in the ferry sample. Autonomy was not a significant correlate of either Nongenerosity or gender.

Thus, the Pythagorean hypothesis was again supported. The women in these two samples did report themselves as more sharing than did the men. And again, it appears that this is due to the tendency for women to prefer caring to controlling. However, the weak finding in the MSS study that Independence (here Autonomy) contributed to gender differences in materialism was not replicated.

It should be noted that Belk (1984) did not find a gender difference on the Nongenerosity scale. However, other studies have reported that females are more sharing than males. For example, in a study of preschoolers in the U.S., Eisenberg, Bartlett and Haake (1983) found that girls were more likely than boys to share spontaneously and in response to requests. In another study of preschoolers, Eisenberg and Giallanza (1984) found that low dominance girls did an unusually high amount of sharing compared to other children. In a study of French preschoolers, Werebe and Baudonniere (1988) found that girls more frequently offered to share objects among themselves than did boys among themselves. In a review of the psychological literature on altruism, Krebs (1970) concluded that "adult males were found to act less altruistically toward highly (versus lowly) dependent others, especially if they seemed threatening. Altruistic females acted more altruistically toward highly dependent others" (p.298). These reports do support the Pythagorean hypothesis.

DISCUSSION

It is common to describe the institution of private property as a manifestation of dominance and an instrument of power (Schlatter, 1951). This has been well expressed by prominent men in the history of psychology:

"The idea of power is, partly at least, the foundation of our attachment to property" (Dugald Stewart, 1829, p.410).

"My power is *my* property. My power gives me property. I myself *am* my power and through it own my property" (Max Stirner, 1971, p.80).

"The feeling of possession and the exercise of power, without immediate reference to other ends, is a first-rank pleasure" (Alexander Bain, 1880, p.145).

"In abolishing private property we deprive the human love of aggression of one of its instruments" (Sigmund Freud, 1930, p.50).

"Status symbols, therefore, express a very general aspect of their owners -their power to control others" (Csikszentmihalyi and Rochberg-Halton, 1981, p.31).

That dominance is an aspect of possession and ownership, and that dominance is much more characteristic of one gender than the other, suggest that there might be other perspectives of material relationships that are being overlooked (Rudmin, 1988c). Pythagoras pointed to the easy sharing of possessions by women as an alternative to the socially divisive and defensive property ethos of men. From the evidence presented thus far, it seems that indeed women are more sharing than men, are less dominating, and yet are still favorable towards private property and possessions.

Following the lead of Gilligan (1982), it might be speculated that women's attitudes towards property and material relations are more socially contextual than men's. Whereas the social aspect of property for men is power, for women it is specific relationships. For men, property as power is socially divisive and abstract, as George Mead argued:

"Abstractness is given to the social relation involved in property through associating it with hostility. Previously property was a concrete social relation. The abstract property relation came into marriage and slavery through bringing in the outsider, one who had no rights in the group, no personality that gave him or her a place in the group . . . Abstractness always carries with it a degree of hostility. The attitude of the possession of money is an attitude of hostility toward all the rest of mankind. Money is for anyone who cares to seize and hold it. Its very abstractness puts the possessor in the attitude of defense . . . The abstractness of the relation of property always carries with it hostility just in proportion to the abstractness" (Mead, 1982, pp.87-88).

Gender differences in the possession of money are important for the proposal that female materialism is contextual. As the wish literature has

shown, for men, money is power and it is desired as such. Women do not seem to value money or seek it in the same way. Dittmar (1989) examined gender identity-related meanings of personal possessions and found that women identify with financial assets significantly less than do men. In a pilot study on Cree concepts of ownership (Rudmin, 1988c), a woman was asked about which of the things that she owns she feels least ownership; she answered, "Money". Indeed, money is property in the abstract, impersonal, decontextualized, unreal, except for its power which is most appealing to male possessiveness. Sartre (1956) aptly describes this:

"Money represents my strength; it is less a possession in itself than an instrument for possessing . . . it is evanescent, it is made to unveil the object, the concrete thing; money has only a transitive being. But to me it appears as a creative force: to buy an object is a symbolic act which amounts to creating the object. That is why money is synonymous with power" (Sartre, 1956, pp.143-144).

Rather than money and other possessions of prowess, women value and identify with property that is connected to personal and specific social relationships and events. (Csikszentmihalyi and Rochberg-Halton, 1981; Dittmar 1989). And the use of possessions for altruistic purposes, is not an abstract moral ideal but socially situated. For example, Birch and Billman (1986) found that preschool girls share food differentially, favoring friends over acquaintances, whereas boys' sharing behavior was not influenced by their personal relationships. Boys tend to share after they feel competent and in control (Staub and Noerenberg, 1981). However, Furby (1978) has argued that sharing can be an alternative means of social competence and control. Furthermore, as Dewey (1976) has argued, true altruism must be ad hoc and inadvertent, that is contextual and situated, that is, the altruism for which Pythagoras praised women:

"There is an altruistic paradox as well as a hedonistic one. The hedonistic paradox is that a man cannot secure happiness as the end unless he forgets it. He must forget it and devote himself to the thing in hand in order to be really happy. So here on the altruistic side, before he can really do good to others, he must stop thinking about the welfare of others; he must see what the situation really calls for and go ahead with that" (Dewey, 1976, p.214).

As Gilligan and Attanucci (1988) have argued, if there are gender differences in social psychological phenomena, then it is important to explore and elaborate those differences in order to truly understand the phenomena and their implications. This paper has shown that there are

gender differences in the psychology of material relations. They are not mythical. On that Pythagoras was right. Whether they are enculturated or inherent is a question that may be difficult, if not impossible, to answer.

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Isolating the Effect of Non-Economic Factors on the Development of a Consumer Culture: A Comparison of Materialism in the Netherlands and the United States

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INTRODUCTION

Differences in consumption culture are quite transparent when comparing the United States to countries with significantly different economic and/or cultural systems (cf., Belk and Bryce 1986; Wallendorf and Arnould 1988). However, cross-cultural comparisons between countries of similar economic development are necessary in order to tease out other macro societal characteristics which may influence the evolution of a consumption culture (Rassuli and Hollander 1986). As such, this study uses Belk's (1985) measures of materialism to compare the consumption cultures of the Netherlands and the United States. While these countries are relatively similar in terms of economic and physical characteristics, key differences in other macro variables, namely social, religious and political structures, are proposed to lead to higher levels of materialism in The Netherlands. A synopsis of the theoretical rationale, study procedures, and analysis are provided in this paper.

A wealth of literature may be consulted concerning the importance that individuals attach to worldly possessions (cf, Csikszentmihalyi and Rochberg-Halton 1978; Douglas and Isherwood 1979), and the conception of the Belk (1984;1985) materialism scales. Briefly, Belk conceived of materialism as a complex trait which reflects the centrality of possessions in an individual's life. The measure consists of the subtraits of possessiveness ("the inclination and tendency to retain control or ownership of one's possessions"), nongenerosity ("an unwillingness to give possessions to or share possessions with others"), and envy (displeasure and ill will at the superiority of another person's happiness, success, reputation, or possession of anything desirable). The following section provides a condensed discussion of those macro differences between the Netherlands and USA which may give rise to patterns of materialism.

MACRO COMPARISONS BETWEEN THE NETHERLANDS AND USA

Economic differences between Holland and the USA on any standard indicator are negligible when compared to the advancement of either country over OECD (first world) countries such as Spain or Turkey, NIC countries such as South Korea or Brazil, or any of the third world developing economies. Both countries appear on the United Nations' list of the Ten Most Wealthy Countries, have highly industrialized economic bases, and are important players in the international trading of goods and services. When measured by 1985 GNP, Americans do have a higher per capita income than the Dutch (\$16,685 vs. \$11,404). However, ownership of

consumer durables and luxury goods are far higher in each country when compared to consumers from less developed economies.

Physically, population density in the Netherlands is significantly greater than in the USA. One theoretical perspective suggests that such population density should promote emulation and imitation of upper classes by lower classes (McKendrick, Brewer, and Plumb 1982), thereby heightening the importance of the status symbolizations associated with consumer goods. However, because the data for this study were collected in urban environments of similar population densities in both countries, this thesis is not thought to be relevant here.

The rationale for proposing that materialism will be higher in the Netherlands than in the USA is found in the political, religious and social structure of the Netherlands. Perhaps more than any other Western country, these three arenas of Dutch culture have traditionally been tightly interwoven. Until recently, Calvinist and Catholic religions permeated the political and social institutions of Dutch society. Beyond having separate political parties, these religions had their own mass media, schools, labor unions, and voluntary organizations (van Schendelen 1987). Prior to the 1970s, marriage and housing across church membership was highly unusual (Gadourek 1982). The symbolic value of material goods is heightened in such a society in order to mark these important statuses.

Calvinism itself has a complex, historical relationship with aspects of consumption culture. A modern day interpretation of Calvinism is of "individualistic business activity, sanctioned by the view that worldly prosperity is evidence of the favor of God" (McNeill 1954, p. 437). Weber (1958) argued that the Calvinist virtues of thrifty industry, honesty, and hard work would sanction the accumulation of wealth, which would serve as a sign to God and society of success in achieving God's mandates. An early but heavy Calvinistic influence may be partly responsible for the observation that the Dutch appeared to lead the world in conspicuous consumption during the 17th century (see Schama 1987).

Dutch class structure also suggests that materialism will be higher in Holland. A number of studies indicate that class consciousness and deference in the Netherlands is significantly higher than in any of nine other countries, including the USA (see Bagley 1973). Gadourek (1982) notes the multifaceted bases of deference in Dutch culture, which further suggests a rigid social structure. This rigidity is evidenced by a mobility ratio in the mid-1950s that was just half that of the USA (Tyree, Semyonov, and Hodge 1979). To sum, the more

TABLE
Mean Levels of Materialism in The Netherlands and USA

Scale	Mean Differences		F
	Dutch	American	
Envy	-6.52	-5.14	.85
Possessiveness(b)	6.94	4.44	2.75
Nongenerosity	-4.64	-4.88	.26
Materialism	-4.70	-5.72	.01
Life Satisfaction(a)	11.64	7.06	.02

a. Difference significant at $p < .001$.

b. Difference significant at $p < .01$, all others nonsignificant.

rigid social structure, the historical influence of Calvinism, and the prevalence of class consciousness in the Netherlands are hypothesized to increase the saliency of ownership of material goods, which should be reflected in greater levels of materialism than in the USA.

METHOD

Two Dutch nationals administered surveys to 80 households selected at random within Amsterdam and The Hague. This sample is mostly middle to lower income, high school to college educated, and evenly represented according to gender. The American data were collected in the metropolitan area of Portland, Oregon using gender and age quotas. A drop-off technique was used to place the surveys. A total of 127 questionnaires were completed. The sample profile in terms of medians was 35 to 44 years of age, \$30,000 to \$39,999 in yearly household income, and 12 to 16 years of education. Demographic comparisons of the two samples suggests that the American sample may be somewhat more upscale than the Dutch sample. Steps were taken in the ensuing data analysis to account for this difference.

Items described by Belk (1985) were used to measure envy (6 items), nongenerosity (8 items), and possessiveness (8 items). Because of its association with materialism, life satisfaction was also measured (9-point Likert scale; Very Satisfied/Very Dissatisfied) using eleven items which reflected domains such as career, community, and savings. The U.S. version of the questionnaire was back translated by two Dutch nationals and pre-tested. Tests for homogeneity of variance verified sample comparability (Bartlett's F values all nonsignificant at $p > .10$).

Both Dutch and American envy scales achieved adequate internal consistency (alphas of .81 and .76, respectively). Perhaps due to the lack of direct translation of the word "share," the Dutch

nongenerosity scale was lower in reliability (.46) than was the American scale (.63). Reliability of the Dutch possessiveness scale (.68) was higher than for the American sample (.53). Reliability of the summary Materialism scale is also somewhat low (.61 and .62 for Dutch and American). These reliabilities suggest that the results be approached cautiously. The life satisfaction measure achieved excellent reliability in the case of both Dutch (.84) and American (.80) samples.

RESULTS

Analysis of variance was performed on the three subscales and summary materialism scale in order to test for between country differences. The most significant difference in measures of materialism occurs for possessiveness (see Table) in which the Dutch sample has a higher mean than the American group ($F=5.90$, $p < .01$). However, members of the two cultures do not differ significantly in mean levels of envy, nongenerosity, or overall materialism, indicating a general lack of support for the proposed differences. Given the disparate direction of group differences in possessiveness and envy, the lack of significance of the summary materialism scale is not surprising. These differences in scale means perhaps challenge the unidimensionality of the summary materialism scale when conducting cross-cultural studies. The means for life satisfaction show that the Dutch are significantly more satisfied than are the Americans ($F=25.03$, $p < .001$).

Additional analyses were performed in order to determine if income, education, or age might be masking underlying cultural differences in materialism. No significant effects emerged involving education, while age did yield one significant relationship. As found elsewhere (Belk 1985), envy drops significantly with increasing age ($F=6.93$, $p < .001$), which may reflect success in acquiring material culture and improving quality of

life over the life span. The most interesting results involve the relationship between income and envy across the two countries. Because of the small sample of upper income respondents from the Netherlands, between country comparisons are possible only for low and middle income groups. Nevertheless, the data yield significant country (F=4.24, p<.05), income (F=6.85, p<.01), and interaction effects (F=5.96, p<.02). While lower income Americans have higher levels of envy than middle income Americans, the trend among the Dutch indicates higher levels of envy among the middle income group than the lower income group. These disparate trends can perhaps best be attributed to the greater relative level of social welfare spending in the Netherlands than in the U.S. About one-third of Dutch national income is spent on social welfare, and as far back as 1960 nearly 50% of new dwellings were built by the government (Bagley 1973). For individuals with lower incomes, such spending may improve the quality of life and lessen relative deficits in material culture. When compared to their Dutch counterparts, individuals with lower incomes in the USA may perceive greater differences in ownership of material items between themselves and others with higher levels of income.

Correlations between materialism and life satisfaction in the two cultures show that envy is the only materialism subtrait strongly and negatively related to life satisfaction. In accordance with theory, when individuals perceive a lack of ownership of material items when compared to others, the result is feelings of envy which are negatively related to evaluations of life satisfaction. Though the correlation for the Dutch sample is higher than for the American sample (-.42 versus -.31), the difference is not statistically significant.

CONCLUSIONS

Based on measures of trait materialism, the results suggest that America shares an exuberancy of consumption culture with at least one other country in the Western world. The differences in social structures between the two countries may not be great enough to produce dramatic differences in materialistic values, or such values may not be strongly affected by these social structure characteristics. The results confirm Inglehart's (1981) thesis that Western cultures share relatively similar materialistic values.

Only in the case of possessiveness did significant differences occur between the Netherlands and USA, and here the means indicate greater possessiveness among the Dutch. Americans may be less possessive since they live in a culture in which lost possessions can often be replaced with new ones which are perceived as equally if not more satisfying. McCracken (1988) has suggested that patina, or the status inferred from material items which have passed through generations, has lost the value it once had in American culture. Status in America appears easily encoded through purchase and ownership of new material goods. In contrast, individuals in the Netherlands seem less likely to

either sell or buy items in second hand markets. The phenomenon of a "garage sale" is totally absent from Dutch culture and second hand markets such as swap meets or flea markets are rare at best. Thus, while "new" more easily replaces "old" in the USA, possession seems to have a stronger, more durable meaning to the Dutch. Although possessiveness appears lower in the USA than in the Netherlands, this finding may not necessarily imply that the U.S. has a less advanced consumption culture. In fact, one could argue that the velocity of consumption is greater in the USA than in the Netherlands, and that in a world of topped-off land fills, "possessiveness" may not deserve the negative connotation often associated with "materialism".

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Measuring and Comparing Materialism Cross-Culturally

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The materialism scales developed by Belk (1985) are modified to increase appropriateness to cultures other than the US. The scales are tested by the data gathered in the United States, Turkey and France. The problems of developing and testing cross-culturally applicable scales are discussed and preliminary results of these tests and cross-cultural comparisons are presented. The Turkish sample is found to be the most materialistic, yet also the most generous. The results are discussed in terms of relative affluence levels and cultural factors.

Materialism has been defined as "the importance a consumer attaches to worldly possessions. At the highest levels of materialism, such possessions assume a central place in a person's life and are believed to provide the greatest sources of satisfaction and dissatisfaction" (Belk 1985). Materialism, or consumption-based orientation to happiness seeking, has generally been seen as a Western trait which achieved an elevated place in industrial and post-industrial life. However, consumption for the sake of pleasure existed in many different cultures and throughout the history (Belk 1988). "While high level consumer culture has existed in isolated pockets since ancient civilizations, it has become available and embraced by entire populations only over the past century" (Belk 1988, see Mason 1981).

A scale measuring materialism has been developed by Belk (1985) and three dimensions have been identified: possessiveness, envy and nongenerosity. Possessiveness is "the inclination and tendency to retain control or ownership of one's possessions" (Belk 1985). This may concern goods, experience or people. Envy is the "displeasure and ill will at the superiority of [another person] in happiness, success, reputation or the possession of anything desirable" (Schoeck 1966, in Belk 1985). This may also concern other's goods, experiences or people. Nongenerosity is "an unwillingness to give possessions to or share possessions with others" (Belk 1985).

Research by Wallendorf and Arnould (1988) and Rudmin (1988) suggests that the materialism scales developed by Belk (1985) are more appropriate to the United States than to other cultures, especially those of the Third World. The present research sought to remedy this problem by testing modified versions of these scales. Some of the original items were modified and some additional items, developed for the purposes of crosscultural appropriateness, were included. Once the scale structure was established, levels of materialism in several countries were compared.

STUDY

Sample

A convenience sample of 405 respondents was taken from among the university students in Utah, USA, Fontainebleau, France and several cities in Turkey. In France, the questionnaire was administered at INSEAD, an international institution where the student body is mostly European, the majority being French, English and German. Use of students kept some individual difference variables such as age and educational differences constant.

Questionnaire

An English version of the questionnaire was administered in USA and France (students at INSEAD are fluent in English and most courses are conducted in English), and in Turkish in Turkey. Backtranslation procedure was employed in preparing the Turkish version. The first part of the questionnaire consisted of 34 five-point Likert scale items. These are aimed at measuring materialism. They included Belk's original items, some of which were modified as well as some new items. The second part consisted of open ended questions which are not analyzed in this paper. The last part of the questionnaire listed 20 products/services (or experiences like university education, vacation, retirement) and asked the respondents to indicate whether they think the items are luxuries or necessities. The number judged to be necessities was used for validation purposes.

RESULTS

Dimensions of materialism, reliability and validity

Four dimensions emerged from factor analyses with varimax rotations. While solutions were not identical across all samples, the solution chosen was the most robust and is consistent with a factor analysis of the entire data set. The items which load on the four factors are shown in Tables 1A, B, C and D. In addition to the three dimensions, namely, possessiveness, envy and nongenerosity, identified in USA previously (Belk 1985), a fourth, named tangibility also emerged. Tangibility can be defined to be the conversion of experience into material form. Taking pictures during a vacation, keeping souvenirs, and taking slides of places visited and showing them to friends are examples. The increasing tendency towards this phenomenon has been suggested by Sherry (1987). Cronbach's alpha is used to assess reliability. In the total sample, as well as within each of the three cultures, satisfactory levels of alphas were found (Table 2). Validity is evaluated using the correlations between the number of items seen as necessities and the materialism scores as well as the subscale scores. Although the

TABLE 1A
NEW POSSESSIVENESS SCALE

1. I get very upset if something is stolen from me, even if it has little monetary value.
2. I don't like to have anyone in my home when I'm not there.
3. Renting or leasing a place to live is more appealing to me than owning one.*
4. I don't get particularly upset when I lose things.*
5. I never discard old pictures or snapshots.
6. I am less likely than most people to lock things up.*
7. I would rather buy something I need than borrow it from someone else.

*Reverse Scored

TABLE 1B
NEW NONGENEROSITY SCALE

1. I enjoy having people I like stay in my home.*
2. I enjoy sharing what I have.*
3. I don't like to lend things, even to good friends.
4. When friends do better than me in competition it usually makes me feel happy for them.*
5. I worry about people taking my possessions.
6. I enjoy donating things for charity.*

*Reverse Scored

TABLE 1C
NEW ENVY SCALE

1. There are certain people I would like to trade places with.
2. I don't seem to get what is coming to me.
3. If I have to choose between buying something for myself versus for someone I love, I would prefer buying for myself.
4. I am bothered when I see people who buy anything they want.
5. People who are very wealthy often feel they are too good to talk to average people.

TABLE 1D
NEW TANGIBILIZATION SCALE

1. I tend to hang on to things I should probably throw out.
2. When I travel I like to take a lot of photographs.
3. I have a lot of souvenirs.
4. I would rather give someone a gift that will last than take them to dinner.
5. I like to collect things.

TABLE 2
COEFFICIENT ALPHAS BY SAMPLE

SCALE	SAMPLE			
	TURKEY	INSEAD	U.S.A.	COMBINED
Possessiveness	.51	.52	.76	.67
Nongenerosity	.63	.53	.67	.69
Envy	.46	.42	.50	.52
Tangibilization	.58	.63	.49	.56
Materialism	.56	.67	.49	.58
n	86	167	152	405

TABLE 3
CORRELATIONS WITH NUMBER OF NECESSITIES (TOTAL SAMPLE)

SCALE	CORRELATION
Possessiveness	.18
Nongenerosity	-.13
Envy	.25
Tangibilization	.10
Materialism	.18

($p < .05$; total sample; $n = 405$)

correlations are not very high, all are significant (Table 3).

It is clear that despite the attempt to construct a cross-culturally reliable materialism scale, the resulting scale is more reliable in the United States and Europe than in Turkey. Within Turkey, reliabilities were higher in the more cosmopolitan environment of Istanbul and lower elsewhere. These findings are consistent with the view that the present conception and measures of materialism derive more from highly developed countries in Europe and North America. But this finding does not necessarily negate the application of the scales elsewhere. A primary reason is the theory that materialistic consumer culture arose in this developed world but is being emulated in the Third World at an increasing rate (Belk 1988). The pattern of the West in first developing wealth and then a consumption ethic is being superceded, in this view, by a reversed pattern in the Third World. By virtue of mass media, tourism, and multinational marketing, consumer culture is beginning to create yearning for consumer goods even before households of the Third World have adequate nutrition. Further, limited calories are sometimes sacrificed in order to afford such consumer luxuries. If so, the spread of materialism is perhaps a quintessentially developed world concept that is best measured with scales derived primarily in the same developed context. This view is strengthened by the consistent patterns of materialism scores found, as discussed in the following section.

Cross-cultural comparisons

The Turkish sample is the most materialistic of all with respect to both the scores on the materialism scale (Table 4) and the mean number of items seen as necessities (Table 5), followed by USA and then Europe (INSEAD). Among the three INSEAD subsamples Germany is the least materialistic. The scores on the subscales indicate that the Turkish sample is the most possessive, envious and tangibilizing, but at the same time, the most generous. The USA maintains its second place on envy and, along with England and France, on tangibility. It is the most nongenerous and only is behind Europe (with the exception of France) on possessiveness. Among the Europeans, Germany is the lowest on materialism, tangibility, envy and nongenerosity (although on envy and nongenerosity the differences do not reach statistical significance).

CONCLUSION AND DISCUSSION

In cross-cultural research it appears crucial that questions are decided upon by joint efforts of researchers from the cultures involved. Subtle cultural factors play in and a rigorous translation procedure is not enough to guarantee cross-cultural standardization. It is very questionable whether such a complete standardization is possible at all. The Cronbach's alphas are not very high here. The reason may be that different items are more powerful or relevant in different cultures. To have a standard instrument and overall reliability and validity, the researchers may have to sacrifice high local reliability and validity. One way to develop better

TABLE 4
MEAN SCORES ON MATERIALISM SCALES BY COUNTRY

<u>COUNTRY</u>	<u>POSS</u>	<u>NONG</u>	<u>ENVY</u>	<u>TANG</u>	<u>MATERIALISM</u>
Germany (G)	24.3	13.9	12.1	14.8	65.0
England (E)	25.4	14.7	12.1	16.9	69.0
France (F)	22.5	15.3	12.1	16.5	66.5
U.S.A. (U)	23.7	16.5	14.0	16.3	70.5
Turkey (T)	27.4	11.3	15.2	17.8	71.8
Non-significant Differences (p > .05)	EF EG FG	EF EG FU FG	EF EG FG	EF EU ET FU FG FT	EF EU FU UT

TABLE 5
MEAN NUMBER OF ITEMS CONSIDERED LUXURIES OR NECESSITIES*

<u>COUNTRY</u>	<u>LUXURIES</u>	<u>NECESSITIES</u>	<u>n</u>
Germany (G)	10.8	9.1	20
England (E)	10.6	9.3	45
France (F)	10.0	9.7	30
U.S. A. (U)	8.7	11.2	152
Turkey (T)	7.6	12.5	86
Non-Significant Differences (p > .05)	EF EG FU FG	EF EG FG	

*of 20 items

instruments would be to undertake exploratory research in every culture involved and use the overlapping items. However, not only will this procedure be very difficult and possible only with huge projects, but also some of the local power may still be lost in the attempt to keep the instrument common. If local reliability and validity are emphasized, comparability across cultures may well be lost.

The results are inconsistent with a view generally held that materialism is a Western phenomenon observed in developed countries. The sample from the only nonwestern and the least developed country was the most materialistic and also highest on all subscales with the exception of nongenerosity on which they were the most generous. Furthermore, the Turkish sample was the most materialistic and the least nongenerous at the same time, although for other samples patterns of materialism were consistent for all four factors.

While it may be surprising, even shocking, to find that the Turks sampled are more materialistic than Europeans and Americans, this result is prefigured by findings measuring the Protestant Work Ethic cross-culturally (e.g., Furnham and Muhiudeen 1984, Tallman, Marotz-Baden, and Pindas 1983). These studies find that the Protestant Ethic

is now strongest in Third World countries (regardless of dominant religion) and weakest in highly developed post-industrial nations. Various authors suggest that once wealth is achieved by devotion to the Protestant Ethic, the logical imperative to use excess wealth on consumption and leisure creates the seeds for destruction of the same ethic (e.g., Albee 1977, Campbell 1987, Davis 1944, Duncan 1962, Fox, Lears, and Jackson 1983, Horowitz 1980, King 1983). Scitovsky (1976) and Hirschman (1982) carry the argument a necessary step farther and suggest that high level materialism also contains the seeds of its own destruction because such consumption is ultimately unfulfilling. That materialism is highest in the developing world is a provocative finding deserving of further research.

Why would Turks be generous and willing to share and be materialistic at the same time? One reason may be that the more traditional societies may be more collectivistic or communal- give more importance to the society and societal purposes than the individual and his/her goals. Although generally developed societies are thought to be more individualistic (independent and autonomous members) and industrialization is seen to be linked to individualism, there are arguments that individualism versus collectivism (and

interdependence) are not dependent on industrialization, but are cultural orientations. Japan provides an example of an industrialized and collectivist society (Kagitcibasi 1988). If Turks are more collectivistic, they would be expected to share. There is some evidence that Turkish university students have values that are less individualistic than the western university students (Basaran 1989).

However, it has been suggested that individualism/independence and materialism are associated such that a more individualistic person would be more materialistic: to achieve economic independence the person wants to be rich and values material goods (Furham 1984). However, the country which is probably less individualistic or independence oriented turned out to be the most materialistic. One plausible explanation may be that Turks think of the autonomous unit to be wider, the family for example, and material goods are desired for the family; what are important are the wealth status and the possessions of the family rather than those of the individual. It has been suggested that especially female Turks may think along these lines (personal communication with Ayse Oncu). So, maybe materialism does not have to be individual oriented. If materialism is linked to enhancing the material well-being of, and consumption for a unit, that unit may be a single individual in some cultures, several individuals (close friends and family members) in other cultures. Then, in cultures where the unit includes more than one person, high levels of materialism can co-occur with generosity, even if materialism is influenced by the desire for economic independence.

Why would the least affluent society in the sample be the most materialistic? Materialism has been associated with economic affluence and Western culture. The rising materialism observed in Japan has also been linked to increasing levels of affluence and Western influence (Belk 1985). Recently, it has been suggested that materialism is on the rise in underdeveloped and developing countries as well, and the present results support that suggestion. Although this may follow some sort of economic development, it may occur without accompanying or preceding widespread affluence, again as seen in the current study. The fact that materialism existed in ancient civilizations, although within isolated pockets, and that it exists in LDCs today suggests that being Western or affluent are not essential prerequisites.

Then, what factors account for materialism? A brief look at the cultural and historical factors in Turkey may provide some clues. The Ottoman empire, which survived for about 600 years, collapsed after a period of decline for about 200 years, and lost to the West during the first world war. The Turkish republic which was then formed has been trying to rebuild. A sociological account of the Turkish mentality and lifestyle of the Turkish person of the decline period (Ulgener 1981a and b), suggests that this person has been familiar to the pleasures or desire for an affluent lifestyle with high levels of consumption but is not in a hurry to get

there nor will go to great efforts to get there, and maintains his ties to tradition in setting his goals and means. Lots of and showy consumption (huge and well decorated offices, chauffeurs) is ahead of more simple and less showy service and production capacity. This person relates to material things as a means of pleasure, prestige and showing off. So, the pleasure ethic has always been there. Also, he feels close to "things", in a feeling sort of a way, rather than a good of investment or exchange value, the latter being the way an industrialized man relates to goods. Ulgener argues that religious and secular ethics reinforced consumption for pleasure, not only for the elite but also gave opportunities for similar behavior to the lower classes. Mobility existed. Lower classes as well as the elite were after the "riches", showing off and had a desire for gold and silver. Although there was public rhetoric of modesty in means, in intimate communication and advice, elders wished for a lot for their offspring.

Some of the religious influences arise from the Islamic rules that seem to have implications for materialism and generosity. For example, pilgrimage is only for the rich-- once one has enough to provide for the family and give to the poor; Muslims are required to give to the poor periodically; and when sheep are sacrificed during the holiday (to commemorate God sending sheep when Abraham was about to sacrifice his son), the meat is shared with the poor. Furthermore, there is a strong interpenetration of the religious and the commercial in Turkey, consistent with O'Guinn and Belk's (1989) findings. Artifacts which are both religious and secular include: 1. blue eye (also called "masallah" which is what is said to ward off the evil eye, although "masallah" is an Islam term whereas the evil eye is a pagan belief) hung on door or worn as jewelry, 2. prayer rug versus kilims which are linked to the nomadic tradition, 3. religious elements in many arts and crafts, such as religious writings on copper, silver and ceramic wares, and calligraphy, one of the art forms which evolved to substitute the forbidden representation of human figure in art/paintings.

Recent developments in Turkey point to possible nonreligious influences on materialism. Economic influences may include the 60-80% inflation rate of the past couple of years, and the major liberalization of the economy and encouragement of international business since 1980. The advertising industry also bloomed with foreign partnerships. For the past 20 or so years, Turkish workers in Germany have been coming back to Turkey every summer, bringing modern western goods like cars, TVs, appliances, and impressing people in their neighborhoods or villages. There has been an increase in tourism over the years with exposure to tourists and their belongings, an increase in American TV programs and films, and direct exposure, through business relations, to the lavish consumption in Saudi Arabia. There is a new class of "new rich" who like to publicize their belongings. The newspapers have pictures of the prime minister's wife in her designer clothes and of

the parties of the wealthy who serve outrageously expensive delicacies. People are crazy about Rolex watches and other brand name goods. Traveling to Europe mostly for shopping purposes created an expression: "suitcase tourism". Although these behaviors are not necessarily adopted, afforded or approved of by everyone, they still offer a sign of success. A mental picture of what the rich and famous do, and thus, is desirable, gives prominence to consumption.

Desirability of consumption can, in some cases, lead to "wrong" choices, supporting Belk's argument (1988). In a rural home, plastic plates may be hung on the wall. It is modern, it is what the city people use, and thus good. In the olden days it used to be a copper or ceramic plate. Similarly, in urban areas wall-to-wall carpeting is very "in", and some sort of plastic material covers the rural floors which previously had hand made rugs and kilims. The "doorman" and the cleaning lady purchase the latest appliances including TV and VCR (yet cutting down on food and health related expenses), the poor and the rich buy a faddish item such as stone washed jeans, and follow the latest fashions.

A lot of what is described can be thought of as "Western influence". Why is a country that has been trying to imitate the West more materialistic than the West itself? What is seen first and adopted the easiest is the tangible. Things easiest to diffuse have been the artifactual. Secondly, the "have not" feels the lack of many things, and to compensate, adopts something that is the easiest to adopt. For example, many stores and restaurants in Turkey have foreign or foreign sounding names. "We consume like they do, we have what they have, so, we now are Westerners. Why, we even have McDonalds, Pizza Hut, and Benetton." Anything "Western" is equated with "good and desirable". This feeling is widespread now, and has been since the decline of the Ottoman Empire. This may be because of the defeat of the Ottomans by the west leading to a loss of esteem/dignity accompanied by the belief that the West must know what they are doing. An analogous reasoning may account for the greater materialism in the US than Europe. Being later to industrialize than Europe, plus lacking cultural heritage may lead to lower esteem or dignity. Americans may still look up to the old land in many ways and are impressed very much by its history and culture, but not vice versa. And of course Turkey is very impressed by both USA and Europe.

With that historical and religious background, how can we interpret materialistic tendencies in Turkey now? Possessions are socially accepted and valued. People purchase things to belong. An acquaintance, who was new in a social circle, once told the first author "I realized that unless I show them that I also understand art and own it, they are going to exclude me". The value of a person increases as s/he dresses a particular way, owns certain things, and goes abroad for vacations. Young people want brand name products in order to get dates. Possessiveness and envy go along with valuing possessions. Tangibilizing may occur

because concrete things are easier to show to others and communicate something about oneself. And all may be related to a sense of lack of dignity/ esteem, maybe due to the history-- being grandchildren of a fallen empire, feeling excluded from the world, and wanting to belong. How about generosity? People still give to the poor, but not necessarily to fulfill religious rules. A lack of second hand business may also enhance such giving. They give to the poor around them quite possibly to reduce envy: people they know, like the maid and the doorman, people whom they see and are seen by. The rich and the poor are more exposed to each other, and are not as physically separated as in the USA, which may enhance envy. The blue eye is a tangible indicator of the importance of envy.

In summary, some bare minimum of economic means and communication as to available goods and how other people (in the same society or in different societies) live and consume, and a sense of affordability (I can also buy this) seem to be necessary conditions for materialism. But having the means and knowing that other people have things do not necessarily have to lead to the desire for these things or materialism. Why does that desire come about? Due to an impersonal society? Due to a desire to belong? Implicit in the above preconditions lies the notion that comparison of one's own means and possessions with those of others above oneself will push one towards materialism. The notion of comparative or relative situation seems to be an important one. This comparison may involve other aspects of life (such as constraints, lack of control and satisfaction, see Daun 1983) versus material aspects, current and historical affluence (economic and/or cultural) of others (within a country and/or across countries) versus of oneself. Both of these comparisons may be related to a latent sense of relative deprivation, esteem/dignity (related to or in self, country, society, history), and the desire to self-actualize and assert power. The sudden relative changes in means by Turkish guest workers may be a strong precipitating factor due to the relative disparities it brings about and the exposure to Western lifestyles it creates. More generally, increasing inequality in income distribution may also lead to such disparities. Finally, the relationship between materialism and affluence may be curvilinear rather than linear. In a less affluent society, people may value things they don't have, however, once these things are acquired their value may decrease. Furthermore, affluence may need to be conceptualized as a relative concept and broader in terms of its elements and time frame. That is, 1. history/recency of affluence, 2. recent comparative trends in affluence, and 3. noneconomic affluence (for example, cultural heritage) in addition to current levels of affluence, may need to be considered as the independent variables to be investigated in the future.

To undertake cross-cultural studies of interest, we have to think about causality. In order to address that issue, the nature of the phenomenon and its

dimensions must be identified. So, here we have tried to develop a measure which can assess the phenomenon in several cultures. Now, studies aimed at finding the causal relationships can be undertaken. Historical analyses and descriptive findings may provide initial ideas about causes, which then would need to be tested. Some such ideas have been suggested above.

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Reducing Response Error in Consumers' Reports of Medical Expenses: Application of Cognitive Theory to the Consumer Expenditure Interview Survey

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INTRODUCTION

Previous Analysis has suggested that the Bureau of Labor Statistics' (BLS) Consumer Expenditure Survey may underestimate consumer expenditure levels (Geiseman, 1987). Certain expenditures are prone to measurement error because of heavy demands on respondents' ability to recall and classify expenses. In response to this problem, BLS initiated a sole source contract for preliminary cognitive research to develop and evaluate improvements in the Survey's design. The following describes efforts focusing on reports of health and medical expenditures. The research design applies theories of cognitive psychology to respondents' task in an attempt to reduce burden and increase the accuracy of reports.

The Consumer Expenditure Survey program uses two instruments -- a face-to-face interview schedule and a diary -- to collect data on Americans' consumer behavior. The principle purpose of the Survey is to provide estimates of mean expenditures for the total population and for various demographic subsets of the population. The data determine the relative importance of different goods and services in consumers' budgets, which defines the "market basket" of commodities used in calculating the Consumer Price Index. Data collection is carried out by the Bureau of the Census under contract to the Bureau of Labor Statistics.

The Interview Survey employs a national probability sample of approximately 5000 Consumer Units (CUs). CUs are defined as individuals or groups in a household related by blood, marriage, adoption; or who, as individuals or as groups, are independent of all other persons in the household for payment of major expenses. Respondents are assigned to rotating panels to be interviewed quarterly for five consecutive quarters, with first quarter responses used for bounding purposes. The interview schedule is a complex, somewhat cumbersome document comprised of 22 sections for different categories of expenditures.² Unlike the Diary Survey, which collects data on smaller expenses (e.g., food and beverages, clothing, shoes and jewelry), the Interview Survey generally focuses on larger expenditures which respondents are expected to recall over a three month reference period (U.S. Department of Labor, 1988).

The Health and Medical Expenditures section of the Interview Survey attempts to determine net out-of-pocket medical expenses for sample CUs. The questions have three purposes: (1) to determine if the CU has had any payments or reimbursements for medical services or items during the reference period; (2) to elicit specific payments for medical expenses; and (3) to elicit specific reimbursements for medical expenses. For a number of questions, interviewers use an information booklet to cue respondents with various types of expenses.

STATEMENT OF PROBLEM

Collecting accurate information on health care payments is a formidable problem for survey researchers (Anderson and Frankel, 1979), involving technical terms, detailed recall and potentially embarrassing topics. Within the framework of respondents' cognitive approach to question-answering, the first two processes -- comprehension and retrieval -- pose the most problems in the Health and Medical Expenditures section of the Interview Survey. A report from the Research Triangle Institute (Lessler, 1988, 1989) on cognitive issues in the Interview Survey as a whole identified the following major problems to be addressed in redesigning the instrument:

- Lack of cues to remind respondents of the reference period and to assist in anchoring events in the reference period;
- Use of undefined terms and "hidden instructions" (instructions not read to the respondent) which modify question meanings; and
- Not defining the task adequately to respondents, resulting in under-use of records and less motivation for accurate recall.

BLS used its Collection Procedures Research Laboratory (CPRL) to investigate these problems, with the ultimate goal of revising the section to make it more cognitively "friendly". The specific objectives of the research are to:

- Improve respondent comprehension by rewording and reordering questions, making all instructions explicit and using the information booklet whenever possible; and to
- improve recall of expenditures by structuring the questions as similarly as possible to respondents' retrieval schemes, and by encouraging the use of records.

¹The views expressed herein are attributable to the authors and do not necessarily reflect those of the Bureau of Labor Statistics or the University of Michigan.

²The average time required to administer the interview schedule is about two hours.

TABLE 1
Research Subject Characteristics

	n=60
Gender	
Male	55%
Female	45%
Ethnicity	
Non-white	60%
White	40%
Age	
Mean years	40
Range	19-71
Education	
Mean years	15
Range	12-22

RESEARCH METHODOLOGY

The research employed qualitative methods -- focus groups and personal interviews -- as primary means of data collection. Within the scope of the entire project, this research serves an exploratory purpose, leading to a quantitative field test of revisions to be conducted in the fall of 1989. As with all such qualitative designs, participants' behavior and attitudes cannot be interpreted as projectable to the populations of consumers. The research does, however, provide insight into the processes respondents use in forming answers to survey questions, processes which are difficult to investigate within the format of a sample survey.

Sixty research subjects were recruited with an attempt to balance characteristics such as age, gender, ethnicity and level of education (see Table 1). Each subject was compensated \$15 for time and travel. An experimental psychologist moderated the group discussions and conducted the personal interviews in the CPRL, resulting in a total of six groups and seven personal interviews conducted over an twelve week period.

Upon arriving at the laboratory, subjects were informed of the basic nature of the research and were asked to self-administer a questionnaire to obtain demographic information and, prior to the discussion, their interpretation of several concepts presented in the Interview Survey. The moderator then used a discussion guide to review issues of comprehension and recall relating to medical expenditures. In focus groups, participants were encouraged to express individual views as well as building consensus. Personal interview were conducted using the same discussion outline.

Data from the focus groups and interviews were analyzed with the intent of identifying consensuses which emerged among subjects, as well as individual beliefs and attitudes. Questionnaires

and transcriptions were reviewed along with the videotapes, and responses were grouped into broader categories for interpretation. Most subjects expressed similar difficulties with question wording and retrieval of expenditures; for illustrative purposes we use individual comments to represent consensuses.

RESULTS: COMPREHENSION ISSUES

The first step in the cognitive processing of a survey question, comprehension, describes respondents' understanding of the question-answering role and of the specific terms they encounter in each question. With respect to question wording, the researcher's aim should be to reduce ambiguities and abstract concepts to account for individual and cultural variations in comprehension. Reduction of these ambiguities lends more credence to the assumption that all respondents have comprehended questions similarly (standardized stimuli) and that questions are interpreted as the researcher intended (validity). Methods we used in reducing the ambiguities in the Health and Medical Expenditures section include defining the respondents' role, providing examples and definitions of frequently misinterpreted terms and using commonly-understood vocabulary.

While laboratory subjects focused on health and medical expenditures alone, these questions form only a fraction of the many expenditures respondents must recall for the Interview Survey. We identified two cognitive context effects stemming from the position of the Health and Medical Expenditures section the Survey.³

- First, no introductory information is included to aid respondents in transitioning from one category of expenditures to another. Offering respondents an introductory statement may motivate more careful consideration of the question (Cannell *et al.*, 1987) and may elicit higher levels of reporting (Laurent, 1972). Thus, we added the following introductory statement:

"Now I am going to ask you some questions about medical *payments* and *reimbursements*. We will begin with your payments."

- Second, the questions in the preceding section collect information on expenditures for hospitalization and health insurance, which predispose respondents toward reporting the *reason* they consulted a provider or the *services* they received rather than the germane payments and reimbursements. The question which

³The Health and Medical Expenditures Section is number fifteen of twenty-two sections.

originally preceded each cuing list emphasized services:

"...have you (or any members of your CU) made any payments for any of the following medical services?"

By removing the words "medical services" and skipping straight to the cuing list, we hope to discourage reports of services in place of payments.

Prior to adding the introduction, respondents were asked the following as the first question in the Health and Medical Expenditures section:

"Since the 1st of (*month, 3 months ago*), have you (or any members of your CU) made any payments for any of the following medical services? Include all payments, even those for persons who are not CU members."

Respondents were then cued with several categories of expenditures (e.g., hospital room). If respondents reported any payments for cuing items, they were asked if they had received any corresponding reimbursements from insurance companies or others. This question sequence presents an extremely complex task to respondents. Respondents (who may already have been interviewed for an hour or more) must (1) comprehend and use a reference period; (2) comprehend the difference between payments and reimbursements; (3) distinguish expenditures for CU versus non-CU members; and (4) distinguish insurance reimbursements versus other (undefined) types of reimbursements.

Perhaps the most fundamental problem we encountered in the laboratory research was ambiguity of terms and phrases central to the understanding of questions and of expenditure categories (Miller, 1988). Even the term *payments* (used throughout the Interview Survey in addition to *purchases* and *expenses*) did not present a uniform meaning to laboratory subjects. By payments, BLS means any remuneration made directly to a provider of medical services or items. Payments can be made in a variety of forms -- check, credit card, and so on -- and can be made by the sample CU for a person who does not belong to the CU. Laboratory subjects, however, applied a variety of definitions ranging from overly abstract (anything paid out for medical services, payments for non-medical expenses) to overly specific (money issued in the form of a check). In addition, several subjects wondered whether payments include expenses such as health insurance premiums, which are collected elsewhere in the Interview Survey.

The degree to which these definitions differ from the intended meaning throws doubt on the validity of the resulting data. Because the Interview Survey must be understandable to respondents with a wide range of cognitive sophistication, our solution was simply to provide respondents with an explicit

definition of payments in this context. The definition (heretofore known only to the interviewer) follows and complements the introductory sentence:

"By payments I mean any expenses paid by any members of your CU directly to a medical care provider by cash, check or credit card for a medical service or item. Include all payments, even those for persons who are not CU members."

Subjects' definitions of *reimbursements* correspond more closely to BLS's intended meaning, perhaps because the concept of reimbursement appears to be linked to health care in subjects' minds. Most subjects define reimbursement as money sent by an insurance company to cover all or part of a medical expense. Areas of confusion include insurance company payments made directly to providers, reimbursements received before payments are made and refunds or credits from providers for overpayment. Again, we attempted to reduce ambiguity by providing a definition of reimbursements as follows:

"By reimbursements I mean money received for any members of your CU from an insurance company, medical care provider or non CU member, for medical expenses which you had previously paid or will pay."

Certain categories of medical expenditures exhibit a similar lack of universal definition for laboratory subjects. In the unrevised instrument, respondents were cued with both *physician services* and *services by practitioners other than a physician*. While most laboratory subjects appear confident in their definition of a physician, virtually none could define a practitioner. Efforts to distinguish the terms produced a vague sense that practitioners are somehow "less" than physicians -- for instance, providers who do not hold M.D.s. When asked to classify a number of different providers (such as chiropractors) as physicians or practitioners subjects were unable to reach consensus.

Some of this confusion may stem from the fact that physician services previously were categorized under In-Patient Hospital Care while practitioner services were categorized under Other Medical Care Services. This categorization results from the fact that BLS analyzes physician and practitioner data separately. While the different categories appear to imply to subjects that physicians and practitioners are substantively different, however, the difference is not defined. We revised the instrument to collect expenditures for all medical professionals in the same category, and replaced practitioners with *services by medical professionals other than physicians*. This cue serves the purpose of catching expenditures for any provider which a respondent may not consider a physician, without the vague implication of a difference implied by practitioner.

RESULTS: RETRIEVAL ISSUES

Respondents' task can be especially difficult when it involves retrieving retrospective and autobiographical information rather than current attitudes. Survey researchers have acknowledged this by paying more attention to ways in which retrieval can be aided (Bradburn *et al.*, 1987; Cannell *et al.*, 1981). In the Interview Survey, the quantity and quality of recall ultimately determines the very utility of the data. The researcher's job is to encourage respondents to answer questions thoughtfully and accurately, but with minimal cognitive burden. Thus recall tasks must be structured to mimic the cognitive processes respondents use in retrieving facts. The Interview Survey uses some methods for increasing recall, such as bounding interviews, but is constrained by reference period requirements and limits on interview length. With Health and Medical Expenditures, we attempted to maximize recall by reorganizing the existing section rather than making broad changes.

Cognitive psychologists maintain that the storage, retrieval and interpretation of past experiences is managed by higher level knowledge structures, or schemata. Schema theories can serve as a valuable basis for estimating missing information and correcting inaccurate recall (Anderson, 1985). Scripts, a schema theory put forth by Schank and Abelson (1977), refer to the encoding of stereotypical or routine activities (Dippo, 1989). When describing a past activity using a script, respondents refer not to specific information about the activity in question, but to an estimate based on repeated performance of similar activities. In an oft-cited example, respondents in health surveys frequently report going to the dentist twice a year because of the common script for biannual checkups, despite the fact that they may have had intervening dental care.

Prior to revision, the Health and Medical Expenditure section was structured to collect payments made in certain expense categories, followed by reimbursements for these categories. The payment-then-reimbursement sequence is repeated on four pages until all expense categories are exhausted. While convenient for coders, the structure is awkward for respondents, requiring frequent switches between payments and reimbursements. We hypothesized that an instrument designed to mimic subjects' schemata for health care would place reimbursements after payments, the pattern familiar to most people.

In fact, most laboratory subjects said they would prefer a completely unstructured format for reporting payments and reimbursements. Given a choice of structures, however, an equal number of subjects said they would prefer (1) reporting a reimbursement after every payment and (2) reporting all reimbursements after all payments.⁴ Only a

handful of subjects said they prefer the existing category-by-category structure. Our hypothesis was partially borne out by these results. Subjects appear to consider medical reimbursements as subsequent to, and contingent upon, payments. Since the former structure is not feasible for BLS (it involves reporting reimbursements for payments made out of the reference period), we reordered the section to collect all reimbursements after payments.

One unexpected result emerged about subjects' retrieval schemes: the order of reporting payments and reimbursements may be less important than the landmarks used in retrieving them. Many subjects emphasized that, whatever the payment-reimbursement structure, they retrieve expenses by first reviewing CU members and/or the months in the reference period. This suggests that respondents may use three steps in retrieving expenses:

1. Reviewing episodes of medical care associated with self and, where applicable, each CU member.
2. Reviewing retrieved episodes to be sure they are consistent with the reference period.
3. Retrieving payments and/or reimbursements associated with the care or item.

Subjects' comments suggest that many respondents attempt to create landmarks for recall by reviewing the three-month history of CU members. Our recommendation⁵ based on this finding was to provide a calendar (displaying reference period dates and CU members) in the information booklet as a visual cue for the reference period.

CONCLUSION

Theories from cognitive psychology go beyond a simple stimulus-response description of the process respondents use in answering survey questions. By incorporating these theories into laboratory research conducted for the Health and Medical Expenditures section of the Consumer Expenditure Interview Survey, we were able to examine in-depth the reasons respondents may misunderstand questions and may have difficulty recalling expenses. This information aided in redesign of the data collection instrument to better conform to respondents' comprehension and recall processes.

The revised instrument will be field-tested in fall of 1989 using a non-probability sample of 222 households from four Census PSUs. In addition to the regular interview, both respondents and interviewers will complete a debriefing questionnaire

⁴More subjects who attained a higher education level (BA or above) said they would prefer the first structure, reporting an individual payment

followed by any reimbursement received for that payment. Less educated subjects say they would prefer to report all payments first.

⁵Unfortunately not adopted.

at the conclusion of the interview to determine if revisions have aided comprehension and recall. A portion of interviews will be audiotaped and coded for both respondent and interviewer behavior, providing another measure of the effectiveness of changes. The results should be more and better data for BLS, and a less burdensome task for respondents.

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Cognitive Aspects of Proxy Reporting of Behavior

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INTRODUCTION

This paper presents some preliminary results from a study being conducted by us at the Survey Research Laboratory, University of Illinois and funded by the National Science Foundation. We are investigating the cognitive processes that underlie self and proxy reporting in surveys and their impact on data quality. We are particularly interested in the quality of data provided by proxies and explore possible ways to improve the quality of proxy reports.

In many surveys conducted by government agencies, universities, and the private sector, respondents must provide data about themselves, other household members and sometimes about the household and the community in which they live. For example, the Current Population Survey requires that one household member report about the labor force participation of all household members; in the Health Interview Survey and the National Crime Survey proxy respondents are permitted to report about other household members if they are not available. In consumer research, information about multiple family members' brand purchases and usage is often obtained using proxies because of research budget constraints.

Prior work examining the adequacy of proxy reports has usually found that self reports are more complete. However in some situations small differences are found and, in a few cases, proxy reporting is actually better. (For a review see Moore, 1988.) Many of the comparisons reported in the literature have been flawed because of possible selection biases. Typically, proxies are used only when the respondent is unavailable, thus undermining systematic comparison. In addition, earlier studies have not provided any understanding of how the cognitive processes used for proxy and self-reporting might differ. Therefore, these studies have been unable to use an understanding of processing differences to suggest methods to improve proxy reporting.

Our study addresses these limitations by studying pairs of respondents in a household and asking them to report both about themselves and another household member. We use divergent methodologies, including think-aloud interviews in a cognitive laboratory setting, telephone interviews and laboratory experiments, and our studies include survey questions on a wide range of topics, as

shown in Table 1. Our research program focuses on the following major issues:

1. The convergence between self and proxy reports of behavioral frequencies and the factors that influence convergence, particularly the joint participation of the pair in the activity and the importance of the behavior to the respondent;
2. The use of anchoring and adjustment strategies by proxies to answer both behavioral frequency and attitude questions;
3. The different processes used by self and proxy respondents to answer behavioral frequency questions.

Our current paper presents some preliminary results related to this last issue. In what follows, we give a theoretical overview of current thinking on how people respond to behavioral questions and why proxy reporting processes might be expected to differ. This is followed by a brief methodological discussion, the presentation of our results and a concluding section on the meaning of the results and plans for future research.

THEORETICAL BACKGROUND

A behavioral frequency question requires the respondent to identify the target behavior, to determine if it occurred at all during a specified time period, and if so, how often (see Schwarz, in press, for a detailed discussion of these tasks). Traditionally, it has been assumed that respondents determine the frequency of a behavior using a "recall and count" procedure. Presumably, they search memory for relevant behavioral episodes, determine the date of these episodes, and count the number of occurrences within the reference period. Unfortunately, recent research suggests that this apparently straightforward procedure is rarely used. Specifically, it is most likely to be used for rare and outstanding events, but unlikely to be used for frequent and mundane behaviors as they are usually assessed in surveys. Most importantly, frequent and mundane behaviors--such as reading the newspaper or eating out--are not represented as separate episodes in memory. Rather, these highly similar episodes tend to blend into one generic representation of the behavior, making the use of a recall and count strategy infeasible. Accordingly, frequency reports of mundane behaviors are usually based on estimation procedures in which respondents use some fragmented recall of behavioral episodes

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TABLE 1
Topics Covered in Study of Proxy Reporting

Newspaper, magazine and book reading
 Television viewing
 Crime victimization
 Relatives network sizes
 Health experiences and behavior
 Exercise and physical fitness activities
 Meals eaten out
 Snacking
 Beer and liquor drinking
 Drunkenness
 *Smoking
 *Attitudes on family planning and abortion
 *Attitudes toward politically active organizations
 *Registration and voting behavior
 *Demographic characteristics

*Not discussed in this paper.

along with various inferential rules to derive an appropriate estimate. Which strategy they use is likely to depend on how the information is organized in memory.

Table 2 present a heuristic framework, suggested by Geeta Menon (1989) as part of her dissertation research, that conceptualizes the impact of different memory representations on the likely use of different recall and estimation strategies. This model posits that there are two key factors that influence how information about an autobiographical event is stored in memory. The model further suggests that the specific form of the memory representation influences the strategy that respondents use to retrieve information to form a behavioral frequency judgement. The first factor pertains to whether the event occurs at regular or irregular intervals. We refer to this as the *regularity* or periodicity of the behavior. The second factor pertains to whether separate occurrences of the behavior are similar or dissimilar to one another. We refer to this factor as the *variance* of the behavioral episodes.

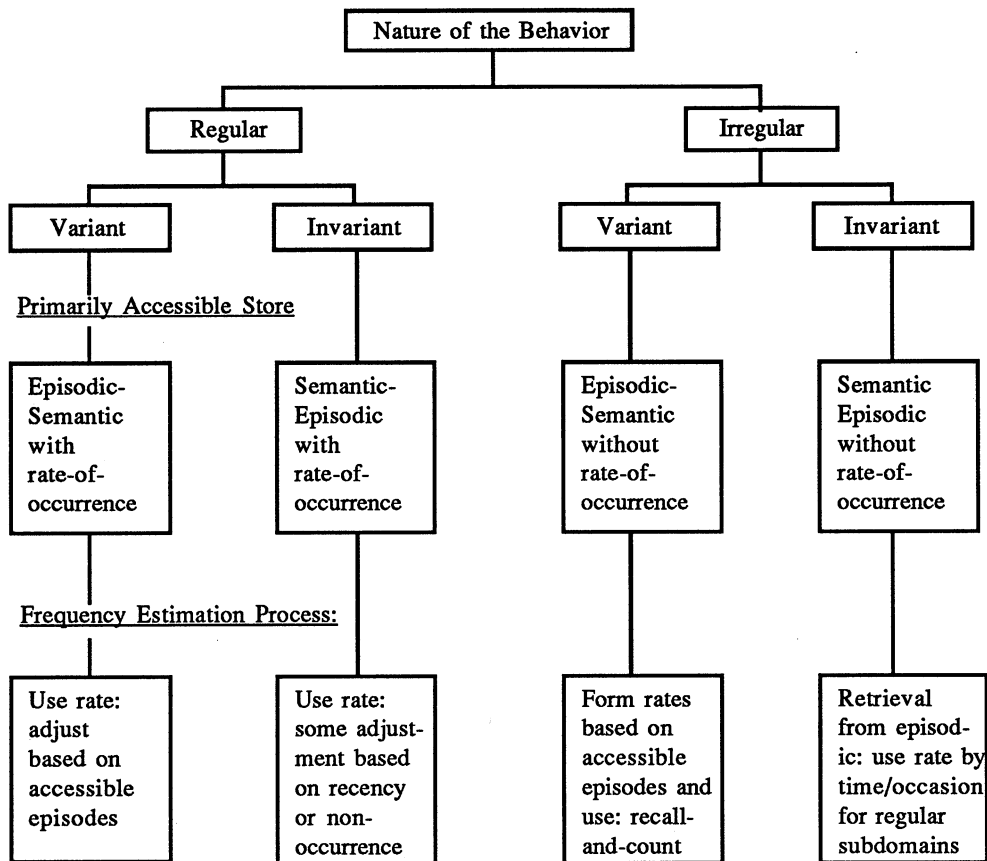
The model assumes that behaviors with a highly regular pattern of occurrences may be represented in memory in a summary form that reflects the respondent's semantic knowledge about his or her usual behavior. This representation may often have the form of a *rate-of-occurrence* (e.g., "I read the newspaper daily"). Accordingly, respondents may retrieve the rate-of-occurrence for the target behavior and may base their estimate on the rate. For example, a respondent who knows that she reads the newspaper daily would easily come up with an estimate of "seven" for the referenced period of one week, without recalling a single episodic representation of "reading the newspaper". Moreover, this initial estimate may be easily adjusted if the respondent does not read a Sunday paper, and so on.

In contrast to regularly occurring behaviors, however, behaviors with an irregular pattern of occurrence are unlikely to be represented in a summary form, such as a rate-of-occurrence. Accordingly, respondents will have to use some kind of episodic recall to compute an estimate under irregular occurrence conditions. The accessibility of individual episodes in memory, however, is likely to depend on the *variance* of the behavior. As several studies have shown, similar occurrences tend to blend into one generic representation, rendering the individual instances difficult to retrieve. Distinct occurrences, on the other hand, are represented as separate episodes, thus increasing the likelihood that they can be recalled (Linton, 1982; White, 1982; Wagenaar, 1986). Thus, the more *variant* the behavior (e.g., purchases of major household or personal items) the more likely that respondents will be able to access independent episodes. In that case, they may either count these episodes and report the frequency, or use a subset of them to form a rate on the basis of which to make a frequency judgement.

On the other hand, the more *invariant* the behavior (e.g., reading the same newspaper in the same setting, but on irregular days), the more likely that respondents will not be able to access individual episodes. Accordingly, they will have to estimate a behavioral frequency on the basis of general knowledge about their behavior. This, however, is likely to be particularly difficult because the semantic representations, such as "I sometimes read the paper", offer little frequency information over and above eliminating the possibility of a non-occurrence.

In summary, the regularity and variance of a behavior are expected to interact in determining the strategy that respondents use in providing *self reports* of behavioral frequencies. In addition to these fairly complex interactions, reporting about the behavior of others raises additional difficulties.

TABLE 2
Proposed Model for the Storage and Retrieval of Information About Frequent Behavior



"Semantic-Episodic" implies a more accessible semantic store with few accessible episodes, while "Episodic-Semantic" implies more accessible episodes with/without accessible semantic stores within subdomains. (Source: Menon, 1989)

Table 3 summarizes the major differences in the encoding and organization of information about one's own behavior as opposed to information about the behavior of others.

At the *encoding level*, it is important to note that one's own behaviors provide a rich set of experiences, including information about what we wanted to do, what we actually did, how we felt while doing it, and so on. Thus, the episodic representation is likely to include information relevant to the event, such as the location, and the emotional responses to the event (Tulving, 1972, 1983). In contrast, proxy respondents are typically answering questions about reported events, or events that are learned "second-hand." These events are likely to be represented as episodes which relate to the occasion of receiving or learning about the event. In line with this assumption, Larsen and Plunkett (1987) found that information about reported events was accessed through the memory of

the context in which the respondents learned about the event. These considerations have several implications for the strategies used to answer behavioral frequency questions.

First, cues related to the event itself should be more effective in enhancing recall for self reports than proxy reports.

Second, reported events might not be encoded in chronological order. Therefore, proxy respondents should be less likely to use a chronological pattern (i.e., forward or backward search of memory) when searching a reference period.

Finally, this suggests that the similarity between a respondent pair's episodic representation of an event should be related

TABLE 3
Information About Self and Other at Stages of Information Processing

	<u>Encoding</u>	<u>Storage</u>	<u>Retrieval</u>	<u>Response Generation</u>
Self:	<ol style="list-style-type: none"> 1. Actually experience event: <ol style="list-style-type: none"> a. Chronological b. Experienced in entirety 2. Increased elaboration. 	<ol style="list-style-type: none"> 1. If episodic, related to actual event. 2. If semantic, related to self. 	<ol style="list-style-type: none"> 1. Cues related to experience. 2. Search likely to be chronological 3. Event likely to be recently activated. 	<ol style="list-style-type: none"> 1. Self-presentation effects.
Other:	<ol style="list-style-type: none"> 1. Learn about event through: <ol style="list-style-type: none"> a. Observation b. Word-of-mouth/direct (from target) 2. Not necessarily chronological. 3. Amount of elaboration depends on social distance. 	<ol style="list-style-type: none"> 1. If episodic, related to reception situation unless joint participation in event. 2. If semantic, related to "Other" knowledge structure, presumably not as well organized. 	<ol style="list-style-type: none"> 1. Cues related to encoding situation. 2. Chronological retrieval is difficult. 3. Less frequent activation. 	<ol style="list-style-type: none"> 1. Less sensitive to demand effects. 2. May not be aware of sensitive information. 3. Social-distance will influence both (1) & (2).

to their common participation in the behavior. Therefore, the similarity of reporting strategies should be directly related to joint participation in the event.

In addition to these encoding differences, the *organization* of information stored about oneself versus others might differ for several reasons. First, self-relevant information has been shown to receive increased elaboration at encoding (e.g., Kuiper and Rogers, 1979; Rogers, Kuiper, and Kirker, 1977). This is thought to create a more elaborate memory trace for the event, resulting in enhanced recall. Thus, autobiographical events should be more likely to receive increased elaboration, and episodic representations of one's own behavior should be more accessible. Self-reports should therefore be more likely to be based on the use of a recall and count strategy than proxy reports. Moreover, the

attention that is given to the behavior of others may be a function of the other person's importance. As several studies have shown, information that is relevant to important others (e.g., one's spouse) also receives increased elaboration (Bower and Gilligan, 1979; Kuiper and Rogers, 1979). Therefore, it would be expected that the *social distance* between the self and proxy should be a major factor in determining the similarity in reporting strategies, particularly when the behavioral frequency question involves reporting of relatively variant, and/or infrequent behaviors.

The most pronounced difference in terms of self/proxy reporting may occur when answering a frequency question that requires the retrieval of a rate, as opposed to specific events. Recent research in social cognition has shown that recall of descriptive information, such as a rate, is facilitated when it pertains to the self (Klein and Kihlstrom,

1986; Klein, Loftus and Burton, 1989). This is thought to be attributable to a better organizational structure of this information in memory (Klein and Kihlstrom, 1986). Therefore, rate-based estimates should be more accurate when made about oneself than about others. For proxies, a question which requires the retrieval of a rate may be the most difficult of all to answer and the least accurate.

Finally, the impact of social desirability and self-presentation concerns should be different for self and proxy respondents. Although proxy respondents may, in general, be more willing to report about socially undesirable behaviors of others, they may lack the knowledge to do so. Again, a major factor should be the social distance between the pair. This should affect both the information which a proxy respondent has about the other, and his or her willingness to report it. However, these effects may actually counteract one another, and therefore may be difficult to detect.

These differences are summarized in Table 3. Based on this table, it is suggested that two key variables, the social distance between the pair and the extent to which the pair participated in the behavior together, will mediate the processes used by proxy respondents in answering behavioral frequency questions. Although these variables are not the focus of the analysis which follows, they play a central role in the remainder of this research project.

METHODOLOGY

The results presented today are based on twenty-five pairs of interviews conducted with husbands and wives or couples living together. The interviews were conducted by the senior project staff and covered the topics listed in Table 1. Our discussion is limited to the behavioral items.

We asked respondents the same questions about themselves as the other member of the pair and we asked them to think aloud as they responded. As other users of the think-aloud method have reported (Ericsson and Simon, 1980; Bishop, 1986), respondents vary in their ability to think aloud--some are very verbal and others much less so. If respondents did not think aloud spontaneously, they were asked immediately after answering how they arrived at their answer.

The data were coded by the senior staff using the coding scheme given in Table 4. This coding scheme underwent significant revisions as the staff coded the same interviews and attempted to reconcile differences. The coding frame is still undergoing some revision.

The major variables we examined were:

1. Whether answers were based on counting or estimation methods or a combination;
2. If based on counting, what method was used to search the reference period;

3. If based on estimation, is the estimation rate based, enumeration-based or some combination;

4. What cues were used to retrieve events?

RESULTS

Based on the literature review and the theoretical discussion, we developed four hypotheses:

1. Proxy respondents will be less likely to use chronological sequences than self reporters;
2. Proxy respondents will be less likely than self reporters to use event cues;
3. Proxy respondents will be more likely than self reporters to use estimation modes for questions of the same level of complexity;
4. Proxy respondents will be less likely to consider the reference period than will self reporters.

The comparisons between self and proxy responses are presented in Tables 5 and 6. Table 5 gives the average number of responses by method used. This is simply the total responses divided by fifty.

Overall, the obtained findings are nicely consistent with our hypotheses. As may be seen from Table 5, the use of chronological sequences is fairly low for self as well as proxy reports. However, consistent with our Hypotheses One and Two, self reporters are about 60 percent more likely to use chronological sequences and event cues than are proxy respondents.

Hypotheses Three, that proxy respondents are more likely to use estimation methods, is also supported. Table 5 shows that this is true in total, while Table 6 indicated that the same relation holds for ten of eleven specific topic areas.

Finally, Hypothesis Four, regarding the use of the reference period, also receives some weak support. Specifically, self reporters do use a specific reference period slightly more than do proxy respondents, but it is clear that this is not a widely used memory strategy by either group. These differences might have been an artifact of lower reporting by proxies and there is some indication of this. Total codes are slightly higher for self (16.22) than proxy (14.88) and if one omits the no-event-reported category, there is an average of about one more code per self than proxy.

If proxy respondents use event cues and chronological sequences to a lesser degree than self-reporters, one may wonder how they do arrive at an answer? As indicated in Table 6, proxy respondents are significantly more likely to rely on anchor and adjust strategies than self reporters. Specifically,

TABLE 4
Coding Scheme

<u>CODE</u>	<u>DESCRIPTION</u>
<u>10's: Automatic Response</u>	
11	Automatic
12	Event did not occur/Nonevent
13	Retrieval of prior judgement
14	No probe, therefore no protocol
15	Don't know
16	Not applicable (for skips)
<u>20's: Counting Strategies</u>	
21	General recall and count
24	Counting with adjustment for uncertainty
25	Counting with expression of uncertainty (no adjustment)
22	Counting by domain
26	Counting by domain with adjustment for uncertainty
27	Counting by domain with expression of uncertainty (no adjustment)
23	Counting by observation
<u>30's: Rate-Based Estimates</u>	
31	General rate-based estimation
33	Rate-based estimation with adjustment based on specific incident (addition/s to estimate)
34	Rate-based estimation with adjustment based on general knowledge
35	Rate-based estimation with adjustment based on nonoccurrence (subtraction/s from estimate)
36	Rate-based estimation with adjustment for uncertainty
37	Rate-based estimation with expression of uncertainty (no adjustment)
32	Rate-based estimation by domain
38	Rate-based estimation by domain with adjustment for uncertainty
39	Rate-based estimation by domain with expression of uncertainty (no adjustment)
<u>40's: Enumeration-Based Estimates</u>	
41	General enumeration-based estimation
43	Enumeration-based estimation with adjustment based on specific incident (addition/s to estimate)
44	Enumeration-based estimation with adjustment based on general knowledge
45	Enumeration-based estimation with adjustment based on nonoccurrence (subtraction/s from estimate)
46	Enumeration-based estimation with adjustment for uncertainty
47	Enumeration-based estimation with expression of uncertainty (no adjustment)
42	Enumeration-based estimation by domain
<u>50's: Anchoring Strategies</u>	
51	Same as self
52	Based on prior answer
53	Anchor on self and adjust
54	Anchor on norm and adjust
55	Anchor on another specific person and adjust
56	Anchor on proxy and adjust
<u>60's: Misc. Codes for Attitude Questions</u>	
61	Based on specific behavior/event
62	Based on discussions with other
63	Based on general knowledge
64	Based on attitude toward issue

TABLE 4 (CONTINUED)

<u>CODE</u>	<u>DESCRIPTION</u>
<u>70's: Search Strategies</u>	
71	No order/search
72	Forward search
73	Backward search
74	Anchor on date and forward search
75	Anchor on date and backward search
76	Search by domain
77	Based on another event
78	Based on regularity of behavior
<u>80's: Event Cues (for counting strategies)</u>	
81	Person mentioned
82	Place mentioned
83	Emotional reaction to event mentioned
84	Time of event occurrence mentioned
85	Characteristic of event mentioned
86	Based on prior response (one answer triggers off another)
87	Based on cues used from question
<u>90's: Reference Period</u>	
91	Anchor date on public event
92	Anchor date on personal event
93	Anchor date on season of the year
	General characteristic of event/person (for estimation strategies):
94	"Always..."
95	"Never..."
96	"Nowadays..."/"Usually..."

they use their own behavioral frequency as a starting point, and adjust this estimate on the basis of their knowledge about differences between self and other. However, it might be argued that this dominant use of an anchor and adjust strategy reflects the particular question order used in the present study. That is, respondents were always asked first about themselves, before being asked about others. Thus, self related information was rendered easily accessible, making the use of an anchor and adjust strategy particularly easy. This question order, however, reflects the standard procedures used in surveys, thus increasing the relevance of the present findings to current standard survey practice.

DISCUSSION

The results presented here are the first from a series of investigations that we plan about proxy reporting from a cognitive perspective. It is encouraging that the results, limited as they are, do fit the theoretical framework that we established before data collection.

It is also encouraging that our methods for obtaining think-aloud protocols and coding them seem to be generating useful data. While it can not be ruled

out that the think-aloud process itself may affect cognitive processing, we consider the present findings to provide encouraging evidence for the heuristic potential of this methodological approach (Ericsson & Simon, 1980). Given the strength and plausibility of these preliminary findings, we assume that they will hold up after completion of this study, which will involve a larger sample size and an improved coding scheme. The validity of our conclusions about the strategies of self and proxy reporters will then be the focus of our subsequent work, which will ultimately involve explicit manipulations of these strategies in tightly controlled experiments. We also plan to include the extent of joint participation of a pair in a behavior as a factor to be considered in our analyses. For the time being, we are optimistic that this research will eventually result in improved assessments of self and proxy reports.

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TABLE 5
Methods Used for Responding to Behavioral Questions
 (Average number of uses of each reporting strategy)

<u>Method</u>	(1) <u>Self</u>	(2) <u>Proxy</u>	Ratio <u>(1)/(2)</u>
Counting	6.94	5.00	1.39
Estimation	2.98	3.42	.87
Automatic	.92	.56	1.64
Anchor and adjust	.70	2.78	.25
Chronological sequence	1.28	.78	1.64
Event cues	2.40	1.52	1.58
Specific reference period	1.00	.82	1.22
No event reported/No answer	3.12	3.84	.81
Total (without "no event" category)	16.22	14.88	1.09
Total (with "no event" category)	19.34	18.72	1.03

TABLE 6
Counting vs. Estimation by Topic

Topic*	<u>Self</u>			<u>Proxy</u>		
	<u>(n)**</u>	<u>Count</u> %	<u>Estimate</u> %	<u>(n)***</u>	<u>Count</u> %	<u>Estimate</u> %
Newspapers	(45)	51.1	48.9	(38)	31.6	68.4
Magazines	(47)	74.5	25.5	(42)	50.0	50.0
Books	(50)	84.0	16.0	(41)	68.3	31.7
TV	(76)	46.1	53.9	(52)	42.3	57.7
Crime	(27)	100.0	0	(17)	94.1	5.9
Relatives	(96)	89.6	10.4	(88)	78.4	21.6
Illness	(34)	52.9	47.1	(33)	51.5	48.5
Doctor visits	(42)	85.7	14.3	(37)	83.8	16.2
Beer	(36)	36.1	63.9	(35)	48.6	51.4
Liquor	(23)	69.6	30.4	(14)	50.0	50.0
Drunkenness	(20)	80.0	20.0	(16)	75.0	25.0
Total	(496)	70.0	30.0	(413)	61.0	39.0

* Note that in Table 6, restaurant and snacking behavior are omitted since respondents were not asked about a specific time period.

** Total number of codes by topic for self reports.

*** Total number of codes by topic for proxy reports.

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Cognitive Models for Behavioral Frequency Survey Questions

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Response Errors

How we ask a question affects how it is answered. In the course of normal conversation, a respondent is typically able to decipher a question's meaning, and the questioner is typically able to correctly interpret the response. For example, if a wife asks her husband if he "wants to see a movie", he can easily ask her to clarify what she means, by posing counter-questions to her initial question. By the close of their conversation, "see a movie" will have been defined in terms of location (home video versus theatre), type (comedy versus drama) or perhaps even in terms of a specific movie choice.

This situation becomes more complex when we are being asked a question by an unfamiliar person within an unfamiliar context, as in the case of survey research. In this situation, unlike the husband-wife interaction described above, it is much less likely that the respondent will force the questioner to specify exactly what he/she means when asking a question. Likewise, because the questioner typically does not know anything about the respondent's history, it is less likely that "wrong" or unusual answers will be detected. Consequently, response errors are likely to occur.

Throughout the past fifty years, an extensive body of research has grown out of an effort to identify types of response effects (errors in surveys caused by factors other than sampling procedures), such as respondents misinterpreting a question, intentionally misleading the researcher, or lying (see Bradburn, 1983 for review). Response effects research has demonstrated main effects such as: face-to-face interviews generally result in over-reporting of behaviors, respondents to telephone interviews under-report behaviors, closed-ended questions in self-administered questionnaires produce under-reporting of behaviors, respondents tend to give longer responses to longer questions, and respondents are likely to remember events occurring more recently than they actually did (Bradburn, 1983; Schuman and Presser, 1981). Because of its pervasiveness throughout all survey research, perhaps the most disturbing of all the response effect findings is that question wording and question order can have significant effects on the distribution of responses (Tourangeau and Rasinski, 1988).

A useful question to ask after close to fifty years of research in this area is, "What have we learned?". Basically what we have learned is that response effects do exist. However, this body of research is riddled with inconsistencies; sometimes the order of presentation of questions affects respondents' answers, while at other times order appears to be irrelevant; sometimes respondents forget events which have occurred in their lives, while at other times they seem to fabricate events which never happened. Both Bishop, et. al. (1985) and Schuman and Presser (1981) report situations in

which they have failed to replicate apparent response effects (question wording and order).

Information Processing Approaches to Response Effects

Frustrated by these seemingly unreliable findings, survey researchers have recently turned to psychology for insights into the underlying cognitive processes involved in answering questions. Initiated by researchers conducting large scale survey projects, the first of these studies attempted to identify the strategies respondents use in answering survey questions, and to apply basic principles of how we process information to questionnaire design, in the hopes of eliciting from respondents more accurate, and overall higher quality answers (Lessler, Mitzel, Salter, and Tourangeau, 1985; Lessler, Tourangeau, and Salter, 1986). Noting that a respondent's task is to understand a question, retrieve the relevant facts from memory, make a judgment, and respond, Tourangeau (1984) identifies the many opportunities in the process for error. The cognitive psychology literature on comprehension, encoding and retrieval of events, memory, and forgetting provide insights into what can go wrong in this process and the precautions researchers can take to guard against them. Most recently, Tourangeau and Rasinski (1988) apply these concepts to the measurement of attitudes, suggesting that in order to answer an attitude question, a respondent must interpret the question, retrieve the relevant beliefs and feelings from long term memory, use these beliefs and feelings to make a judgment, and use the judgment to choose a response. Applying this information processing-based model, Tourangeau and Rasinski are able to explain some of the seemingly unreplicable and inconsistent response effects found by previous researchers.

Given the importance of survey research to marketers, it seems that they would have quickly seized upon this promising new area. However, this has not been the case. To date, only one empirical study has appeared in a major marketing journal addressing this topic (Blair and Burton, 1987). The focus of this study was to identify the strategies used by respondents in answering behavioral frequency questions, and to predict the task conditions affecting strategy choice. Specifically, survey participants were asked how often they had purchased gasoline and clothing, made a long-distance telephone call, attended a movie, and dined at a restaurant within either a two-week, two-month, or six-month time frame (depending upon condition). Blair and Burton found that 28% of the respondents used an episodic enumeration strategy (recalling each specific episode of the behavior), while 56% used an estimation procedure (i.e., constructed a base rate, then converted to an

estimate of overall frequency). A negative relationship was found between question time frame and reported use of episodic enumeration. Finally, an episodic enumeration strategy was used only when reported frequencies were low; no respondents used this strategy when the number of events was greater than ten.

Blair and Burton's work was useful in indicating to marketers that they should be interested in the process-related issues of question-answering, rather than simply response distributions. However, they did not go far enough. We need to know *why* a respondent chooses to use a particular strategy, and how this choice of strategy ultimately affects response accuracy. If our ultimate goal as marketers is to increase the quality of survey research data, we must identify the factors which guide a respondent to answer in a particular way. Blair and Burton (1987) suggest that task conditions such as the time frame of interest and the number of behavioral events reported will dictate strategy choice. However, we should have learned from decades of response effects research that results such as this will simply spawn multitudes of similar studies, indicating that factors such as method of administration (telephone versus personal), length of wording of questions, question type (open versus closed-ended), etc., etc., will affect whether a respondent uses an episodic enumeration or estimation strategy in answering a behavioral frequency question. In other words, we will have simply replaced the dependent variable studied by response effect researchers, the distribution of responses, with a new dependent variable, strategy choice. And there is no reason to assume that this new research will be immune from the inconsistencies permeating the existing response effects research. Therefore, it seems that a more fruitful path to take is one briefly mentioned by Blair and Burton (1987) toward the end of their paper; "to gain an understanding, if possible, of the cognitive mechanism that controls selection of a response formulation process" (p. 288). Specifically, in order to understand how respondents answer behavioral frequency questions, we need to take a broader perspective, and look at how humans encode, store, and retrieve frequency information in general.

Is the Encoding of Frequency Information an Automatic Process?

A basic assumption in Blair and Burton's research is that frequency estimation is a conscious retrieval process. While they do note that 17% of their respondents reported using "simple direct estimates" of frequency, it is not clear whether this means the respondents had frequencies automatically encoded and stored for the categories requested, or that they were unable to describe their retrieval strategies in the protocols. It seems that an important initial question to ask, therefore, is, "Is frequency information automatically encoded and stored"?

Contrary to Blair and Burton's (1987) assumptions, Hasher and Zacks (1984) strongly contend that the encoding of frequency is an automatic process. They cite a variety of studies indicating that humans are remarkably accurate at estimating the frequency of letters, words, syllables, professions, and diseases, which are "not the sorts of events whose frequency one might be expected to learn deliberately" (p.1373). For example, after presenting subjects with lists of words on a memory drum, and not forewarning them of an upcoming frequency estimation test, Underwood, et. al. (1971) found a strong, positive, linear relationship between actual and judged frequencies of words. Furthermore, factors which have shown to strongly affect recall ability, have not been shown to affect the ability to judge frequencies. For instance, the accuracy of frequency estimates is not affected by providing subjects with feedback and additional practice, nor is it affected by individual differences such as intelligence, and age (at least between 5 and 20). (Zacks, Hasher, and Sanft, 1982). Finally, factors known to decrease cognitive capacity, such as depression, stress, arousal, and competing tasks, have been shown to decrease problem solving ability and temporarily suppress I.Q. However, these factors have no effect on frequency judgments (Hasher and Zacks, 1979). Therefore, because humans are sensitive to frequency without intending to be, training and feedback do not improve frequency estimates, there are few individual differences in the ability to provide accurate frequency estimates, and frequency judgements appear to be invariant with respect to arousal, depression, and competing task demands, Hasher and Zacks (1984) have concluded that the encoding of frequency information is an automatic process.

Contrary to Hasher and Zacks' findings, there is strong evidence suggesting that we do *not* automatically encode frequency information. For example, while Underwood et. al. (1971) demonstrated a positive correlation between actual and estimated frequencies, subjects tended to underestimate the more frequent events and overestimate the less frequent ones. Therefore, if we do automatically encode frequency information, it is not consistently accurate. Johnson, et. al. (1977, 1979) found that simply imagining that events occur increases the judged frequency of events which actually occur. This indicates that if we do automatically encode frequency information, the encoding process is unable to distinguish between actual and imagined events. Finally, numerous studies indicate that frequency judgments are not invariant across various task conditions, as was indicated by Hasher and Zacks (1984). Specifically, Rowe (1974) has shown that semantic processing of words increases the accuracy of frequency judgments, Tversky and Kahneman (1973) have shown that events which are more available are judged to be more frequent, and Greene (1986) has demonstrated that frequency estimates are sensitive to intentionality of learning. Thus, there appears to be ample evidence indicating that frequency information

is not *always* automatically encoded, and that demands posed at the time of retrieval may significantly affect frequency judgments.

Encoding of Frequency for Autobiographical Events

At this point it is useful to interpret the evidence presented thus far in relation to memory for autobiographical events. Specifically, we may ask, "Is frequency encoding automatic for real world and autobiographical events?" The answer to this question will have strong implications for survey researchers. For example, if it is found that the encoding is automatic, then research on retrieval strategies (i.e., estimation versus episodic enumeration) may be moot. Researchers investigating retrieval strategies are making an *a priori* assumption that frequencies are *not* automatically encoded. It is possible that the process of taking protocols to learn about subjects' strategies merely creates a demand effect in which respondents construct strategies in order to seem logical to the researcher and/or to themselves. If the process, or even a portion of the process is automatic, this will be extremely difficult to uncover through protocols. Finally, if frequency information is automatically encoded, is it encoded *correctly*? It may be that we automatically store *relative* frequency information, but not *absolute* frequencies. And finally, in the event that frequency data are automatically encoded correctly, is it possible that these counts get "adjusted" during the retrieval process?

Marketers have not yet directly addressed the automaticity of frequency encoding, however, it may be possible learn something about the processes involved by reassessing data from studies conducted for other purposes. For example, Burton and Blair, (unpublished manuscript) asked college student subjects to estimate how many courses they had completed outside of the college of business. The correlation between actual and judged frequencies ranged from .41 to .86, depending on condition. When the researchers did not specify how much time the subjects should take to respond, the correlation between actual and judged frequency was .41. When instructed to take 10-20 seconds, the correlation was similar, at .47. However, when told to take a full 70 seconds to answer, the correlation jumped to .86. If frequency data are automatically encoded and invariant to retrieval task, it is likely that there would not have been such a large increase in accuracy when told to take more time to answer. Therefore, these results suggest that time constraints may affect the choice of retrieval strategy. When under time pressure, it is possible that subjects respond with an automatically encoded, "rough" frequency judgment. However, when these time constraints are relaxed, they engage in more conscious, effortful strategies, perhaps adjusting the automatically encoded "rough" estimate. (While this explanation may be likely, it is not certain, as the study was not designed to test these hypotheses).

Two additional studies indicate that the judgment of frequency of autobiographical events is not a totally automatic process. In one study, subjects were queried on their frequency of visits to the dentist (Lessler, Tourangeau, and Salter, 1986). Similar to Burton and Blair (unpublished manuscript), these researchers found that the time taken to formulate a response significantly affected accuracy. Specifically, given more time to answer, subjects over-reported visits; when given less time they significantly under-reported visits. In a similar vein, Means, et. al. (1988) found that subjects consistently under-reported visits to an HMO for recurring health problems (i.e., when the patient needed to make multiple visits for the same problem). However, they discovered that prompting respondents with contextual and time-line cues (i.e., reasons they may have made the visits, times they were likely to have made the visit, etc.), significantly increased the accuracy of estimates. Again, if frequency encoding were a totally automatic process, these cues would have had no effect on frequency judgments.

The Retrieval Process

It is interesting to note that both Lessler, et. al. (1986) and Means, et. al. (1988) found that providing respondents with cues significantly increased the accuracy of their frequency judgments. Lessler, et. al. found that "reasons" cues were the most helpful in prompting more accurate estimates, while Means, et. al. found that general contextual cues worked best. In order to understand why certain cues are more beneficial than others in prompting accurate responses, it is useful to take the approach advocated by Tourangeau and Rasinski (1988), and look at the cognitive demands placed upon a respondent when asked a survey question. In this specific case, we must ask, "What cognitive processes must occur for a respondent to be able to accurately answer a behavioral frequency question?" Kolodner (1983) provides valuable insights into these processes through her theory of reconstructive memory.

Kolodner's model of memory focuses on the relationship between the structure of memory and the retrieval process. Her research is driven by the observation that while humans are experts at retrieving general autobiographical information, when they are asked details of specific episodes, this information is typically not available. Retrieval, then, is not a simple task of direct enumeration, but rather, "... a process of reconstructing what must have happened". (p. 284) The cues provided by Lessler, et. al. (1986) and Means, et. al. (1988) simply help the survey respondent reconstruct "what must have happened".

Kolodner posits that related events which occur in our lives are organized into Episodic Memory Organization Packets (E-MOP's). Each E-MOP will therefore contain multiple, related events. For example we may have an E-MOP for "Movies I Have Seen", the component parts of which are individual instances of going to the movies. When

an individual event is integrated into an existing E-MOP, it is indexed according to the features which differentiate it from other events already in the E-MOP. Differentiating features used to index these individual episodes into an existing "Movies I Have Seen" E-MOP may be people you have seen the movie with, movie types, places, times, etc. Different people may have different organizing E-MOP's, but all E-MOP's are organized according to differentiating features. Finally, events within an E-MOP will have similarities which allow for the construction of generalized episodes. For example, while the "Movies I Have Seen" E-MOP will contain different movie-watching episodes, these episodes will contain many similarities.

This E-MOP structure plays an important role in the retrieval process. In answering a behavioral frequency question, the query will typically guide the respondent to an appropriate E-MOP. For example, if asked, "How many times have you gone to the movies in the past 4 weeks?", the memory search will be directed to the "Movies I Have Seen" E-MOP. "Going to the movies" is defined as the *target event*. If the respondent has seen multiple movies, there will be multiple events stored in this E-MOP. However, the question asked in this way has failed to provide cues which will help differentiate the E-MOP's component events. Therefore, the target event must be further specified; differences between the E-MOP's component events must be specified in order for the respondent to be able to answer the question. Specifically, Kolodner theorizes that the original target event must be arrowed down through the specification of *features*. Recall that when an event is integrated into an E-MOP it is indexed according to those features which differentiate it from similar events. During retrieval, differentiating features are specified, and the events which are indexed by these features are retrieved.

The problem with behavioral frequency questions is that they are too general; they do not provide the respondent with enough features on which he/she can differentiate similar episodes. When asked the question, "How many times have you gone to the movies in the past four weeks?", a respondent may attempt to direct her memory retrieval process by thinking of the titles of the movies she has seen, the nights of the week she is likely to have gone to the movies, or people she is likely to have gone to the movies with. By doing so, she is essentially elaborating on the original question, by generating differentiating features. The original question posed to her did not specify the differentiating features which would allow the traversal process to occur through the E-MOP, therefore, she had to generate possible differentiating features herself. The cues which Lessler, et. al. (1985) and Means, et. al. (1988) found to be so effective were serving as these differentiating features, without which respondents were unable to construct an answer.

Summary

The pervasiveness of survey research in our society makes it an important topic, and one which is especially worthy of marketers' attention. Decades of response effects research has taught us that response distributions are affected by a multitude of factors, and that these effects are not always consistent. In an attempt to understand *how* survey respondents answer questions, marketers have identified typical response formulations strategies. However, it is our contention that the more fruitful path to take is that advocated by Tourangeau and Rasinski (1988) in their essay on the cognitive processes involved in answering attitude questions. Specifically, they state that an answer to an attitude question is the culmination of a four-step process. First, the respondent interprets the question, then he/she retrieves the relevant beliefs and feelings from long-term memory, and applies them to make a judgment. Finally, the judgment is used to formulate a response. The processes involved in answering a behavioral frequency question are similar; the respondent must interpret the question, retrieve the relevant information from long-term memory, and formulate a response.

Instead of focusing solely on retrieval-based strategies (i.e., Blair and Burton, 1987), we need to take a step back and look at some of the assumptions inherent in this work. First is the assumption that response formulation is a retrieval, rather than encoding process. Related to this issue is the assumption that frequency is determined consciously, rather than automatically encoded. While this issue has yet to be resolved in the cognitive psychology literature, there is ample evidence on both sides of the argument, suggesting that at least part of the process is automatic, and part is effortful. According to Jonides and Naveh-Benjamin (1987), "... it seems to us that the data concerning frequency estimation largely militate against any simple view of the coding mechanism involved. At this point, it seems a reasonable research strategy to investigate the relations among several mechanisms in the coding of frequency estimation". (p. 239) Finally, response strategy research focuses on the response formulation stage, essentially ignoring how the respondent interprets a question and determines what to retrieve from memory. Clearly, survey researchers have much to gain in understanding how these mechanisms operate as well.

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The Disruptive Effects of Self-Reflection: Implications for Survey Research

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ABSTRACT

Asking people to explain their attitudes has been found to lead to temporary attitude change. Further, these new attitudes have been found to be poor predictors of behavior. The implications of these findings for survey research are discussed. Asking "why" questions before attitude measures can be disruptive, especially for people with relatively inaccessible attitudes.

There has been a growing interest in how attitudes can be influenced by the techniques used to measure them. Such factors as question wording, question order, and the response format have been found to influence attitude reports (e.g., Hogarth 1982; Feldman and Lynch 1988; Schuman and Presser 1981; Tourangeau and Rasinski 1988). As a result, both survey and experimental researchers need to be aware of a host of potential pitfalls when assessing attitudes, such as creating an attitude where none existed before, or of altering an attitude by the way it is measured.

In the past few years we have investigated a problem with attitude measurement that has not received much attention. We have been interested in what happens when people are first asked to explain *why* they feel the way they do about an attitude object, and then are asked to report their attitude. In several studies we have found that asking people to explain an attitude can change it, at least temporarily, and can reduce the extent to which the reported attitude predicts subsequent behavior.

We have developed the following set of arguments to explain these findings. (For a more detailed discussion, see Wilson in press and Wilson, Dunn, Kraft, and Lisle 1989.) When asked to explain an attitude, people are rarely at a loss for reasons. Of the hundreds of people we have asked for reasons, almost no one has said, "I don't know," even when they were told that no one would ever look at what they wrote. Interestingly, however, there is a fair amount of evidence that people sometimes do *not* know why they feel the way they do (Nisbett and Wilson 1977; Wilson and Stone 1985). There has been some controversy over the extent of this lack of awareness (e.g., Smith and Miller 1978), though few researchers would dispute the claim that at least at times, people have difficulty knowing the exact causes of their attitudes.

Given that people are sometimes unaware of the reasons for their attitudes, what determines the reasons they will report? We suggest that people

are susceptible to a variety of availability effects (Tversky and Kahneman 1973) when reporting reasons. First, rational cognitions about the attitude object are, in our culture at least, viewed as the most plausible causes of attitudes, and hence are most available in memory. For example, when explaining why we like various political candidates, we are more likely to call upon such factors as their stance on the issues than such seemingly implausible things as the number of times we have seen their ads on television or whether their party affiliation is the same as our parents', even though these latter factors have been shown to influence people's attitudes. Other factors might be available in memory because they are easy to verbalize or were encountered recently. For example, if we happened to have just seen a televised debate where a candidate looked worn and ineffective, we might exaggerate the extent to which this contributes to our overall impression of him or her.

As a result of these availability effects, the reasons people bring to mind might imply a somewhat different attitude than they previously held. For example, suppose that a person has a generally favorable attitude toward Candidate X. When asked to explain why she likes this candidate, however, what comes to mind is that he looked worn and ineffective during a recent debate, and that his position on the death penalty is at variance with her own. What will happen? We have found in several studies that people adopt the attitude implied by their reasons (see Wilson, Dunn, Kraft, and Lisle 1989). Thus, if we asked this person how she felt about Candidate X she would be likely to report a somewhat negative attitude, at least more negative than if she had not focused on why she felt the way she did.

Two important points should be noted about the attitude change that results from analyzing reasons. First, it can be difficult to predict the direction of this change. The kinds of reasons that are available in memory for one person might be primarily negative, leading to change in a negative direction. The reasons that are available to another person might be primarily positive, resulting in change in the opposite direction. We found this to be the case in a recent study of political attitudes (Wilson, Kraft, and Dunn 1989). Subjects who analyzed reasons were more likely to change their attitudes toward political candidates, but this change was not in a common direction. Subjects who listed negative reasons tended to change their attitudes in a negative direction, whereas subjects who listed positive reasons tended to change in a positive direction. (Incidentally, subjects in this study, as in most of the ones we have conducted, were asked to list their reasons privately and anonymously to

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"organize their thoughts." Subjects believed that no one would ever see what they wrote, which reduces the plausibility of self-presentational or demand characteristic interpretations of the results.)

Second, the attitude change we have observed does not appear to be particularly long lasting. Indeed, it would be rather surprising if a permanent change in people's attitudes could be brought about simply by asking them to explain why they felt the way they did. Instead, over time people's original attitude seems to "snap back." Even though this attitude change is temporary, however, it can be consequential, in at least two respects. First, it can be consequential to researchers who are trying to predict people's behavior from their attitudes. If people report a new attitude that is only temporary, and revert back to their original position shortly thereafter, then this reported attitude will probably be a poor predictor of their behavior. Their behavior will be driven by their original position, at least if enough time has passed to allow this attitude to snap back. Consistent with this argument, Wilson, Dunn, Kraft, and Lisle (1989) reviewed 10 studies that manipulated whether subjects explained their attitudes and assessed the correlation between people's attitudes and behavior. When people did not explain why they felt the way they did, the average attitude-behavior correlation in these studies was .54. When they did explain their attitudes, the average correlation was only .17. Averaging across the studies, this difference was highly reliable. Thus, when people analyze reasons, the attitude they report is not very predictive of their later behavior.

The attitude change resulting from analyzing reasons can also be of some consequence to the person doing the analyzing. Imagine that people have to make a decision, such as a choice between different consumer goods. If they think about why they feel the way they do about each alternative, they might change their minds about which item they prefer, and make a different choice than they would have had they not analyzed reasons. If their initial attitude later snaps back, however, they might come to regret the choice they made. We have obtained results consistent with this hypothesis (Wilson, Lisle, and Schooler 1989). In one study, for example, subjects evaluated five different art posters. Those asked to explain their evaluations changed their minds about which ones they preferred, and chose different ones to take home. When telephoned a few weeks later, however, they were significantly less satisfied with their choice than were subjects who had not analyzed reasons.

Our concern has primarily been with how these processes operate in everyday life, and with the effects they have on attitude change, attitude-behavior consistency, and decision making. It is fairly common to be asked to explain why we feel the way we do about something, such as, "Why do you like or dislike George Bush?" "Why do you prefer this particular brand of laundry detergent?" "Could you explain your reaction to the movie, *Do*

the Right Thing?" Thus, there are some important implications of these processes for everyday kinds of problems.

We have also considered the implications for survey research, which is closer to the topic of this symposium. As far as we can tell it is not all that common to include "why" questions on surveys, but they are sometimes asked. To the extent that they are asked before questions assessing people's attitudes, they might cause problems. Two studies have been conducted to test this hypothesis (Wilson and Pollack 1989). In the first, all students taking introductory psychology at the University of Virginia were given an attitude questionnaire at the beginning of the semester. This questionnaire asked subjects to rate their attitudes toward the death penalty, school busing to achieve racial integration, and a national health insurance, as well several other issues, on 7-point scales.

Several weeks later a random sample of these students were telephoned and asked to participate in an ostensibly unrelated attitude survey. Of the 116 reached by phone, 97% agreed to participate. These subjects were randomly assigned to one of two conditions: In the control condition they were asked the same attitude questions they had completed earlier about the death penalty, busing, and a national health insurance. In the reasons question subjects were first asked to explain why they felt the way they did about an issue. The interviewer said that she would name an issue, and that the first thing she wanted the respondent to do was to "tell me *why* you feel the way you do about it." Subjects then answered the same attitude questions as in the control condition. The order in which the questions were asked was fully counterbalanced in both conditions.

The first question we addressed was whether the reasons manipulation changed subjects' reported attitudes in a common direction. For example, did subjects who first gave reasons become more favorable toward the death penalty, on the average? We did not expect such change to occur. As discussed earlier, the kinds of reasons that came to subjects' minds were likely to be pro for some subjects but anti for others, which would not produce a shift in attitudes in the same direction. This prediction was borne out. The mean attitudes reported in the telephone survey did not differ appreciably from the mean attitudes reported at the beginning of the semester in either condition.

We did expect attitude change to occur in the reasons condition when *bidirectional* shifts are considered. According to our hypothesis some subjects who analyzed reasons brought to mind a set of reasons that were biased in a pro direction for the issues, whereas others brought to mind a set of reasons that were biased in the anti direction, causing attitude change in different directions. If so, then the absolute value of the difference between attitudes at Times 1 and 2 should be greater in the analyze condition. This prediction was confirmed, as seen in Table 1. Though the differences in attitude change between the reasons and control

TABLE 1
ABSOLUTE VALUES OF THE DIFFERENCE BETWEEN ATTITUDE RESPONSES AT THE GROUP TESTING SESSION AND THE TELEPHONE SURVEY
(FROM WILSON AND POLLACK, 1989, STUDY 1)

Condition	Death Penalty	Busing	Health Insurance
Control			
<u>n</u>	60	60	60
<u>(sd)</u>	(1.32)	(1.43)	(.99)
<u>M</u>	.88	1.33	1.07
Reasons			
<u>n</u>	56	56	56
<u>(sd)</u>	(1.42)	(1.45)	(1.33)
<u>M</u>	1.32	1.55	1.30

NOTE: Attitudes were measured on 7-point scales at both times.

conditions were not particularly large, averaged across the three issues these differences were reliable, $p < .05$.

It should be noted that the issues we used in Study 1 were probably not ones that most students had thought much about. In some of our other studies, we have found that there is a class of people who are immune to the effects of analyzing reasons: Those who are especially experienced with or knowledgeable about the attitude issue (Wilson, Kraft, and Dunn 1989). It was not clear from our earlier work, however, exactly why knowledgeable people are unaffected by analyzing reasons. One reason might be that knowledgeable people are more likely to know why they feel the way they do, and thus less likely to bring to mind a biased set of reasons. Another possibility, however, is that knowledgeable people simply have stronger attitudes that are less malleable than are the attitudes of unknowledgeable people.

Attitude strength is a variable that has been addressed in various guises by many attitude researchers. Such variables as attitude accessibility (Fazio 1989), affective-cognitive consistency (Rosenberg 1960), involvement (Sherif 1980), importance (Judd and Krosnick 1988), and conviction (Abelson 1988) have been discussed, but the extent to which these constructs overlap is not entirely clear. The chief purpose of Study 2 was to see which of these measures of attitude strength, if any, moderates the effects of analyzing reasons in a survey.

Study 2 was identical to Study 1, except for the following changes: Subjects participated in an initial session individually, and answered questions about only one attitude issue: How they felt about Ronald Reagan. (This issue was chosen because we

expected there to be more variance in attitude strength on this issue compared to the ones used in Study 1). In addition to giving their overall evaluation of Reagan at this session, subjects also completed a battery of measures of attitude strength, including all of those mentioned in the preceding paragraph. Attitude accessibility was measured with a procedure developed by Fazio, where the latency of subjects' response to an attitude question about Reagan was assessed (the faster the response, the more accessible the attitude). Details of how the other variables were measured can be found in Wilson and Pollack (1989). Several weeks after the initial session subjects participated in a phone survey that was identical to the one used in Study 1, except that only one attitude issue, Reagan, was included. As in Study 1, half of the subjects first explained why they felt the way they did about Reagan, whereas the others did not.

The results of Study 1 were replicated, in that subjects who analyzed reasons showed more bidirectional attitude change than subjects who did not. In this study attitudes were assessed on different scales at Times 1 and 2, thus they were converted to standard scores. The mean absolute value of the Time 2 - Time 1 difference in attitudes was .66 in the reasons condition and .51 in the control condition, a difference that was nearly significant ($p = .06$). Clearly, however, this difference is not particularly large. To see if it was larger for people with weak attitudes, subjects were divided at the median on the various measures of attitude strength that were included at Time 1. The one that moderated the effects of analyzing reasons the most was Fazio's measure of attitude accessibility. To unconfound accessibility and attitude extremity, people were divided into high and

TABLE 2
ABSOLUTE VALUES OF THE DIFFERENCE BETWEEN STANDARDIZED ATTITUDE
RESPONSES TOWARD RONALD REAGAN AT INITIAL SESSION AND TELEPHONE SURVEY
(FROM WILSON AND POLLACK, 1989, STUDY 2)

Variable	Fast Response Time		Slow Response Time	
	Control	Reasons	Control	Reasons
<u>n</u>	43	54	46	48
<u>(sd)</u>	(.53)	(.53)	(.30)	(.72)
<u>M</u>	.64	.62	.39	.71

low accessibility groups via median splits at each level of attitude response at Time 1 (see Fazio and Williams 1986). As seen in Table 2, people with relatively inaccessible attitudes (i.e., slow response times at Time 1) were susceptible to our reasons analysis effect at Time 2, $p = .004$. People who had relatively accessible attitudes (i.e., fast response times) at Time 1 were uninfluenced by analyzing reasons at Time 2. This pattern of findings resulted in a significant Reasons \times Attitude Accessibility interaction, $p = .03$. None of the other measures of attitude strength interacted significantly with the reasons analysis manipulation.

It is not entirely clear why attitude accessibility was the best moderator of the effects of analyzing reasons. One possibility is that if an attitude is highly accessible, it is unlikely that people will bring to mind reasons that are inconsistent with it. People with inaccessible attitudes may be more likely to consider reasons that conflict with their attitude, and as a result are more likely to change their minds after analyzing reasons.

IMPLICATIONS

In some respects, survey researchers might not find the present results very disconcerting. First, asking people why they feel the way they do about an attitude object appears not to be very common. Even if these questions are asked, our findings suggest that they are likely to influence the reported attitudes only of people with relatively inaccessible attitudes. Considered in another light, however, the results may have important implications. Sometimes a substantial proportion of the populace have relatively weak and inaccessible attitudes, such as people's attitudes toward a new, unfamiliar product. Further, sometimes "why" questions are asked on surveys. If they precede questions about people's attitudes, they might well produce momentary attitude change, and make the attitudes less predictive of future behavior. Thus, one clear implication of our findings is that when "why" questions are asked, they should succeed rather than precede attitude measures.

Surveys are not the only place where people are asked to explain their attitudes. It is not that uncommon to be asked by a friend or an acquaintance why we feel the way we do, thus our findings have implications for attitude change and attitude-behavior consistency in everyday life. We have discussed these implications in some detail elsewhere (Wilson in press; Wilson, Dunn, Kraft, and Lisle 1989). Suffice it to say here that there may be times when it is advisable not to spend too much introspecting about our reasons when trying to determine how we feel about something. This argument is compatible with a recent model proposed by Feldman and Lynch (1988), who suggested that "momentarily activated cognitions have disproportionate influence over judgments made about an object or on related behaviors performed shortly after their activation" (p. 421).

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The Influence of Survey Format on Judgment Processes: The Case of Ideals and Perceived Similarity

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Survey question format and order effects were studied in a similarity judgment context. It was expected that a series of questions requiring comparison of an object to a category ideal would cause the construction of the ideal if none existed and if overall evaluation was insufficiently diagnostic for the judgment. When questions about the attributes of an ideal were asked *before* an overall similarity judgment, a familiar asymmetry occurred: object-ideal comparisons yielded higher similarity ratings than ideal-object judgments (Tversky, 1977). With the overall rating first, the asymmetry was reversed. Object-specific and question format effects also occurred, qualifying our conclusions.

This study explores the effect of survey formats on judgment in the context of two theoretical domains: the perception of similarity (Tversky, 1977) and the concepts of value lability and response construction (Feldman and Lynch, 1988; Fischhoff, Slovic and Lichtenstein, 1980). It tests the hypothesis that variations in the format and ordering of survey questions will have predictable effects on judgments of similarity between an object or person and some hypothetical ideal, a judgment often used to evaluate the object or person in question.

The concept of the "ideal" occurs frequently in theories of attitude and satisfaction. Johnson (1971), for instance, proposed that consumers have an "ideal point" referent in some product space, and evaluate specific products in terms of their distance from that point. The product space itself is formed by product attribute dimensions (e.g., taste, price, etc.). Likewise, Locke's (1976) theory of job satisfaction proposes that one's liking for a job is determined by the perceived differences between the job itself and the job's "ideal" position on each of a set of dimensions (e.g., pay, responsibility). One widely used job satisfaction instrument (Porter, 1962) is cast in an explicitly comparative format, requiring ratings of a job's current outcome levels and the levels of those outcomes that "should" exist. In a more abstract realm Barsalou (1987) has shown that categories may be represented by, and constructed in terms of, "ideals" formed by goal-relevant properties of objects. While Barsalou's "ad hoc" categories are heterogeneous (e.g., "foods to eat on a diet"), it is not difficult to think of categories that are more homogeneous and which

may be represented by a concrete ideal (e.g., "sports cars").

The measurement models above (Johnson, 1971; Porter, 1962) implicitly assume that some ideal representation like those demonstrated by Barsalou exists within the domain of interest. This assumption may, however, be questionable. Fischhoff, et al. (1980) have discussed the concept of "value lability," making the point that people do not have well articulated values in many domains. Without a highly elaborated value structure the nature and form of questioning may in fact influence the representation of issues and concepts (Feldman and Lynch, 1988). In keeping with the principle of cognitive economy (Srull and Wyer, 1989), we assume that the judgments and associations composing a value structure are not formed in the absence of some processing goal or motive. When a motive exists, a judgment is formed based on accessible resources, according to a satisficing criterion. That is, no more elaboration is carried out than is necessary to meet a current processing demand.

Thus, in the absence of environmental contingencies (such as those provided by a particular cultural or interpersonal environment; see Triandis, 1989), it is unlikely that a highly elaborated system of beliefs (including concepts of dimensions and categories of objects) will be formed. This reasoning is consistent with the apparent absence of common ideologies in the survey research literature (e.g., Bishop, Oldendick, Tuchfarber and Bennett 1980; Schuman and Presser, 1980) and with context-dependence in the form of category representation and structure (Barsalou 1987). Only in the case of expertise (Alba and Hutchinson, 1987) and/or long-term, continuing involvement in a domain (Feldman and Lynch, 1988) would we expect to find elaborated, accessible ideal representations within a given domain. Without such representations, the act of responding to survey questionnaires of a particular form (e.g., "How far do you have to reach to adjust your car's air conditioning?" "How far *should* you have to reach?") may stimulate the creation of an ideal and its use in evaluating the object in question. This is a precondition for the phenomenon Feldman and Lynch (1988) have termed *self-generated validity*, in which the measurement operations themselves create judgment processes that seem to confirm the theory being tested.

The hypothesis that measurement operations may cause the creation of ideal representations where none had previously existed may be tested in the domain of similarity judgment, by taking advantage of a phenomenon noted by Tversky (1977).

¹Thanks are due to John Lynch for his many helpful comments.

Tversky's feature comparison model predicts asymmetrical judgments of similarity as a function of the phrasing of a comparison. In his model, the more prototypical or salient (prominent and highly elaborated) object has a larger number of accessible features than a less prototypical or salient object. In a similarity judgment more attention is directed to the features of the subject of the comparison than to the referent object. The judgment of similarity itself depends on the number of common and distinctive features of the two objects, with greater weight given to the features of the subject.

If the subject of the judgment has most of its known features in common with a more elaborated referent, it will be judged to be similar even if the referent has many features not shared by the subject. This is normally the case with category member-prototype judgments (e.g., "How similar is Poland to the USSR?"). If the order of comparison is reversed, the more elaborated object becoming the subject of the judgment, judged similarity is lower because the form of the question directs attention to the relatively large number of distinctive features of the (prototypical) subject. Thus, "How similar is the USSR to Poland?" elicits a lower judgment than does the former order.

By extension, judgments of similarity between elaborated ideal category representations and specific category members should be made in the same fashion. That is, the rated similarity between a category member and the category's ideal representation ought to be higher than the rating of similarity between the ideal and the category member.

It is important to note, however, that this prediction depends entirely on the assumptions that the ideal *exists* and that its cognitive representation *is* more elaborated than that of the object in question. For judgments in some domains, the reverse may be true.

In a variety of domains (e.g., automobiles), people may lack the knowledge or motivation necessary to form an ideal. They may, however, have constructed a relatively elaborated representation of their own possessions, either because these are an important component of the self-concept (Belk, 1988) or because daily experience and outcome dependence motivates one's construction, as occurs in the domain of person perception (Brewer, 1988; Feldman, 1988).

Thus, it is entirely plausible that under many circumstances peoples' representations of individual objects and persons are more elaborate and detailed than the corresponding category representations. Tversky's (1977) logic should dictate that, under these circumstances, a representation - exemplar comparison should yield *higher* similarity ratings than an exemplar - representation judgment, the reverse of the usual finding. If, however, the process of measurement caused the construction of a representation, by asking for ratings of the attributes an ideal category member *should* have, the usual finding would be obtained. We also expect that asking questions that specifically direct

attention to the component attributes of an ideal category representation would produce the effect more strongly than questions calling for a simple similarity judgment between the object and the ideal on the same set of attributes. The latter questions may be answered by accessing an overall evaluation of the object, without the construction of an ideal level on each attribute (Feldman and Lynch, 1988).

METHOD

Subjects

Subjects were 181 male and female students enrolled in one of four sections of introductory social or industrial psychology at a major Southeastern university. Student participation was voluntary, in exchange for course credit.

Stimulus Materials

Objects. It was decided that classroom instructors would be useful comparison objects for an exploratory study. First, classroom teacher evaluations are a near-ubiquitous form of survey, and so are of interest in their own right. Second, because of frequent interaction and outcome dependence, students are likely to form individualized or personalized representations of classroom instructors. Third, by including two instructors, each of whom taught two sections of different courses, some degree of generality could be established. Fourth, our objective in this study is to demonstrate the occurrence of a particular, hypothetical judgment process. It was felt that if the hypothesized effects did not occur in the person domain, where individualized or personalized representations seem most generally likely, they would probably not occur in nonsocial object domains (where values and involvement differ more widely across persons).

Questionnaire design. Questionnaire contents were developed using a set of behaviors from the university's standard instructor evaluation form. This form includes behaviors in several domains (e.g., "uses real-world cases to illustrate principles") and requires a Likert-type rating. For the present study, each behavior was cast into one of two forms:

- a. A similarity judgment form, requiring a rating of similarity between the present (classroom) instructor and one's ideal instructor *on that specific behavior*.
- b. An "Is-Should Be" form similar to Porter's (1962), requiring the student to rate the frequency of the behavior as performed by their instructor and as ideally performed. Twenty-one behaviors were included.

Each questionnaire also required an overall similarity rating, which was placed either before or after the 21 behavior ratings. This question required either a rating of the similarity between the present instructor and one's ideal instructor, or between one's ideal instructor and the present instructor. All

ratings were made on 20 point scales anchored by 1 (= "Not at all similar") and 20 (= "As similar as possible.")

For half the subjects, attribute (behavioral) similarity judgments were made on the same scale. For the remaining subjects, behavioral frequency (Is - Should Be) judgments were anchored by "Never" (= 1) and "Always" (= 20). Behavior ratings were always made in an order matching that of the overall similarity judgment, that is in terms of present instructor-ideal or ideal-present instructor comparisons. Additionally, when the comparison was present instructor-ideal, subjects were instructed to think of the present instructor and form a clear image of that person; when the comparison was ideal-present instructor, subjects were instructed to think of their ideal instructor in the same way.

Design and Procedures

The design was a completely crossed four-factor between subjects factorial. Manipulated variables were:

1. Comparison order (Instructor-Ideal Vs. Ideal-Instructor), intended to create asymmetrical similarity judgments.
2. Order of Global Rating (overall similarity first vs. last), intended to influence the timing of elaboration of an ideal and thus influence the direction of asymmetry in the overall similarity judgments.
3. Behavior rating Format (Similarity vs. Is - Should Be), intended to influence the relative degree of elaboration of the ideal and, thus, the relative size of the predicted asymmetry - reversal effect.
4. Instructor (Instructor 1 vs. Instructor 2), intended to increase the generality of results.

Overall similarity ratings were the dependent variable of interest.

Subjects participated in their regular classrooms, during ordinary class hours. The second, third, and fourth authors served as experimenters, presenting the study as one of judgment and evaluation processes. After a brief introduction and signing of informed consent forms, one of eight questionnaire forms was distributed at random to each participant. Participants were not told that different forms were being used. The purpose and results of the study were explained during a later class session.

RESULTS

A 2x2x2x2 ANOVA on overall similarity ratings produced the effects shown in Table 1. A main effect of Instructor accounted for 9% of the explained variance; Instructor 1 was seen as more similar to the ideal (across both comparison orders) than was Instructor 2 ($X_1 = 13.73$; $X_2 = 11.09$).

There was also a main effect for Order of Rating; rating overall similarity before any behavioral ratings resulted in lower perceived similarity than rating overall similarity after the behavioral ratings (X before = 12.09; X after = 13.54).

These effects must be considered, however, in light of the significant four-way interaction. As shown in Table 2, the effects of Order of Rating and Comparison Order differed by both Instructor and Format. For Instructor 1, ratings on the Similarity format produced no effects of rating or comparison order. The "Is-Should Be" format produced the expected pattern of ratings, however. Global similarity comparisons between the instructor and the "ideal instructor" reversed Tversky's (1977) findings when global ratings were made prior to behavior ratings (ideal/object > object/ideal), while the usual ordering (ideal/object < object/ideal) was found when global ratings were made subsequent to behavior ratings. The differences, however, did not reach conventional significance levels.

Stronger effects were observed for Instructor 2. The predicted pattern was obtained most strongly when behavior ratings were made using the similarity format. Slope differences between Order of Rating conditions are significant ($p < .05$). The "Is-Should Be" format produced a similar pattern, complicated by a higher global similarity rating in the "global rating-last" condition.

DISCUSSION

Support for the hypotheses stated earlier can be described as "moderate but encouraging." Both significant reversals and replications of Tversky's (1977) similarity judgment results were found as a result of question order and format manipulations designed to change the relative degree of elaboration of category representations vs. category members. That is, answering questions likely to cause the formation of an elaborated ideal representation led to higher overall similarity judgments when the judgments were phrased in the "object to representation" order than in the "representation to object" order. When, however, it was likely that the object was the more elaborated of the two (prior to answering the same questions), the reverse was obtained.

The results are complicated, however, by the failure to obtain differences in one instructor/format combination and the weak effects in two others. These results can, we believe, be explained by the relative accessibility and diagnosticity of overall evaluations. As discussed by Feldman and Lynch (1988), summary judgments tend to be highly accessible and, while not as diagnostic as specific judgments, may often be sufficient for the question at hand. Therefore, they are likely to be used when specific judgments are less accessible. In the present case, Instructor 1 was the more highly evaluated of the two (Instructor 2's overall similarity to the ideal being close to the scale midpoint). The more polarized affect toward Instructor 1 may have been sufficiently diagnostic for all judgments of ideal-object similarity; thus, the effect of the

TABLE 1
ANALYSIS OF VARIANCE OF OVERALL SIMILARITY JUDGMENTS

Source	Mean	DF	Square	F	% variance (R ²)
Comparison order (CO)		1	3.76	.245	
Order of rating (OR)		1	95.78	6.24**	.03
Scale format (F)		1	16.30	1.06	
Instructor (I)			293.14	19.01***	.09
COxORxFxI		1	60.94	3.97*	.02

Note: All nonsignificant interactions omitted.

- * p < .05
- ** p < .025
- *** p < .01

TABLE 2
INTERACTION OF COMPARISON ORDER, ORDER OF RATING, SCALE FORMAT AND INSTRUCTOR

Instructor	Comparison Order:	Order of Rating			
		Global	First	Global	Last
		Ideal-Instructor	Instructor-Ideal	Ideal-Instructor	Instructor-Ideal
	<u>Scale format</u>				
Instructor 1	Similarity scale	13.56	13.38	14.88	13.33
	"Is-Should Be" scale	14.00	12.33	13.42	14.69
Instructor 2	Similarity scale	10.63	7.50	9.14	13.13
	"Is-Should Be" scale	10.75	10.20	13.13	14.25

Note: All numbers rounded to two decimal places.

similarity judgment format on the construction of an ideal would be nullified. The "Is-Should Be" format may constitute a stronger manipulation, but still not strong enough to completely overcome the greater accessibility of Instructor 1's overall evaluation. Instructor 2's overall evaluation, being more

moderate, would be less diagnostic; thus, a judgment construction process would take place as hypothesized. The less supportive results obtained using the "Is-Should Be" format may be explained by affective polarization (Tesser, 1978) produced by rehearsal in the "global rating last" condition.

Interestingly, the ratings of Instructors 1 and 2 in the "global rating last" condition of the "Is-Should Be" format are virtually identical.

This explanation is, admittedly, highly speculative. It does, however, permit unambiguous tests. For example, it predicts that over a set of objects varying in initial polarization, the size of any order of questioning effects should be negatively correlated with the absolute value of the initial polarization. Furthermore, because an ideal is not expected to be constructed when a highly polarized evaluative *object* judgment already exists, we would expect that response times to questions about the attributes of a category ideal would be longer following responses to a series of "similarity to ideal" questions about a highly polarized object than following the same questions about a more moderately evaluated object. We would also expect to find greater increases in attitude accessibility for moderately evaluated objects following questions in an "Is-Should Be" format than following questions in a straightforward similarity judgment format.

Given the qualifications above, these results are consistent with Tversky's (1977) feature-matching model of similarity judgment, and with Barsalou's (1987) concepts of category flexibility and context dependence. They further demonstrate that "ideal points" cannot be assumed to exist in every domain, contrary to earlier assumptions. Even people with substantial experience in a domain, such as college students have with instructors, may not have devoted the time and effort required to create an ideal representation. Just as the typical voter may lack a coherent political ideology and corresponding "ideal" representations of congressmen, presidents, governors, etc., so might the typical consumer lack the "implicit theories" of products such as automobiles, cameras, beers, or breakfast cereals necessary to the existence of context-independent, coherent categories and category representations (Alba and Hutchinson, 1987; Barsalou, 1987; Murphy and Medin, 1985). Without such representations, survey research guided by content models of motivation or value (as Porter's 1962 instrument was guided by Maslow's need hierarchy) may, in fact, cause the construction of ideals different from those that would otherwise have been generated. This phenomenon may have three alternative (and equally undesirable) effects:

1. Under low-involvement, "peripheral" processing conditions (Petty & Cacioppo, 1986), responses to surveys may be constructed which are unrelated to attitudes and behaviors generated later in a different context.
2. Summary judgments stored in memory may guide immediate behavior, such as voting or product choice, in a direction influenced by scale contents but contrary to other values of the respondent momentarily less accessible. The

individual may later come to regret his or her decision.

3. The individual's representation of the issue or the domain may be more or less permanently influenced by the questioning process and subsequent elaboration, producing change in values at least partially due to questioning procedures (Feldman and Lynch, 1988; Fischhoff et al., 1980; see also Lynch, Chakravarti and Mitra, 1989, for a discussion of similar effects in a different theoretical domain.)

The first of these is a methodological problem; the second and third are both methodological and ethical in nature. Both kinds of issues are best addressed by the development of methods for, first, diagnosing the presence or absence of an elaborated ideal representation and, second, developing questioning procedures that elicit multiple perspectives about a given object or issue. As Fischhoff, et al. (1980) have argued, these procedures both provide more ecologically valid responses and benefit the respondent.

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Measuring and Modeling Brand Interest as an Alternative Aad Effect with Familiar Brands

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ABSTRACT

This study develops a measure for a new construct, brand interest, and reports exploratory modeling with the construct in a traditional Aad modeling context. The four-item brand interest scale evidences unidimensionality and discriminant validity. Structural equation modeling suggests that affecting brand interest may be a meaningful advertising objective for familiar brands.

INTRODUCTION

Since the early 1980s, many studies have demonstrated an association between attitude toward the ad (Aad) and brand attitude (e.g., Batra and Ray 1986; Edell and Burke 1986, 1989; Gardner 1985; MacKenzie, Lutz and Belch 1986; Mitchell and Olson 1981; Stayman and Aaker 1988). However, a common feature which limits the generalizability of these empirical studies is their focus on unfamiliar or hypothetical brands. On a practical level, while many new brands are continually being introduced, companies depend on mature, familiar brands for a stable base of sales. In addition, these familiar brands often utilize emotional appeals in their ads, and thus may evoke positive feelings or Aad on the part of the viewer.

It is not surprising to find that Aad affects brand attitude when the individual is unfamiliar with the brand; in this instance, the advertisement is the only basis for brand evaluation. Indeed, preliminary empirical evidence indicates that the effect of Aad on brand attitude may be important only for unfamiliar brands. For example, Gresham and Shimp (1985) found significant Aad effects on brand attitude (Ab) for only six of fifteen familiar brands, Edell and Burke (1986) found weaker Aad effects on Ab for familiar brands, and Machleit and Wilson (1988) report non-significant effects of Aad on Ab for two familiar brands.

Given it is expected that Aad will have limited effects on brand attitude for familiar consumers, additional research is needed to address the question of what happens when a consumer is exposed to an ad for a brand with which s/he is already familiar. To expect that exposure to a few ads for a brand will change brand attitude for an experienced consumer seems ambitious. It is known that attitudes of experienced individuals are typically "well-formed" and are resistant to change (cf. Fazio and Zanna 1981), and would be more likely to be affected by additional experience rather than exposure to advertising (Smith and Swinyard 1982, 1988). Thus, to consider brand attitude as the only direct effect or consequence of ad-induced emotion or Aad is limiting. For familiar brands in particular, our understanding of how advertising "works" will

need to move beyond the outcome variables traditionally examined in this research stream.

The purpose of this study is to propose and examine an additional "effect" or outcome of advertising exposure that may be affected by Aad. While research has focused on many antecedents of Aad (e.g., MacKenzie and Lutz 1989), the outcome variables examined have been limited to cognitive-structure variables such as brand cognitions (MacKenzie, Lutz, and Belch 1986), brand attribute evaluations (Burke and Edell 1989), brand attitude, and purchase intentions; all these variables are likely to be very difficult to change with familiar brands.

We propose the construct "brand interest" as an additional outcome variable. Brand interest is defined as the level of interest or intrigue the consumer has in the brand and the level of curiosity s/he has to inquire or learn more about the brand. Unlike attitude, brand interest is not a cognitive evaluation of the brand. Moreover, brand interest may be viewed as a "pre-attitudinal" construct which, when acted upon, may facilitate attitude development or change. For example, a high level of brand interest may lead the consumer to search for more brand-related information or try the brand. For familiar brands, a high level of brand interest may lead the consumer to try the brand *again* and re-evaluate his/her beliefs; as a result, brand attitude might shift (Smith and Swinyard 1988). Indeed, for uninvolved, familiar brands, generating a level of brand interest through advertising that is high enough to lead to a "re-trial" may be the most effective means of attitude change, and thus a primary objective for the advertiser.

Sustaining and/or reviving interest may be particularly challenging for familiar stimuli (Berlyne 1960; Faison 1977). As Pessemer and Handelsman (1984) conclude, familiarity can lead to variety seeking and varied purchase behavior. When the individual desires the satisfying aspects of variety, alternation among familiar brands within a set is often exhibited as a choice behavior. McAlister and Pessemer (1982) review experiments on switching tendencies and note that among somewhat familiar elements within a favored subset of stimuli, subjects' liking increased with additional exposure to the stimuli, although boredom also increased with additional exposure. By alternating among the familiar stimuli, subjects could balance the liking and the boredom.

In the situation where there are various familiar brands to choose among within a product category, the brands constantly fight the consumer's inherent desire for novelty and varied brand purchases. It is this case in particular where increasing and sustaining brand interest should be

critical for the advertiser. Additionally, it is likely that emotionally-oriented ad executions will have an impact on brand interest in this situation; for example, the positive feelings created by an ad could revive the intrigue or interest in the brand.

The question of how ad-produced feelings and Aad affect brand interest and brand attitude for familiar brands is what motivates this study. As a new construct, "brand interest" needs an empirical indicator before it can be integrated into the Aad research stream. Thus, we begin with a scale development exercise for the brand interest construct. We then present some exploratory modeling designed to illustrate the importance of considering brand interest as an alternative outcome of advertisement exposure.

METHODOLOGY

Procedure

Subjects participated in a study which was described as an evaluation of advertising campaigns. A videotape was prepared which included four different ad campaigns of three commercials each. Two campaigns were selected as the test campaigns-- Central Trust Bank (a large local bank), and Lowenbrau beer. The Central Trust campaign included humorous portrayals of the problems that one can run into with banking services. The Lowenbrau campaign included three of the emotional, "Here's to good friends" ads. Central Trust Bank and Lowenbrau beer were selected since the subjects should have at least some familiarity with both. In addition, purchasing a brand of beer versus deciding on banking services represented considerable diversity in decision making processes, thereby providing the opportunity to examine the brand interest construct in two very different contexts.

One hundred two undergraduate marketing students were exposed to the videotape during the regular class sessions of two different courses. Questionnaires were distributed after the completion of the 10 minute videotape. Half of the randomly-distributed questionnaires included the measures for Central Trust Bank as the first set of questions, while in the other half the measures for Lowenbrau came first. Thus, all subjects completed the measures for both of the test campaigns.

Measurement

The questionnaire began with the brand interest measure followed by measures of positive and negative affect, and ad evaluation, for one of the ads in the Central Trust/Lowenbrau campaigns. These measures were followed by several "filler" questions (e.g., What is the best advertising campaign you have ever seen?, Why was it your all time favorite?). The filler questions were included to reduce consistency biases on the focal measures. Finally, the subject completed brand attitude and purchase intention scales.

With the exception of the newly developed brand interest scale (discussed below), all measures

are consistent with those used in previous research. Positive/negative affect and ad evaluation were measured with the scales provided by Madden, Allen and Twible (1988). The coefficient alpha value for the positive affect measure (good, cheerful, pleased, stimulated, soothed) was .91 for Central Trust and .95 for Lowenbrau. For negative affect (insulted, irritated, repulsed), alpha values were .86 (Central Trust) and .90 (Lowenbrau). Coefficient alpha values for ad evaluation (pleasant/unpleasant, likeable/unlikeable, interesting/boring, tasteful/tasteless, artful/artless, good/bad) were .89 for Central Trust and .92 for Lowenbrau.

Brand attitude was measured with three semantic-differential items: good/bad, unfavorable/favorable, poor/excellent. The coefficient alpha values for this scale were .93 for both Central Trust and for Lowenbrau. Purchase intention was also measured with a semantic-differential scale that included the items likely/unlikely, improbable/probable, and possible/impossible with alpha values of .90 and .91 for Central Trust and Lowenbrau, respectively.

RESULTS

The Brand Interest Measure

Eleven Likert-type scale items were generated for measuring the brand interest construct (see Table 1). The items were designed to capture the curiosity that individuals have about the brand, and their interest in learning more about the brand. In addition, several of the items assessed interest in the brand that may have been influenced by specific ad exposure.

Exploratory factor analysis. Principal components analysis for both Central Trust and Lowenbrau each resulted in a two-factor solution with all scale items loading on one factor except item number 1. A principal axis factor analysis with varimax rotation produced a slightly different result. For Central Trust, two factors emerged; the second factor included scale items number 3, 6, and 11 in addition to number 1. In the same analysis for Lowenbrau, a communality of a variable exceeded 1.0, thus terminating the factor extraction. Note that for Central Trust, the three additional items loading on the second factor (see items 3, 6, and 11 in Table 1) are the ones that reflect the ability of specific ads to create some interest in the brand, rather than the general level of interest the individual has in the brand. It appears as though two "forms" of brand interest may exist: one which is the level of interest that the familiar consumer has at any point in time, and another which is "ad-induced," and represents the impact of specific ads in altering brand interest. Depending on the research context, the more specific "ad-induced" brand interest factor might be relevant to the researcher. However, here we examine further the more general brand interest factor.

Confirmatory factor analysis. Given the above exploratory analysis, seven of the eleven items were retained for confirmatory testing (items

TABLE 1
Original Brand Interest Scale Items

1. I am apathetic about _____.
2. _____ is an interesting (include name of product category).
3. These ads left me wanting to learn more about _____.
4. I see nothing really novel about _____.
5. I'd like to know more about _____.
6. These ads made _____ seem interesting.
7. _____ strikes me as dull.
8. Learning more about _____ would be useless.
9. I am intrigued by _____.
10. I'm a little curious about _____.
11. The advertiser succeeded in increasing my interest in _____.

TABLE 2
Maximum Likelihood Factor Loadings

Scale Item	Central Trust	Lowenbrau
I'd like to know more about _____.	.904	.794
Learning more about _____ would be useless.	.549	.760
I am intrigued by _____.	.727	.855
I'm a little curious about _____.	.865	.854

1, 3, 6, and 11 were eliminated). The seven items were evaluated with standard LISREL fit criteria as well as the criteria for discriminant validity (Dillon and Goldstein 1984; Fornell and Larcker 1981). Two additional scale items (4 and 7) were removed from the scale to improve the fit of the factor model. At this point, fit indices of the five remaining scale items were excellent. However, in tests of discriminant validity between brand interest and brand attitude, item number 2 of the brand interest scale had high normalized residuals with the brand attitude scale items. Indeed, by examining the wording of item 2, it appears that the respondent was being asked to make more of an evaluative judgment about the brand (consistent with the brand attitude measure) rather than making an assessment of his/her level of brand interest. Thus, item number 2 was also eliminated and the final brand interest scale was refined to include the four items shown in Table 2.

The fit values from the confirmatory analysis appear in Table 3. All of the values for Central Trust indicate an excellent fit of the four item scale to the data; the chi-square value is nonsignificant and the goodness of fit indices are very high. Additionally, the average variance extracted value is

greater than the .50 rule of thumb (Dillon and Goldstein 1984), and the coefficient alpha value for Central Trust is well within an acceptable range.

For Lowenbrau, all fit indices are within acceptable ranges with the exception of the adjusted goodness of fit index (AGFI). However, the high average variance extracted values, the high factor loadings (Table 2), and the high coefficient alpha values (Table 3), all indicate that this four item scale is internally consistent and reliable for both Central Trust and Lowenbrau.

Discriminant validity. To be construct valid (Peter 1981), the brand interest measure must show discriminant validity from other more traditional measures. Here we examine measures of brand attitude, purchase intentions, positive affect, negative affect, and ad evaluation for evidence of discrimination from brand interest.

Table 4 reports the discriminant validity checks. Consistent with the rules of thumb provided by Dillon and Goldstein (1984), the average variance extracted values are all greater than .50 and, most importantly, are all greater than the squared structural link between the pairs of constructs. This analysis provides strong support for the discriminant validity of the brand interest measure.

TABLE 3
Confirmatory Factor Analysis -- Four Item Brand Interest Measure

	chi-square	GFI	AGFI	RMSR	Av. Var. Extracted	Coeff. Alpha
Central Trust	1.25, p=.53	.99	.94	.026	.60	.82
Lowenbrau	5.65, p=.06	.95	.74	.038	.67	.87

TABLE 4
Discriminant Validity

	Average Variance Extracted	Squared Structural Link
Central Trust	Brand Interest/Brand Attitude .53 .81	.39
	Brand Interest/Purchase Intention .55 .75	.10
	Brand Interest/Positive Affect .53 .69	.04
	Brand Interest/Negative Affect .53 .68	.02
	Brand Interest/Ad Evaluation .55 .65	.12
Lowenbrau	Brand Interest/Brand Attitude .63 .83	.57
	Brand Interest/Purchase Intention .63 .80	.09
	Brand Interest/Positive Affect .63 .77	.32
	Brand Interest/Negative Affect .63 .80	.16
	Brand Interest/Ad Evaluation .63 .80	.30

Exploratory Modeling

Structural equation modeling was used to explore the relationships among affective responses to the ad (positive affect, negative affect, and ad evaluation), and brand interest, brand attitude, and purchase intentions. The model which was tested is shown in Figure 1. Note that this model includes the traditional links between positive affect, negative affect, ad evaluation and brand attitude, in addition to the brand attitude/purchase intention link. Brand interest is modeled as a potential mediator of ad exposure with effects on brand attitude and purchase intention.

Figures 2 and 3 present only the statistically significant model parameters for Central Trust and Lowenbrau. The models for Central Trust (chi-square=3.87, d.f.=3, p=.28; GFI=.99; AGFI=.91; RMSR=.03) and Lowenbrau (chi-square=.52, d.f.=3, p=.92; GFI=.99; AGFI=.99; RMSR=.01) fit the data extremely well. Note in Figures 2 and 3 that the affective responses to the ad have significant effects on brand interest and not on brand attitude. Here, brand interest appears to be mediating the effect of the Aad variables on brand attitude.

To compare the model in Figure 1 to a more traditional Aad network, an alternative model was

FIGURE 1
Structural Model

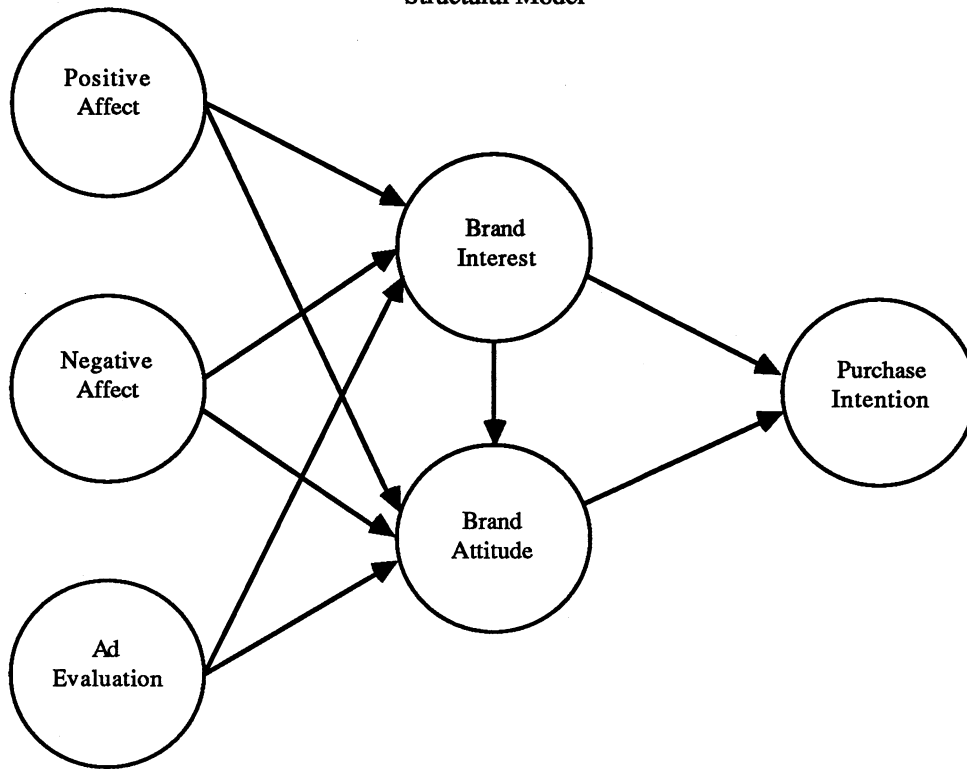


FIGURE 2
Structural Coefficients -- Central Trust Bank

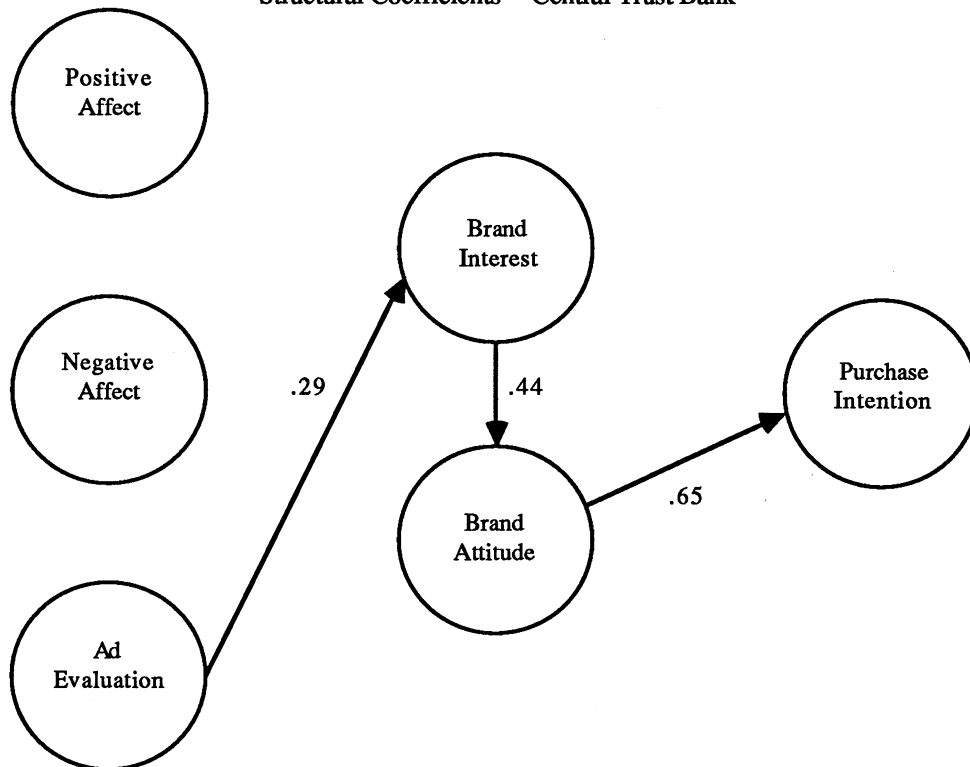
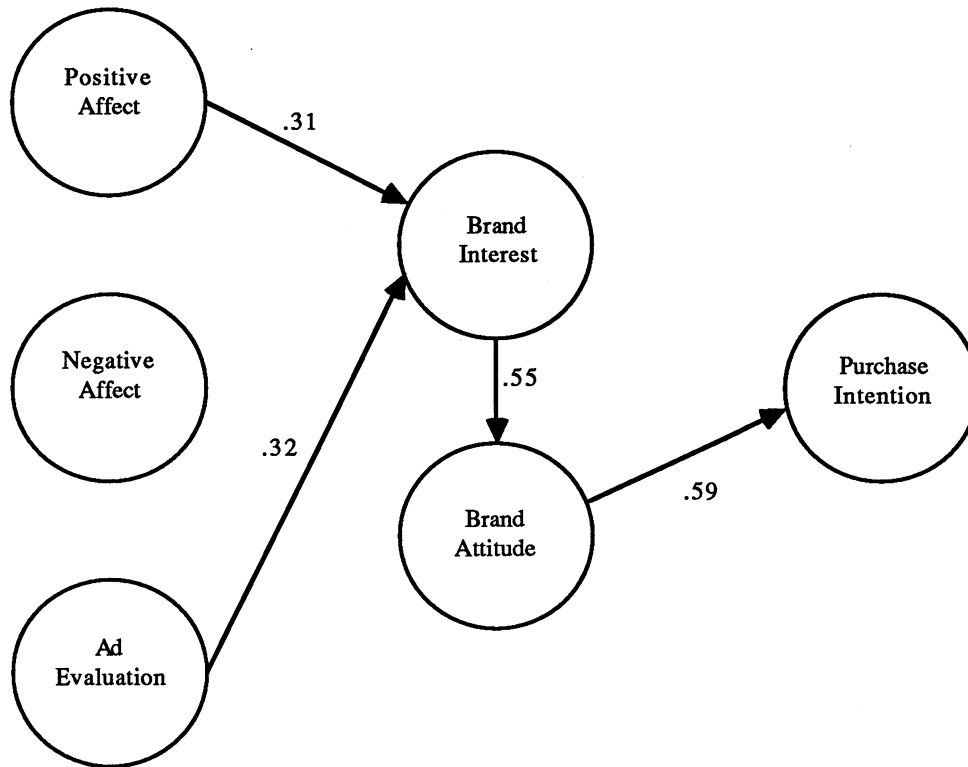


FIGURE 3
Structural Coefficients -- Lowenbrau Beer



also tested. This alternative was identical to that in Figure 1 except the brand interest construct and all corresponding links were excluded from the analysis. As a result, positive affect, negative affect, and ad evaluation all had direct links to brand attitude which, in turn, had a direct link to purchase intention. This alternate model also fit the data well for both Central Trust (chi-square=4.0, d.f.=3, $p=.262$; GFI=.98; AGFI=.92; RMSR=.03) and Lowenbrau (chi-square=.32, d.f.=3, $p=.96$; GFI=.99; AGFI=.99; RMSR=.009). For Central Trust, both positive affect and ad evaluation had significant effects on brand attitude (coefficients of .20 and .28, respectively). For Lowenbrau, only positive affect had a significant link to brand attitude (.36).

DISCUSSION

The findings of nonsignificant direct Aad effects on brand attitude (as illustrated in Figures 2 and 3) implicate the mediating potential of the brand interest construct; however, an important caution must be noted in the interpretation of this modeling. Brand interest is modeled as directly affecting brand attitude, and acting as a mediator between Aad and Ab. However, the way in which brand interest and brand attitude are related is really an open issue. For example, a heightened level of brand interest may lead to a "re-trial" of the brand, followed by a shift in attitude. In such a case, brand interest should not

be modeled as having a direct effect on brand attitude. Obviously, empirical assessment of such a process would require longitudinal data collection to disentangle the specific manner in which brand interest may ultimately impact brand attitude.

Whether Aad directly influences brand attitude for well-known brands remains an open question. The significant, direct effects of the Aad variables on brand attitudes in the alternative models is not consistent with previous studies which have shown little relationship between Aad and brand attitude for familiar brands. However, after checking familiarity levels of our subjects, we found that many were not very familiar with Central Trust and/or Lowenbrau. Familiarity was measured on a 1-7 semantic-differential scale (1=unfamiliar); mean familiarity ratings were 4.4 for Central Trust and 5.2 for Lowenbrau. Furthermore, a sizeable number of subjects were unfamiliar with the brands: 39% of the subjects had a familiarity rating of 3 or below for Central Trust, and 28% of the subjects rated Lowenbrau at a level of 3 or below. While this range of familiarity levels was desirable for developing the brand interest measure, it does not allow us to examine brand interest's role as a mediator for uniformly well-known brands, where one would expect the direct Aad/Ab relationship to be nonsignificant. Thus, a key research question remains: will brand interest serve as a mediator of advertising effects for highly-familiar brands?

Additional research is needed to resolve this important issue.

Examining various consequences of changes in brand interest can also provide interesting research opportunities. It might be expected that heightening a consumer's brand interest for a familiar brand would lead to "re-trial" of that brand; thus, one would predict that brand interest might have some direct influence on purchase intentions. However, as shown by Figures 2 and 3, the model coefficients for a brand interest effect on purchase intentions are nonsignificant. These nonsignificant parameters may have resulted from the way in which the purchase intention construct was operationalized. For Central Trust, the respondent was asked the likelihood that s/he would open a new savings account with the bank. For Lowenbrau, the respondent was asked how likely s/he would be to purchase Lowenbrau to serve at a party. Since these intention measures represent a stronger purchase commitment than simple "re-trial" of a brand, it is not surprising that the brand interest/purchase intention links are nonsignificant. Research is thus needed to evaluate brand interest effects on specific measures of "trial intention." Indeed, examining the consequences of brand interest on constructs other than brand attitude may provide a more realistic picture of the effects of advertising exposure. For example, a temporary shift in brand interest due to ad exposure may also result in changes in variables such as variety seeking tendencies, and evoked set sizes, that are less "enduring" than attitude. The consequences examined in the Aad research stream should be expanded beyond brand attitude, especially when one is attempting to understand how advertising works for mature, well-known brands.

In sum, the brand interest construct may foster research on advertising's effect for familiar brands. Research challenges await in discovering the antecedents and consequences of shifts in brand interest. By developing a scale and illustrating the relevance of the construct, this study provides a foundation for such a research program.

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The Elaboration Likelihood Model (ELM): Replications, Extensions and Some Conflicting Findings

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ABSTRACT

In this paper we report on three studies designed to replicate and extend the Elaboration Likelihood Model (ELM) presented in Petty, Cacioppo and Schumann's (1983) *Journal of Consumer Research* article. The reported studies were conducted with undergraduate students from two major universities using methodologies almost identical to those of Petty *et. al.* However, the results do not corroborate previous work on the ELM. We offer several possible explanations for the model's failure to generalize across products, across source manipulations and across arguments.

INTRODUCTION

In 1983, Petty, Cacioppo and Schumann published an article in the *Journal of Consumer Research* which describes an experiment and proposes the elaboration likelihood model (ELM) to explain under what conditions message cues will persuade consumers to try a new product. They argue that there are two different routes to persuasion -- central and peripheral -- and that the route taken depends on the receiver's level of involvement. According to the ELM, high involvement subjects will be motivated to process central cues such as message arguments and will be persuaded according to their quality (the central route). In contrast, low involvement subjects will focus on, and be persuaded by, peripheral cues such as source characteristics (e.g., a celebrity) and not the arguments (the peripheral route). In this paper, we report on three studies designed to replicate and extend the Petty, Cacioppo and Schumann (1983) study (hereafter, referred to as PC&S [1983]). These studies were conducted with undergraduate students from two major universities over a three year period. The methods employed in the three studies were similar, and sometimes identical, to those used by PC&S (1983). However, the results obtained are very different.

The format we use to report these studies is as follows. We first provide an overview, then describe the background, methodology and results for each study separately. Then we discuss our findings and merge them with prior research.

EXPERIMENT I

Overview

The first experiment replicates and extends PC&S (1983). We manipulate the same three variables: situation involvement, argument strength, and type of endorser. In addition, we

introduce a fourth (within subject) factor -- product involvement.

Background

The concept of involvement, the focus of much social and consumer psychology research, was a key manipulation in PC&S's (1983) test of the ELM. In that study, the researchers controlled how involved subjects felt with a print advertisement for a disposable razor by offering subjects the chance to choose a free gift for participating in the experiment; subjects selected either a disposable razor (high situation involvement) or a tube of toothpaste (low situation involvement). Involvement played a moderating role on the effects of argument quality and product endorser in influencing consumers' attitudes and purchase intentions. Based on their results, PC&S (1983) contend that the implications of ELM for advertising are that different types of messages will have different effects on different audiences.

As pointed out by Houston and Rothschild (1978) and others (Antil 1984; Stone 1984), there are different approaches to studying involvement and, more importantly, different types of involvement. These include situation involvement, issue involvement, advertisement involvement, response involvement, and product involvement. With this in mind, it may be argued that PC&S (1983) focused their efforts on manipulating "situational" involvement for a low involvement product -- a disposable razor. Attributes generally thought to characterize low involvement products include low financial and social risk, little product differentiation, and little ego involvement. As argued by Bitner and Obermiller (1985), PC&S may have ignored product involvement. For instance, it is unknown whether or not ELM would generalize and predict the route to persuasion for a high involvement product; i.e., a product that has social risk, is relatively expensive, is more ego-involving, and for which significant differences exist among available alternatives.

The present experiment examines the generalizability of ELM to high involvement products. Included in the research design are ads for a 35 mm. camera (high involvement product) and disposable razors (low involvement product). ELM predict that argument quality will have a greater effect on product attitudes under high rather than low situation involvement conditions for both cameras and razors. In addition, ELM would postulate that, for both product categories, the presence of celebrity endorsers will have a greater effect on consumers' attitudes under low rather than high situation involvement conditions.

Methods

Subjects and Design. One hundred and forty five undergraduates at a major state university participated in this first experiment. Approximately 20 subjects were randomly assigned to each of the cells in a 2 (situational involvement: high or low) x 2 (argument quality: strong or weak) x 2 (endorser: celebrity or noncelebrity) x 2 (product involvement: high or low) design. The last factor was a within subject variable; participants saw an ad for both a camera and a razor.

Procedure. Two booklets were prepared for the study. The first contains 12 product advertisements in a magazine format. The second booklet contains the dependent measures used by PC&S (1983). Included in the advertising booklet were one of four ads for a fictitious "Falka" brand 35 mm. camera, as well as one of the fictitious ads for "Edge" brand disposable razors used by PC&S (1983).

The first page of the advertising booklet explains that the study concerns the evaluation of rough newspaper and magazine ads. Consistent with PC&S (1983), it also contains the situational involvement manipulation. Half the subjects are told that for their participation they will choose a free disposable razor at the end of the study (high situational involvement for razor). The remaining half learn that they will receive a chance to win and select a brand of 35 mm. camera in a lottery at the end of the study (high situational involvement for camera). Thus, subjects in the high situational involvement condition for the razor are also assigned to the low situational involvement condition for the camera. Conversely, subjects in the high situational involvement condition for the camera are also in the low situational involvement condition for the razor.

Independent Variables

1. **Product Involvement.** The high involvement product is a 35 mm. camera; the low involvement product is the disposable razor.

2. **Situational Involvement.** As in PC&S (1983), we manipulate situational involvement in two ways. In the high involvement condition, subjects learn that they will select a free razor or have a chance to win and select a brand of 35 mm. camera. In addition, the short paragraph that precedes the razor and camera ads informs participants either that the product will soon be test marketed in the area where they live (high situation involvement), or will be test marketed in a different part of the country (low situation involvement).

3. **Source Effects.** Consistent with PC&S (1983), the celebrity source for the razors features two well-known professional male and female tennis players. For the 35 mm. camera, the celebrity source is a different well-known professional tennis player. Also consistent with PC&S, the non-celebrity source for razors is Bakersfield, California. Providence, R.I. is chosen as the non-celebrity source for the camera.

4. **Argument Strength.** The strong and weak arguments for the disposable razors are identical to those used by PC&S. To determine argument strength for the camera, a series of pretests were conducted with a different sample of undergraduates. Based on these results, the strong arguments for the camera are: auto loading, auto winding, programmed flash, print quality "superior" to competitors, and lightweight/compact. In addition, the strong arguments are preceded by the characterization "extremely simple operation." The weak arguments are preceded by the characterization "classic style and design" and include: comes in semi-hard case, adjustable neckstrap, easy access to battery chamber, print quality "similar" to competitors, and comes in several colors.

Dependent Measures

The dependent measures booklet contains the same questions used by PC&S, concerning subjects' attitudes and purchase intentions. The key responses are those toward Falka cameras and Edge razors. The attitude measures are three nine-point semantic differential scales with end points anchored bad-good, unsatisfactory-satisfactory, and unfavorable-favorable. Responses across the three scales are averaged to provide a general positive or negative attitude toward the product. Subjects also indicate their purchase intentions by rating, on a four-point scale, how likely they will be to purchase Falka cameras (and Edge razors) the next time they consider the purchase of a camera (and a razor). The descriptions for each scale value are: 1 = "I definitely would not buy it," 2 = "I might or might not buy it," 3 = "I would probably buy it," and 4 = "I would definitely buy it." To obscure the purpose of the study, similar attitude and purchase intent questions are posed for several of the legitimate products in the ad booklet. In order to check the manipulation of situational involvement, the last question asks participants to indicate the free gift they will receive (high involvement razor condition) or might win (high involvement camera condition).

Results

Manipulation Checks. Participants' responses to the last question in the dependent measures booklet indicate that the manipulation of situational involvement is successful. Ninety three percent and 97 percent of the subjects in the high involvement conditions for razors and cameras, respectively, correctly recall the free gift. Similarly, participants report recognizing the celebrity endorsers 86 percent of the time for razors and 89 percent for cameras. When the non-celebrity sources are used, over 93 percent of both groups report not recognizing the sources.

Attitudes and Purchase Intentions. 1. Razors. Separate ANOVA's are run for the attitude and purchase intention measures. Only one significant effect ($p < .05$) is found for the attitude index, such that participants like the razor more when the ad contains strong arguments than when the arguments are weak ($F[1,137] = 14.35$). Situational

involvement has a marginally significant impact ($p < .10$) on attitudes such that those in the high situational involvement condition are somewhat more favorably disposed to the razor than those in the low situational involvement condition ($F[1,137] = 3.31$). Since the present study is partly a replication of PC&S (1983), comparisons between these two studies are possible. In contrast to their results, and contrary to ELM postulates, no significant effect is found for endorser ($F < 1$), nor are any interactions found between involvement and arguments ($F < 1$) or involvement and endorser ($F < 1$).

Conflicting results are also found on the purchase intention index for razors. Unlike PC&S (1983), no significant effects are found for argument quality ($F[1,137] = 1.41$) or the interaction between involvement and argument quality ($F < 1$). In fact, no significant effects are obtained for any of the independent variables when participants rate their likelihood of purchasing the Edge disposable razor.

2.35 mm. Camera. Separate ANOVA's are also run for the attitude and purchase intention indexes for the camera. No significant effects or interactions are found for any of the factors when subjects rate how much they like the camera. For the purchase intention measures, significant effects ($p < .05$) are found for argument quality only ($F[1,137] = 4.77$); participants are more likely to purchase the Falka brand camera when the arguments are strong rather than weak. Contrary to the predictions of ELM, no significant interaction is found between involvement and either argument quality ($F < 1$) or endorser ($F < 1$).

EXPERIMENT II

Overview

The purpose of the second study is to determine if we can replicate the general findings from PC&S (1983) by substituting source attractiveness for spokesperson's celebrity status. Unlike Petty and Cacioppo (1980)'s study in which a physical feature of the spokesperson could serve as a cogent product-relevant argument (e.g., nice hair in an ad for shampoo), there is no relationship in this study between any features of the displayed female face and the product (a disposable razor).

Background

In this study we manipulate the source's physical attractiveness because prior research shows that a physically attractive source facilitates attitude change (Joseph 1982; Kahle and Homer 1985; Petty and Cacioppo 1980). However, the ELM postulates that physical attractiveness, acting as a peripheral cue, will affect attitude and purchase intentions in low involvement situations only, and that argument strength, acting as a central cue, will influence attitude and purchase intentions in high involvement situations only.

Methodology

Subjects and Design. 187 undergraduates were recruited from introductory marketing classes at a

major state university. Approximately 20 subjects were randomly assigned to one of 8 cells in a 2 (argument strength: strong or weak) x 2 (situational involvement: high or low) x 2 (source: attractive or unattractive) design.

Procedures. Eight different versions of the advertising booklets were prepared for the study. Each version has one Edge razor ad manipulating argument strength and source attractiveness. The first page of the advertising booklet, and the paragraph introducing the Edge ad, manipulate situational involvement in exactly the same way as PC&S (1983). The second booklet contains the dependent variable measures for the Edge ad as well as questions concerning other ads.

Independent Variables. As mentioned, argument strength and situational involvement are manipulated in the same way as in PC&S (1983). Source attractiveness is manipulated by using a black and white photograph of the face of either an attractive or unattractive spokeswoman. A different group of students evaluated these photographs on an attractive/unattractive scale; the differences were significant.

Dependent Measures. Attitudes toward Edge razors is assessed with the same 3 item nine-point semantic differential scale as used in PC&S (1983). Coefficient alpha for the three items is .89. Purchase intentions are assessed with the same four item scale used in Experiment I.

Results

Manipulation Checks. To determine whether or not the physical attractiveness manipulation is successful, an analysis of variance is performed on the semantic differential item included to measure spokesperson attractiveness. Subjects who see the attractive spokesperson rate her as more attractive than subjects who see the unattractive spokesperson ($F[1,175] = 29.23$, $p < .05$).

To determine whether or not we successfully manipulated argument strength, we run an ANOVA on a two item semantic differential scale (good-bad; convincing-not convincing) designed to measure argument quality. Scores are higher for subjects who see the strong arguments than for subjects who see the weak arguments ($F[1,175] = 11.57$, $p < .05$).

Participants' responses to the last question in the dependent measures booklet indicate that over 95% of the subjects correctly recall the free gift (a razor in the high situational involvement situation; a candy bar in the low situational involvement situation).

Attitude and Purchase Intentions. Argument strength is the only significant effect found on the attitude measure ($F [1, 175] = 7.08$, $p \leq .01$) and on the purchase intentions measure ($F [1,175] = 2.58$, $p \leq .05$). As expected subjects who are exposed to strong arguments like the product more and are more likely to express intentions to purchase the razor than those subjects who are exposed to weak arguments. Contrary to expectations, this result holds regardless of involvement level or spokesperson attractiveness. There are no

significant interactions involving the independent variables: involvement, attractiveness and argument strength ($F < 1$ in all cases). Consequently, in this study we do not obtain the interaction predicted by the ELM model, nor do we observe a main effect for attractiveness as has been found in other research (Kahle and Homer 1985).

EXPERIMENT III

Overview

In the third experiment, we extend the PC&S (1983) study by looking at a different source characteristic (referent or expert) and product involvement (high: MBA programs; low: root beer) in short billboard type ads. In addition, we extend the dependent variables to include attitude toward the ad itself, as well as attitude toward the brand and purchase intentions.

Background

Research has confirmed that sources holding expert power exert a large amount of influence in persuasive situations. Reinforcement theory, for example, states that communications made by experts are more readily accepted because experts are usually right and the expectation of being right is reinforcing (Maddux and Rogers 1979).

A large number of other studies have confirmed that sources holding referent power, which is here defined as similarity to the target audience, are likely to exert influence in persuasive situation. Reinforcement theory again comes into play here as it states that social approval is rewarding and people may think that agreeing with similar others will bring about social approval (Maddux and Rogers 1979). Social comparison theory and congruency theory also predict that similarity of the source would exert a positive influence on persuasion (Joseph 1982).

Consistent with the ELM, we predict an interaction between involvement and source characteristics. For high involvement products an expert source should be most persuasive because expertise is a product-relevant cue. Conversely, for low involvement products a referent source should be most persuasive, because in low involvement situations people are more likely to attend to similarity characteristics of the source, and not to expertise.

Methodology

Subjects and Design. A total of 74 male and female undergraduates business majors at a large state university participated in order to earn extra course credit. The design was a 2 (product involvement: high or low) x 2 (source: expert or referent) factorial. (Note: all subjects saw an ad for both root beer and the University's MBA program).

Procedure. Four different booklets containing five billboard-type advertisements were prepared. In each booklet, the second ad is for the school's MBA program and the fourth ad is for Lucille's root beer. A second booklet contains the dependent measures.

Independent Variables.

1. Involvement. Subjects see an ad for a high involvement product (the MBA program) and a fictitious low involvement product (Lucille's Root Beer). To increase involvement with the MBA program, subjects are also told on the cover sheet of the first booklet that they will receive a chance to participate in a lottery to receive a free guide to MBA programs.

2. Source. Two versions of each experimental advertisement are used, one with an expert endorser and one with a referent endorser. For the MBA ad, the source of a short quote is identified as either the president of IBM (Expert) or as a business student at the University (Referent). For the root beer ad, the source of a short quote is identified as the president of the American Soft Drink Association (Expert) or as a business student at a different east coast university (Referent).

Dependent Measures. For each of the experimental advertisements subjects complete a four-item semantic differential scale designed to assess impression of the ads, a four-item semantic differential scale designed to assess impression of the brand, and a single-item semantic differential purchase intentions scale. They also complete Zaichowsky's (1985) 20 item personal involvement inventory (PII) scale for each advertised product.

Results

Manipulation Checks. Subjects who see the expert source (for root beer or the MBA program) rate the source as more expert than students who see the referent source (root beer $F[1,71] = 16.97$; $p < .05$; MBA $F[1,71] = 17.10$, $p < .05$). Subjects who see the referent source (for root beer or the MBA program) tend to rate the source as more likeable than the expert source. Although this difference is in the predicted direction it is not statistically significant (root beer: $F < 1$; MBA $F(1,71) = 2.56$, $p < .11$). Finally, a paired comparison t-test on Zaichowsky's (1985) PII scale responses indicates that the MBA program is more personally involving than the root beer ($t[72] = 10.76$; $p < .05$).

Attitude toward the Ad, Attitude toward the Brand, and Purchase Intentions. For the root beer ads, there are no significant effects on attitudes toward the ad ($F[1,71] = 1.07$), attitudes toward the brand ($F < 1$), or purchase intentions ($F < 1$). Thus, the hypothesis that referent sources will have more influence in low involvement situations is not supported.

In regard to the ads for the MBA program, students who see the ad with the expert source have more favorable impressions about the ad than those who see the ad with the referent source ($F[1,70] = 11.92$; $p < .05$). Students who see the expert source also have more favorable impressions about the MBA program than those who see the referent source ($F[1,70] = 6.78$; $p < .05$). However, no significant difference is found in relation to intentions to apply to the MBA program ($F < 1.0$). In conclusion, then, we observe source effects only in the high involvement situation for a high

TABLE I
Summary of Research Results

Experiment	Independent Variables			
	Argument Quality	Source Features	Situational Involvement	Product Involvement
I	Yes	Celebrity	Yes	Yes
Major Findings:	1. For low involvement products (1) main effect of argument quality on attitudes and (2) main effect of situational involvement on attitude (marginal). 2. For high involvement products, main effect of argument quality on purchase intentions.			
II	Yes	Attractiveness	Yes	No
Major Findings:	1. Main effect of argument quality on attitudes and purchase intentions.			
III	No	Referent/Expert	Yes	Yes
Major Findings:	1. For low involvement products, no main effects. 2. For high involvement products expert source influenced attitude toward the ad, brand and behavioral intentions.			

involvement product. We do not observe source effects for a low involvement product.

DISCUSSION

In light of the predictions of the Elaboration Likelihood Model, the findings from the three experiments present some conflicting results. Table I summarizes these findings. In the first two studies, only main effects for argument quality are found. No source effects are reported and, more important, no interactions are found between involvement and any of the independent variables in either experiment. The third study, which did not manipulate argument quality, finds an expert source effect only in the high involvement situation. Thus, across three experiments designed to extend and test the generalizability of ELM, little if any support is found for the major postulates of the model. In this section, we identify reasons why our findings may diverge from those reported previously.

First, consider why we fail to replicate the critical cue by involvement interactions postulated by ELM in Experiments I and II. One possibility is that whether or not a given cue acts centrally, peripherally, as an irrelevant cue, or as a dominant cue depends to a large extent on characteristics of the product, the individual, the situation and the ad. Thus, for example, when we used slightly different products in the three studies, we necessarily had to modify the ads and some procedures. As a result, we may not have observed the expected interactions.

Nonetheless, if ELM is going to be an effective means of explaining consumer response to advertising, it should be robust enough to handle minor procedural variations.

Second, consider why we observed expertise acting as a central cue in Experiment III, while Petty, Cacioppo and Goldman (1981) found expertise acting as a peripheral cue. One difference between the two studies is that our billboard type ad provided very little product information, while Petty et al.'s message listed multiple arguments. As Bitner and Obermiller (1985) note, when no other central cues are available, a peripheral cue may act like a central cue. This result highlights a limitation of ELM; the model does not clearly specify a priori what will be a peripheral cue and what will be a central cue (Bitner and Obermiller 1985).

Another possibility, suggested by one reviewer, is that involvement should be correctly viewed as a continuous rather than a dichotomous construct. The inability to replicate the critical interaction observed in previous ELM research may reflect a failure to manipulate involvement so that subjects feel exactly the same levels of involvement as subjects in Petty and Cacioppo's (1981, 1983) research. For example, our low involvement manipulations could actually represent moderate involvement situations. Consequently, we may not observe the expected interactions. However, it should be noted that we secured the actual research materials used in PC&S (1983) and replicated the methods and procedures as closely as possible. Of

course, minor differences -- different subjects, different administrators, different surrounding ads -- may account for different levels of felt involvement, and thus the inconsistent results.

This possibility emphasizes the need for researchers to develop and report an independent measure of felt involvement. Zaichowsky's (1985) PII scale represents an important step in this direction. So that researchers can make more precise comparisons across studies, we suggest that future ELM studies report PII scores, across involvement conditions.

A final possible explanation for our finding from Experiments I and II that argument quality dominates attitude formation is that, contrary to PC&S (1983) and the predictions of ELM, consumers may base their judgments about products on the cogent reasons for purchase provided in the ad. If an ad contains both source and argument information, argument quality may be the most important determinant of attitudes and purchase intentions. Thus, the results appear to support Fishbein and Ajzen (1981) who argue that:

"...the persuasiveness of a communication can be increased much more easily and dramatically by paying careful attention to its content ... than by the manipulation of credibility, attractiveness, ... or any of the other myriad factors that have caught the fancy of investigators in the area of communication and persuasion" (p. 359).

While certain factors (e.g., extremely appropriate sources who act like product relevant arguments) may mitigate the strength of the argument quality-persuasion relationship, consumer behavior and advertising researchers will do well to approach the persuasion process as resulting from the thoughtful consideration of issue- and product-relevant information.

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The Interaction of Peripheral Cues and Message Arguments On Cognitive Responses to an Advertisement

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ABSTRACT

Predictions of the Elaboration Likelihood Model (ELM) as proposed by Petty and Cacioppo were tested in an experiment examining subjects' responses to some announcements. The "peripheral" cues of source context (commercial or noncommercial) and endorsement (present or absent) were systematically manipulated along with the "central" cue, argument strength (weak or strong). The effect of involvement with these variables was examined by assessing whether or not subjects had completed a university writing proficiency requirement, which served as the subject of announcements in the experiment. Results were consistent with the ELM prediction that relative use of central and peripheral cues is mediated by involvement. Both high and low involvement subjects use both central and peripheral cues in generating cognitive responses, but were affected by these cues in opposite ways. While the finding for involved subjects has been reported in earlier work and predicted by the ELM, the finding for low involvement subjects is new.

INTRODUCTION

In the literature of communication processing, the Elaboration Likelihood Model of Petty and Cacioppo (1979, 1981, 1987) is a popular explanatory theory (see Stiff, 1986). It posits that communication about a product or service occurs by one of two divergent focuses of intent: (1) *central* cognitive processing focuses on analysis of product-relevant information such as message content (arguments); alternatively (2) *peripheral* cognition focuses on the persuasive peripheral cues, (such as message length, the presence or absence of an endorsement and the background context) rather than the message content. This paper presents the results of an empirical test of a recent clarification of the model. Specifically, by controlling peripheral information and argument quality features of a message, the nature of the interactions of these features for involved and uninvolved subjects are examined.

In central cognitive processing the Elaboration-Likelihood is said to be high, and factors favor the communication recipients' motivation and ability to engage in issue-relevant thinking. These thoughts are expected to be enduring and strongly related to the message object. The second route, low elaboration-likelihood (or peripheral cognition), occurs if either motivation or ability to expend cognitive resources is low (e.g., the recipients are distracted or assess the task as unimportant). If the elaboration likelihood is low, the message "recipients adopt a strategy wherein they are more likely to attempt to derive a 'reasonable' attitude based upon a superficial

analysis of the recommendation . . . based upon various cues in the persuasion context (e.g., the more arguments for a recommendation, the better it must be)"--Cacioppo and Petty, (1981, p.74).

Factors such as involvement have been viewed as affecting people's motivation and ability to think carefully about the merits of an argument (i.e., process centrally) (Petty, Kasmer, Haugvedt and Cacioppo, 1987). The ELM predicts that low involvement recipients should be more sensitive to *peripheral cues* than to *argument* features of the advertisement (Petty and Cacioppo, 1981; Petty, Kasmer, Haugvedt and Cacioppo, 1987). Petty and Cacioppo (1984) found support for ELM predictions that the thoughts of the highly involved subject will be less influenced by peripheral cues (length of message) than quality of message. In contrast, the uninvolved subjects were found to be more influenced by the peripheral cues than by the message quality manipulations.

Petty, Kasmer, Haugvedt and Cacioppo (1987, p. 235) diagram various source effects as sample peripheral cues effecting peripheral route processors. Advertisers frequently attempt to bolster the effect of a communication by strategic control of background features. Public relations efforts focused on news releases of product information the marketer posits as news or more focused efforts on the purchase of commercial slots during news as opposed to "less serious" programs can be viewed as attempts to control peripheral qualities of the communication. Advertisers also attempt to enhance the copy points (the message itself) through the use of familiar, attractive, sexy, likeable or credible endorsers or spokespeople. Communication models typically isolate such source effects as independent from message effects (such as appeal used, order, number of items, quality of information, number and schedule of repetitions). The background or peripheral feature enhancements can be particularly costly. The relative cost to the benefit on the target audience is of strategic interest in marketing. The ELM suggests that when motivation to process is low (product has no personal relevance) the "peripheral" features should dominate persuasive influence. Alternatively, message features such as strength and quality of copy points should be the primary influence when motivation of process is high (product has high personal relevance).

In the present study, the test of the ELM involves manipulation of two peripheral cues (1) endorsement--present or absent, and (2) context--news or advertisement] and one argument feature (argument--weak or strong). From the ELM a two-way interaction between involvement and argument strength is predicted since high involvement subjects are expected to be more sensitive to variations in arguments. Likewise, two-way

interactions of involvement with context and involvement with endorsement are also predicted by the ELM.

A predicted interaction of peripheral cue variables, was reported in a study similar to the present one (Hennessey, Anderson and Bessolo, 1986). In addition to main effects on buying intention for an advertisement versus a public announcement context and for a testimonial versus a non testimonial format, these two variables interacted. In a public announcement, a testimonial was perceived as favorable, lack of testimonial was neutral. In the advertisement lack of a testimonial was neutral and presence of testimonial was perceived as negative, which lowered both perceived credibility of the message as well as intention to buy the product. Presumably the logic in the interaction was that in public announcements, endorsers always tell the truth, but in advertisements endorsers may lie. In the present study, a test will be made for this interaction effect. A two-way interaction is predicted between the two peripheral cues such that when both cues are viewed favorably by the subjects (news source and endorsement present) or negatively (advertisement source and no endorsement) the effect on thought will be more positive than when the two cues are inconsistent with one another. Should this two-way interaction be evidenced, then a three-way interaction between involvement and the two peripheral cues is also predicted since, from the ELM the low involvement subjects should be more influenced than high-involvement subjects by variations in the peripheral cues. The ELM, however does not specifically address the nature of interactions between peripheral features and argument features.

Three way interactions between the peripheral cues and argument quality as a function of involvement are predicted. Subjects with a high need or motivation to think (involved) should show the peripheral cues working most when arguments are weak. Thus an endorsement should be more effective (although its effect may take on a central character, e.g. "he should know what he is talking about") when arguments are weak. The effect of both types of variables on high involvement subjects is discussed in light of other studies in Petty, Kasmer, Haugtvedt and Cacioppo (1987). The communication literature has also reported conditions in which strong arguments are not as successful as other approaches (Psychology Today, 1975; Hadley, 1963; Hovland and Mandell, 1952). Thus we propose that low involvement may mediate the effect of arguments, such that when arguments are of high quality (strong) they could take on a peripheral character and in doing so lose their positive quality. Strong arguments, for subjects who do not need or want to think, may be perceived as a "hard sell" tactic resulting in negative effects (particularly pronounced when peripheral cues such as a strong endorsement reinforce this perception).

Since the ELM was proposed in 1979, research findings have generally supported it (Petty, Kasmer, Haugtvedt and Cacioppo, 1987; Lutz 1985;

Moore and Hutchinson, 1983; Moore, Hausknecht and Thamoderan, 1986). Lutz in 1985 extended the ELM by proposing that cognitive responses, the measure most frequently used in the ELM supportive literature, should be highly related to attitude variables. Cognitive responses are the thoughts subjects state they had as they viewed the experimental stimulus and the subsequent evaluations of such thoughts. Wright (1973) specified a method for classifying cognitive response into positive and negative categories. The frequency of the dominant cognitive response can be examined as a function of manipulated variables. More recently, Lammers (1985) investigated alternative methods of evaluating cognitive response and found this early method as appropriate as several alternative methods. Attitude, credibility of the message, cognitive response and buying intention were measured in the present study. Buying intention is expected to reflect the tendencies of attitude and cognitive response.

METHOD

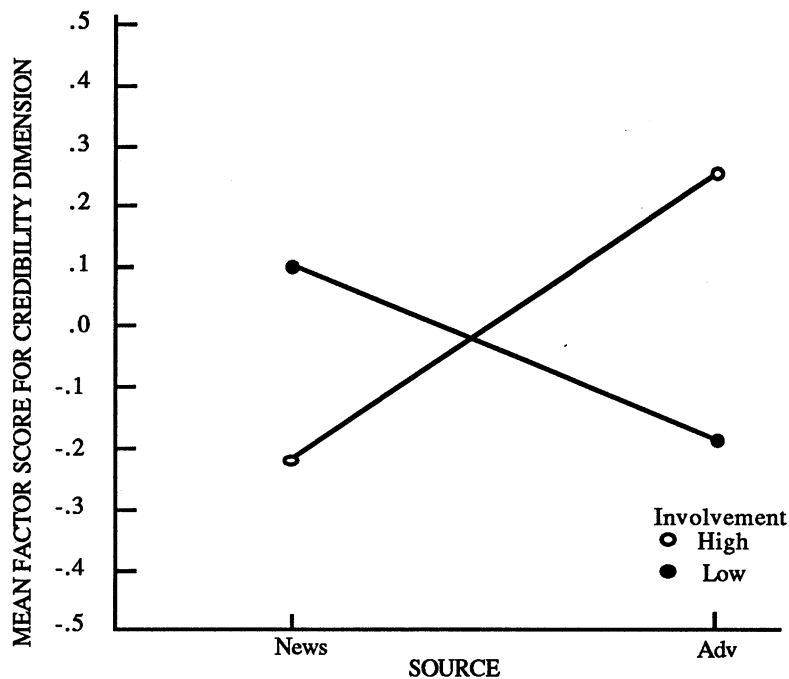
Subjects

Subjects were 165 student volunteers from upper division undergraduate marketing courses. Subjects were not paid nor given course credit for participating.

Design and Stimuli

Stimuli were printed announcements of a writing proficiency course designed to help students meet a graduation requirement. The peripheral cues were (1) endorsement/no endorsement, and (2) editorial context: public announcement/advertisement. One half of the announcements had a message of four lines (four copy points) presented with an endorsement by the Dean of the School of Business. The remaining half contained the identical message, without the Dean's endorsement. Editorial context was manipulated by telling half of the subjects that the University administration was announcing a private remedial course to help students pass the Writing Proficiency Exam (WPE) required for graduation. The other half of the subjects were told that a fictitious company was advertising a course to effectively prepare students to meet the WPE requirement. The message content (argument strength) was manipulated by changing metric information in the copy (e.g. 90% or 10% of course evaluators are also University WPE evaluators) and emphasis adjectives to either strongly or weakly support the claim that the course would help in meeting the WPE requirement. This simple metric manipulation allowed the researchers to assure that there was no change in the difficulty level of the strong versus weak message. This message content manipulation was pretested and posttested for perceived strength. Finally, students were classified into a high involvement and a low involvement group depending on whether or not they had yet to meet the WPE requirement. The

FIGURE 1
INVOLVEMENT BY SOURCE INTERACTION ON CREDIBILITY



experimental design was a 2 (expert endorsement versus no endorsement) by 2 (commercial source versus non commercial source) by 2 (weak versus strong argument) by 2 (high versus low involvement) factorial design with credibility, and other attitude dimensions (such as weak-strong; like-dislike) and intention to act measured on semantic differential scales (Osgood, Suci & Tannenbaum, 1957) and with cognitive responses collected as described in Wright (1973).

Manipulation Checks

The manipulation checks indicated that subjects rated the message with weaker metric information (number of course evaluators who are also WPE evaluators, number of weeks to complete course) as a significantly weaker message [$p < .05$]. Further, subjects who had not yet taken the WPE rated the message as more meaningful and significant than subjects who had already met the requirement [$p = .05$], thus supporting the successful operationalization of involvement. Credibility judgments were examined as a function of our design to assess the intended effect of our Source Context manipulation. We expected to see source impact Credibility and possibly interact with Involvement such that the credibility judgments of involved subjects would show less of a tendency to reflect the peripheral Source manipulations. Analysis of the

variable Credibility revealed a significant interaction between Involvement and Source ($F(1,155) = 8.15, p = .005$). As can be seen from Figure 1, high involvement subjects judged the ad more credible than the news context while low involvement subjects judged news more credible than the ad context. No other main effects or interactions were significant in the analysis of credibility. Analysis of attitude components revealed that while there was a main effect for argument strength on the potency component (weak/strong), there was a main effect for endorsement on the evaluative component (like/dislike, good/bad, pleasant/unpleasant). Advertisements with the dean's endorsement were generally evaluated more favorably. No other main effects or interactions were evident in the analysis of the attitude components.

RESULTS

As described earlier in this paper, Wright (1973) indicates that the dominant type of cognitive response (negative or positive) is most sensitive to independent variable effects. Positive and negative cognitive responses were classified into categories by two independent judges as responses to cues or arguments. An independent third judge was used to resolve inconsistencies. Negative responses were dominant when thoughts were peripheral cue relevant while neither positive nor negative responses

TABLE 1
 Analysis of Dominant Cognitive Response to Message Arguments and to Peripheral Cues

Source of Variation	Message Arguments		Peripheral Cues	
	Dominant = Positive Cognitive Responses		Dominant = Negative Cognitive Responses	
	F	p	F	p
Source	.002	.34	1.017	.32
Endorse	2.772	.10	.008	.93
Strength	.271	.60	.148	.70
Involve	1.348	.25	.131	.72
Source by Endorse	.478	.49	.305	.58
Source by Strength	.024	.88	.320	.57
Source by Involve	.341	.56	.129	.72
Endorse by Strength	4.319	.04*	2.300	.13
Endorse by Involve	.012	.91	.057	.81
Strength by Involve	5.209	.02*	.414	.52
Source by Endorse by Strength	.253	.62	.022	.88
Source by Endorse by Involve	.443	.51	.853	.36
Source by Strength by Involve	.171	.68	1.169	.28
Endorse by Strength by Involve	.054	.82	3.507	.06**
Source/Endorse/Strength/Involve	.011	.92	.112	.74

* = significant

** = marginal significance

clearly dominated when thoughts were about message arguments. The number of positive and negative cognitive responses were tabulated for each cell in our design. Table 1 provides the results of our analysis on the number of negative cognitive responses to cues and the number of positive responses to arguments. Analysis of positive cognitive responses to message arguments revealed a significant interaction between Involvement and Argument Strength ($F(1,147) = 5.21, p = .02$) (see Figure 2(a)). Further, a significant interaction between Endorsement and Argument Strength was found in this analysis ($F(1,147) = 4.32, p = .04$) (see Figure 2(b)). Analysis of the number of negative cognitive responses to message arguments mirrored these effects, although only the Argument Strength by Endorsement interaction was significant in this analysis ($F(1,147) = 4.61, p = .03$). As can be seen in Figure 2, involved subjects were relatively more positive toward strong arguments than toward weak arguments while low involvement subjects were more positive toward weak arguments than strong arguments. Earlier work supports this pattern in high involvement subjects. The pattern shown for uninvolved subjects is new, although consistent with our hypotheses. Contrary to our predictions derived from the Hennessey *et al.* (1986) study, there was no 3-way interaction between involvement and the two peripheral cues. The data indicate that the Source manipulation was relatively weak compared to the endorsement manipulation.

The 2-way interactions of these two peripheral cues were also not found.

Analysis of negative cognitive responses to peripheral cues revealed a marginally significant Involvement by Endorsement by Argument Strength interaction showing a differential advantage of no endorsement and no effect of argument strength for involved subjects. Strong arguments without an endorsement and weak argument with endorsement showed a differential advantage for low involvement subjects ($F(1,147) = 3.51, p = .06$). This finding is illustrated in Figure 3. No other main effects or interactions were evident in this analysis.

Analysis of attitude showed no significant effects for this design. However, analysis of buying intention revealed a significant main effect for Endorsement ($F(1,155) = 5.47, p = .02$) and a main effect for Involvement ($F(1,155) = 11.54, p = .001$). Both an endorsement and involvement directly stimulate buying intention. No significant interactions were found amongst the variables on buying intention.

FIGURE 2A

SIGNIFICANT INTERACTIONS IN ANALYSES OF MESSAGE ARGUMENT RESPONSES: INVOLVEMENT

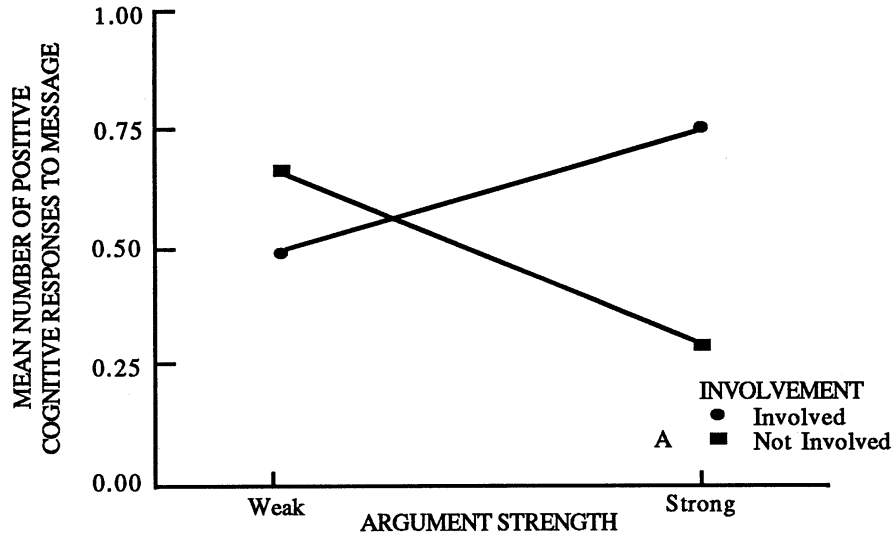


FIGURE 2B

SIGNIFICANT INTERACTIONS IN ANALYSES OF MESSAGE ARGUMENT RESPONSES: ENDORSEMENT

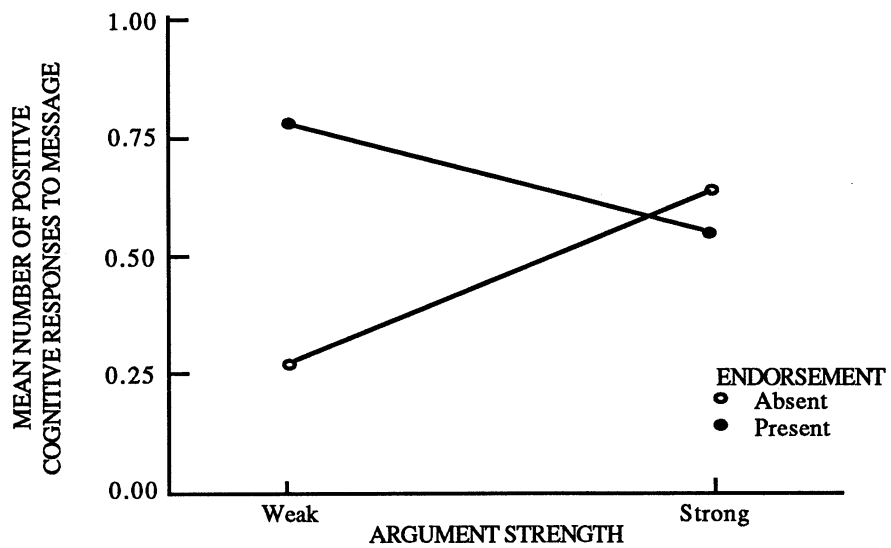
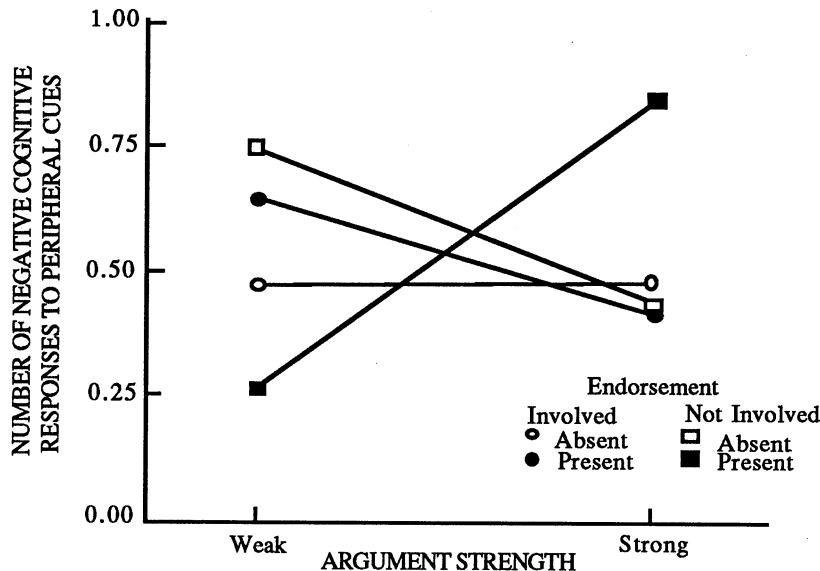


FIGURE 3

THE INTERACTION OF INVOLVEMENT ENDORSEMENT AND ARGUMENT STRENGTH ON NEGATIVE COGNITIVE RESPONSES TO PERIPHERAL CUES



DISCUSSION

Consistent with recent clarification of ELM expectation Petty *et al* (1987), our analysis shows that involved subjects use central and peripheral elements in processing a message. These cues affect both involved and less involved subjects differently. A new finding is that cognitive responses to strong copy were more positive for involved subjects than for uninformed subjects. Although Petty *et al* (1987) emphasize the mediating role of Involvement in determining the dominant path to persuasion, they clearly leave open the possibility that Arguments may effect peripheral route processors. They further provide a summary of empirical findings that show some effect of peripheral cues on central route processors. This study is the first, however, to report an effect for argument variations on peripheral route processors (i.e. on less involved subjects).

Further, credibility was enhanced by the advertiser cue in the involved subject but dampened for low involvement subjects, who found a public announcement more credible. By classifying cognitive responses into peripheral cue comments and argument content comments, as opposed to simply examining the relative favorableness of the thoughts generated, insight was provided on why central and peripheral cues seem to affect high and low involvement subjects in opposite ways. For example, while comments on the price of the course

tended to address how "cheap" or "expensive" the course was perceived by the involved subject, price comments for less involved subjects were more like "Rip-off" or "Another attempt to get our money", indicating a more superficial use of information than was evident with involved subjects.

Buying intention was, not surprisingly, strongly affected by involvement, as well as by the presence of an endorsement. In light of findings in this study, further research might focus on differences in the way endorsement is perceived and used by both high and low involvement subjects. Further work on the circumstances likely to produce interactions in message features (both cues and arguments) is still needed.

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The Effect of Background and Ambient Color on Product Attitudes and Beliefs

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ABSTRACT

The process by which attitude change occurs is a key issue in consumer research. This study addresses this theoretical question by examining the effect of background color on product attitudes and beliefs. Background color was used as the independent variable because, like music, it appears to be an aspect of the communication and exposure situation which carries little explicit information about the product. Hence, many would argue that differences in product attitude produced by background color occur via and are evidence for nonbelief-based change processes. In this study, respondents presented with a slide of a pen against a blue background exhibited a more positive attitude toward buying the product than those shown the same pen against a red background. However, beliefs as well as attitudes were measured and it was possible to demonstrate that those in the blue condition also held different beliefs about buying the product. Thus, although background color would seem, on the surface, to carry no product information, the background color affected the underlying belief structure as well as the attitude. It is argued that belief-based processes may be responsible for attitude change previously assumed to be due to affective processes.

One of the ongoing questions within the behavioral sciences concerns the nature of the processes by which attitudes, intentions and behaviors change. On the one hand, some theorists argue that attitudes, intentions and behaviors are determined by underlying beliefs and that change ultimately occurs by changing this cognitive structure. This belief-based approach has been most clearly articulated by Fishbein and Ajzen (1975). As applied to the attitude toward a behavior, these theorists propose the following compensatory expectancy-value model:

$A(\text{behavior}) = \text{fn} (\text{Sum}(B_i \times E_i))$, for i from 1 to n salient consequences of performing the behavior, where $A(\text{behavior})$ is the attitude toward the behavior, B_i is the strength of the belief that performing the behavior will lead to the i th consequence, E_i is the evaluation of this outcome and a belief times evaluation crossproduct is formed for each of n salient consequences of performing the behavior.

Notice that attitude is determined by the totality of the evaluative implications of an underlying cognitive structure, here expressed as a sum of belief times evaluation crossproducts. Furthermore, according to this model, the underlying beliefs function not merely as predictor variables, but as causal ones. Thus, a change in attitude must be mediated by a change in this sum of crossproducts

which could occur by changing the belief strengths linking the behavior to its consequences, by changing the evaluation of the outcomes, and/or by changing the set of salient outcomes.

In contrast to this highly cognitive approach, many theorists argue that it is necessary to recognize an additional process of attitude and behavior change, one which is not mediated by belief change, one which is more affective and less cognitive. This "other" process takes many forms from theory to theory. For example, Petty and Cacioppo (1981) contrast peripheral from central routes to persuasion. Zajonc and Markus (1982) argue that, under certain circumstances, affective reactions occur which precede and are independent of cognition. And, a number of researchers (Mitchell and Olson, 1981; Gresham and Shimp, 1985; Lutz, MacKenzie and Belch, 1982) suggest that the affective response to the ad might be directly transferred to the product without changing the underlying beliefs.

Evidence for an "other than belief-based" process of attitude change has come from a wide range of research. Here, it will be argued that the possible role of belief-based change as a mechanism for attitude change has frequently been neglected in this work. For example, in his study of the effect of music on choice behavior, Gorn (1982) presented a product with liked or disliked music. He found that the product associated with the liked music showed a significantly higher preference in comparison to the product associated with the disliked music. Since "minimal product information" was presented in the exposure situation and since few beliefs about the product were elicited to a free response question about the reason for choosing the product, Gorn argued that the change in behavior was accomplished via some process other than a belief-based one and that the positive affect toward the music directly transferred to the product. Gorn suggested that the effect of music on choice occurred by way of classical conditioning.

This study stimulated much debate primarily about whether, when and how classical conditioning processes occur in the advertising and consumer behavior domain (e.g., Allen and Madden, 1985; McSweeney and Bierley, 1984; Stuart, Shimp and Engle, 1987). Here, instead, the very existence of direct transfer of affect will be questioned. That is, it will be argued that music may have affected choice by changing some aspect of the underlying cognitive structure. Although the presentation of the product with background music contained no explicit verbal information about the product, it is possible that the liked music caused the respondents to form or change beliefs about the product which led to a more positive attitude in comparison to the disliked music.

Can background music during a product presentation affect the consumer's beliefs about the product? More generally, do aspects of the exposure situation which provide no explicit verbal information about the product have an effect on the cognitive structure underlying product attitudes? An answer of yes implies that belief-based change processes may be responsible for some of the changes previously assumed to be affect-based. Evidence for differences in cognitive structure as a function of these presumably "informationless" manipulations would suggest that it is premature to rule out a belief-based explanation for change. The purpose of this study is to demonstrate that aspects of the communication and exposure situation which, on the surface, do not appear to have the capacity of changing underlying cognitive structure may in fact do so. In another paper, the effect of music on beliefs has been demonstrated (Middlestadt, 1988). Here, the color associated with the product is shown to have an effect on both the attitude toward buying the product and the cognitive structure underlying this attitude.

Color is an important variable in a wide range of applied and theoretical disciplines and has been argued to produce a variety of sensory, perceptual, cognitive and affective effects. Briefly, from an applied perspective, scholars are concerned with how color affects the aesthetic experience (Ball, 1965) and with color as an element in design (Sharpe, 1974) and photocommunication. In the consumer domain, the focus is on the use of color in packaging, retail design and display (Bellizzi, Crowley, and Hasty, 1983) its impact on advertising (Warner and Franzen, 1947; Dunlap, 1950; Starch, 1959). Color is also the subject of theoretical research. For example, at the physiological level, color has been shown to affect arousal (Wilson, 1966), leg strength (Pellegrini, Schauss and Birk, 1980), performance of simple psychomotor skills (Nakshian, 1964) and perception of time (Smets, 1969). Within the learning theory tradition, there is evidence that color connotations can be conditioned to terms with which they are associated (Harbin and Williams, 1966) and that color preferences can be changed with simple learning trials (Peters, 1943). There is a long history of assumed association between color and feeling, emotionality or affectivity (Pressey, 1921; Norman and Scott, 1952). Within the psychodynamic tradition, Schachtel (1943) argues that responses to color are similar to responses to affect in that they are immediate, direct and evoked rather than deliberated or mediated. There is evidence that color affects subjects' reports of moods (Rosenshine, 1985; Levy, 1980). Furthermore, although there are cultural, developmental and individual differences, colors and color words have been shown to be consistently associated with mood-tones (Hevner, 1935; Odbert, Karwoski, and Ekerson, 1942; Wexner, 1954; Murray and Deabler, 1957; Schaie, 1961) and affective meanings (Adams and Osgood, 1973).

Two points from this varied work are relevant to the task of examining the processes by which attitude change occurs. First, like music, color would be expected to affect how people respond to products. And, like background music, background color does not convey explicit product information but seems to represent affectivity and emotion. Thus, like a music manipulation, a color manipulation would qualify as a relatively noncognitive one. Second, while the specific findings about color effects are complex and vary from study to study, red is consistently found to be different from the cool colors of blue and green. Thus, contrasting red with blue would appear to be the most effective experimental manipulation.

In the present study, three products were presented against blue and red backgrounds. It was expected that a difference in attitude toward buying the product would be found between these two color conditions. More importantly, in view of the comparison of affective and belief-based models of attitude change, it was expected that if a difference in attitude occurred, it would be accompanied by a difference in cognitive structure. Note that focus of the study is not on the effects of color per se but rather on the process by which color produces attitude change.

METHOD

The subjects in the study were 84 female undergraduate students from an introductory advertising course at a major midwestern university. These students were majors from a wide variety of departments and colleges within the university and participated in partial fulfillment of a course research requirement.

The experimental manipulation. Subjects were randomly assigned to one of two experimental conditions, red or blue. Those in the red condition viewed slides containing one of three products (a bottle of perfume, a gold and silver pen and a bottle of mineral water) against a red background and those in the blue condition viewed slides of the same products against a blue background. The light from the slide was not sufficient to read the questionnaire. Therefore, lights in a color matching the background of the slide were projected onto the ceiling at the front of the room. Thus the color manipulation was of both the background color on the slide as well as ambient color, that is, the surrounding color in the room. It should be noted that the room was kept relatively dark and that no attempt was made to control the luminance of the projected light.

The questionnaire. For each product, attitude toward buying the product was assessed directly with six bipolar semantic differential items. For example,

My buying the pen pictured in the slide is
 good ____ : ____ : ____ : ____ : ____ : ____ bad
 extrem. quite slight. neith. slight. quite extrem.

Underlying cognitive structure was measured as recommended by Ajzen and Fishbein (1980). More

TABLE 1
Effect of Color on Attitude toward Buying Product: Mean on Attitude Items by Condition

	Background and Ambient Color	
	Red	Blue
My buying the pen is 1		
Pleasant-Unpleasant	.26	.96**
Enjoyable-Unenjoyable	.00	.80**
I like-I dislike	.33	.87
Good-Bad	.92	.96
Wise-Foolish	.21	.56
Beneficial-Harmful	.97	1.24
Sum of belief x evaluation crossproducts (8 items)	10.00	21.49**

1 Based on seven-point semantic differential scales scored from -3 to +3, where a higher score indicates more positive attitude.

N=84

** $p < .01$

specifically, belief and evaluation items were written for eight modal salient outcomes elicited in a pretest study. For the belief item, each respondent indicated on a seven-point bipolar scale, how likely or unlikely the outcome would be if they bought the product. For the evaluation item, they indicated on a seven-point bipolar scale, how good or bad the outcome was.

The procedure. The subjects arrived at the experimental room in groups of about 6 to 10. Under regular light, they read the instructions which described how to fill out the scales and indicated that the purpose of the study was to determine the effect of color on sensory processes in the eye. Then the regular room light was turned off and blank colored slides were projected on the screen and the ceiling. To allow the subjects to adjust to the color, they completed three pages of filler questions. Then the slide with the perfume on the colored background was projected on the screen and subjects indicated their attitude toward buying the perfume and completed the questions on the underlying cognitive structure. The slide was changed to the pen and subjects completed attitude and cognitive measures, this time with respect to buying the pen. Finally, the slide of the mineral water was projected and respondents answered attitude and cognitive questions with respect to buying the mineral water. Throughout the session, the color on the background of the slide and in the room was red for those in the red condition and blue for the blue condition. The session took approximately 25 minutes.

RESULTS

There were no significant effects of the color manipulation on attitudes or beliefs with respect to two of the products, the perfume and the mineral

water. Therefore, this report focuses on the effects of color on the respondents' ratings of the pen. The results for this product are presented in three sections: (1) attitude toward buying the pen; (2) overall evaluative implications of underlying cognitive structure; and (3) individual belief and evaluation aspects of the salient outcomes comprising the cognitive structure.

Effect of color on attitude toward buying the pen. The top of Table 1 presents the means within experimental condition for the six semantic differential items used as direct measures of attitude. Over the six items, the multivariate F (Approx. $F(6,77) = 3.21$) was statistically significant at beyond the .01 level. For each of the items, respondents who were exposed to the pen with the blue background and ambient color were more positive than those exposed to the pen with the red background and ambient color. The mean difference was statistically significant at beyond the .01 level for two of these items, pleasant-unpleasant and enjoyable-unenjoyable.

Thus, color had a significant effect on attitude toward buying the pen pictured in the slide. Compared to the red condition, those exposed to a pen against a blue background with blue ambient color held a more positive attitude toward buying the product. It is next reasonable to ask whether this effect could have been mediated by an effect on the underlying cognitive structure.

Effect of color on overall evaluative implications of cognitive structure. It will be recalled that cognitive structure underlying the attitude toward buying the product was assessed according to Fishbein and Ajzen (1975). That is, for each of eight salient consequences of performing the behavior, a belief item assessed the likelihood

TABLE 2
 Effect of Color on Cognitive Structure Underlying Buying Product: Mean on Beliefs and Evaluations by Condition

	Background and Ambient Color	
	Red	Blue
Likelihood that buying pen means buying something which is 1		
Elegant	.05	1.51***
Unique	-.74	.60***
Good quality	.85	1.40m
Pleasant color	.69	1.36m
Easy to use	1.59	1.36
Durable	1.23	1.20
Expensive	.92	1.40
Too large	-.64	-1.13
Evaluation of buying something which is 2		
Elegant	1.64	1.96
Unique	2.18	1.98
Good quality	2.77	2.69
Pleasant color	1.84	2.16
Easy to use	2.56	2.44
Durable	2.74	2.71
Expensive	-.10	-.51
Too large	-1.52	-1.71

1 Based on seven-point semantic differential scales scored from -3 to +3, where a higher score indicates more likely.

2 Based on seven-point semantic differential scales scored from -3 to +3, where a higher score indicates more positive.

m p<.10

*** p<.001

that this outcome would result if the pen were bought and an evaluation item assessed the evaluation of the outcome. For each outcome, the belief and evaluation aspects were scored from +3 to -3 and multiplied to create a crossproduct. The sum of these eight belief times evaluation crossproducts provides an indirect assessment of attitude and represents the evaluative implications of the underlying cognitive structure.

First, as support for the assumption that the sum of the crossproducts represents an indirect attitude measure consider the correlations of this measure with the individual semantic differential items. These correlations range from a high of .59 for the good-bad, pleasant-unpleasant and like-dislike scales to a low of .45 for wise-foolish. These correlations are all statistically significant and about the size typically found using these types of measures.

Second, did the experimental manipulation of background color affect the overall evaluative implications of the cognitive structure underlying the attitude toward buying the product? The mean sum of crossproducts for each color group is presented at the bottom of Table 1. Again, those who were exposed to the pen in the blue condition were more positive toward buying the pen than

those exposed to the pen in the red condition. And again, this difference was significant at beyond the .01 level ($F(1,82) = 63.57$). This difference implies that the cognitive structure of those in the blue condition had significantly more positive evaluative implications than that of those in the red condition. In other words, compared to those exposed to the pen against the red background, those who viewed the pen against the blue background perceived that buying the pen was likely to lead to positive outcomes and unlikely to lead to negative ones. At this point, it is important to determine which outcomes were affected by the color manipulation.

Effect of color on belief and evaluation of individual outcomes. Multivariate analyses of variance on the individual outcomes revealed a significant effect of color over the eight beliefs (Approx. $F(8,75) = 3.14$) at beyond the .01 level, but no significant effect over the eight evaluations (Approx. $F(8,75) = 1.32$). Table 2 presents the means on these items for each color group, the beliefs at the top of the table and the evaluations at the bottom.

The background and ambient color had the strongest effect on two beliefs, buying the pen means buying something which is elegant and which

is unique. Compared to those in the red condition, those in the blue condition believed it more likely that the pen was elegant as well as unique. More specifically, those who were exposed to the pen with the blue background believed that buying the pen would quite likely lead to buying an elegant pen; whereas, those who were shown a pen against a red background perceived this outcome as neither likely nor unlikely. And, those who viewed the pen on a blue background indicated that it would be slightly likely that buying this pen would mean buying a unique pen; whereas those exposed to it against the red background believed that this outcome was slightly unlikely to occur.

Marginal effects of color are evident on two beliefs, buying the pen means buying something which is good quality and which is a pleasant color. Again, those exposed to the pen against the blue background believed that these two positive outcomes were more likely to occur than those exposed to the pen against the red background. Although not statistically significant, it is interesting to note that the pen presented in the blue condition was perceived to be more likely to be expensive (overall, a slightly negative consequence) than the pen presented in the red condition. Thus, exposure to the pen in the blue condition did not invariably lead to more positive evaluative implications.

The effect of the color manipulation on the individual evaluations is presented at the bottom of the table. Consistent with the multivariate F reported above, for none of the eight consequences did the background and ambient color significantly affect the evaluation of the outcome. That is, those exposed to the pen in the blue condition did not evaluate the outcomes significantly more or less positively than those in the red condition. The lack of significant effects on the evaluations is not surprising. One might expect that a person's favorability toward buying products with attributes, such as uniqueness, elegance and durability would be more stable and difficult to change than the beliefs about whether buying a specific product will lead to obtaining these outcomes.

CONCLUSION

In this study, it was shown that an aspect of the exposure situation, the background color, had an effect on attitude toward buying a product. Subjects exposed to a pen presented against a blue background with blue ambient color evaluated buying the pen more positively than those exposed to the same pen with a red background and ambient color.

From the perspective of understanding attitude change processes, the key issue is determining how color produced this effect on product attitudes. Since the background color did not explicitly convey any product information, it might be argued that the affect associated with the color was directly transferred to the product and thus created a positive attitude through some other than belief-based process. However, in this study, the underlying

cognitive structure was measured in detail and it was possible to show that the color affected the respondents' beliefs about buying the product. Compared to those in the red condition, those who were exposed to the pen in the blue condition believed more strongly that buying the pen would lead to two positive outcomes, buying a pen which was elegant and which was unique. This difference in beliefs resulted in a cognitive structure which was more positive for those exposed to the pen against a blue background. Thus, it could be argued that the change in attitude toward buying the pen found in this study was caused by a belief-based change process.

These data do not prove that a cognitive difference mediated the attitude and behavior effects found here or in other research. As argued by Gorn (1982), it is possible that the change in the beliefs occurred after and in justification of the change in attitude. And, disentangling the causal relations among beliefs and attitudes is unlikely to be an easy task. However, the data presented here do demonstrate that subtle differences in how a product is presented, differences which do not appear to involve product information, do produce differences in beliefs about the product. Thus, belief-based change remains a viable explanation for the observed changes in product attitude.

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The Effects of Missing Information on Decision Strategy Selection

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Many consumer decisions are characterized by missing information, but an understanding of how this affects decision processing is lacking. This paper proposes a framework to explain that influence. It is argued that when attribute values are missing, a consumer must infer them in order to use some preferred strategies (attribute-based comparisons). Thus, a consumer may attempt to avoid the increased inferencing effort by switching to (1) alternative-based processing, or (2) hierarchical elimination strategies. Consumer experience, task complexity, category attribute redundancy, and decision importance are all argued to influence the magnitude of the proposed strategy shifts.

Much of the available research on consumer choice strategies has implicitly assumed that experimentally available information completely describes each choice alternative. Yet, in many choice situations consumers face incomplete information or partially described alternatives. This may result from advertisements or packaging which only mention some attributes, because of imperfect attribute memory for nonpresent alternatives, or because some attributes are experiential and can only be evaluated after product use. In these situations, "missing" attribute values must be inferred from available product cues.

While the role inferences play in attribute weighting and valuation has been explored (cf Ford and Smith 1987, Meyer 1981), their role in decision strategy has not yet been researched. Missing attribute inferences may lead consumers to utilize different choice strategies than in situations of complete information. The purpose of this paper is to explore how missing information and particularly inferences may affect decision strategies.

It is proposed that as the amount of externally available attribute information for a given alternative decreases, necessary inference-making increases. In order to adapt to this situation, consumers may alter their processing. Specifically, the presence of missing information may introduce an inference stage of processing in order to perform some preferred strategy (e.g., attribute based comparisons). While, for example, attribute-based strategies are relatively easy to use in certain contexts (Tversky 1969), an added inference stage may increase their complexity. Alternative-based strategies, however, may allow more direct processing, and circumvent any added inference stage. This may result in a relative shift away from

attribute-based strategies toward alternative-based strategies as "missing" information increases.

Another way to avoid inferencing may be to continue to use an attribute-based strategy, by hierarchically eliminating alternatives based on those attributes with available values. This may be particularly appropriate when information is available on more diagnostic attributes.

Summarizing, it is proposed that in situations with missing information, consumers will attempt to avoid the effort of inferences by switching to (1) alternative-based strategies, and/or (2) hierarchical elimination strategies which focus on diagnostic, available attributes. As detailed below, these shifts may be moderated by consumer experience, decision importance, task complexity, and the category attribute redundancy.

DECISION STRATEGY USE

Decision strategies are often viewed as varying both in their level of difficulty and their ability to optimize the accuracy of a given decision (Beach and Mitchell 1978). It has been suggested that processing effort may affect the utilization of a given strategy in a given situation and that decision makers will resort to choice strategies which reduce cognitive strain (Bettman 1979; Newell and Simon 1972). The implicit assumption is that consumers trade-off accuracy and effort or consider the costs and benefits of particular strategies (Payne 1982). These costs and benefits may be influenced by aspects of the task or choice context as well as individual differences (Russo and Doshier 1983; Shugan 1980; and Wright 1975). Compensatory strategies in particular require a good deal of cognitive computations and place demands on short term memory. Using a linear compensatory strategy each alternative must be evaluated separately on each of its relevant attributes, and the resulting utility or value of each attribute must be used to arrive at an overall evaluation. In contrast, sequential elimination strategies are generally easier to apply since the alternative set is reduced and cutoffs are used, restricting attention to only part of the available information about each alternative (Payne 1976). Yet, more compensatory strategies may produce better choice alternatives.

Further, Tversky (1969) and Bettman and Jacoby (1976) suggest that attribute-based processing is easier than alternative-based processing because similar units (attributes) are being compared with one another. Slovic (1975) argues this may be due to an emphasis placed on an attribute's discriminating power. Some empirical evidence supports more widespread use of attribute-based processing (Capon and Burke 1977; Ford et al. 1989; and Russo and Rosen 1975). However, other empirical research supports equal amounts of alternative and attribute processing (Bettman and Jacoby 1976).

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One reason for these conflicting findings is that a number of variables may mediate differences in the effort required to apply the different strategies. Use of the strategies varies with task complexity (see Payne 1982 for a review), information format (Bettman and Kakkar 1977; Sheluga and Jaccard 1979; and Tversky 1969), the phase of processing (Bettman and Park 1980; Biehal and Chakravarti 1986; Johnson and Meyer 1984; Lussier and Olshavsky 1979; Payne 1976), and individual differences (Bettman and Kakkar 1977; Bettman and Park 1980; Biehal and Chakravarti 1982, 1986; Capon and Burke 1980; Cohen and Basu 1987; Jacoby et al 1976; Kardes 1986; Park and Lessig 1981; Sheluga, Jaccard, and Jacoby 1979; and Sujana 1985).

Finally, paralleling the discussion here, Johnson (1984, 1988) studied the effects of noncomparability (the degree to which alternatives are described by *different* attributes) among alternatives on choice of decision strategy. These studies show that as comparability between alternatives decreases, subjects increasingly cross-over from attribute-based to more alternative-based strategies, possibly due to the increase in effort involved in attribute-based processing as comparability decreases. What these studies suggest is that on the whole, situational factors mediate the effort required to use various decision strategies and lead to shifts in strategy use. We now explore the particular role that inferences regarding missing information play in strategy selection.

MISSING INFORMATION EFFECTS ON DECISION STRATEGY USE

While the effect of missing information on decision strategy selection remains unclear, a few studies have looked at its effects on evaluation with mixed results. Slovic and MacPhillamy (1974) suggest that when making pairwise comparative judgments, an attribute is weighted more heavily if attribute values are available for both alternatives than just one alternative. They suggest that comparisons involving dimensions of complete versus missing information may demand less cognitive strain and be more appealing. In an unpublished paper discussed by Bettman (1979), Wright also looked at decisions between two alternatives each with one common and one different attribute, and found opposing results.

One reason for these conflicting results may be that the Slovic and MacPhillamy studies utilized linear models to estimate the weights assigned to the two cues without considering that different models may have been utilized in the two situations. If, as suggested here, subjects switched to more alternative-based processing when information was missing and inferencing was difficult, then simply looking at the regression weights from linear models could be problematic. The effect of missing information on decision strategy selection was not fully explored in these studies.

Following Slovic and MacPhillamy, a number of studies have suggested that missing and

subsequently inferred information is discounted or ignored (Meyer 1981; Yates, Jagacinski, and Faber 1978). Yet other studies report opposite or mixed results (Ford and Smith 1987; Johnson and Levin 1985). Overall, these studies suggest that individuals do in fact make inferences when faced with missing information, and that inferential processing requires cognitive effort (Alba and Hutchinson 1985; Meyer 1981).

However, the emphasis throughout this stream of research has been on attribute weighting and valuation and the cues used to infer missing information. Just how missing information may affect decision processing is unclear. The primary methodologies used in these studies were linear model estimates of attribute weights based on likely-to-buy indications from alternative attribute descriptions. Discounted weights, and overall decreases in satisfaction ratings on alternatives with missing information, may reflect some consumer switching from attribute-based to alternative-based processing.

If the effort required to infer the missing information is high, as when cue redundancy is low (Hagerty and Aaker 1984; Johnson and Katrichis 1988), a switch to more holistic, alternative-based processing could have led to an implicitly discounted attribute weight. However, these methods of analysis impose an additive or linear evaluation method which may not reflect how the subjects actually were evaluating the alternatives and thus may not detect a difference in evaluative procedures.

A MODEL OF INFERENCE INDUCED STRATEGY SELECTION

The basic proposition here is that missing information and the subsequent need to form inferences may result in a shift to processing strategies that avoid the inference process. In general, attribute-based comparisons are relatively easy, making attribute-based strategies (in which individual attributes are chosen and compared across alternatives one at a time) very attractive to consumers (Tversky 1969). If, however, information is missing on one or more of the attributes of comparison, inferences required to "fill-in" the missing values may require significant incremental effort (Alba and Hutchinson 1985). This additional and potentially effortful inference stage may lead consumers to shift to a simpler strategy. As the required effort necessary to utilize an attribute-based strategy increases due to the need to form inferences on individual attributes, consumers may shift to more straightforward alternative-based strategies. In such strategies, all attribute values for a given alternative are combined to provide overall alternative evaluations which can be compared to make a choice. This combining of values across attributes to form overall evaluations may circumvent the need to make attribute-based comparisons (Johnson 1984). Alternatively, consumers may use hierarchical elimination strategies on available information if this is reasonable. Such eliminations are reasonable when

based on particularly important or diagnostic attributes (Klein 1983).

The effects of missing information and subsequent inferencing should be characterized by some increase in the number of inferences used in processing in missing information situations, and a relative shift from the use of attribute-based strategies to the use of alternative-based choice strategies. This relative shift may allow attribute-based processing to continue, but decrease proportionately while the use of alternative-based strategies increases as missing information is introduced. Based on this, the following propositions are forwarded:

- P1a: As missing information increases, the number of inferences regarding attribute values used in processing should increase.
 P1b: As missing information is introduced, the use of attribute-based processing to choose among alternatives should decrease relative to alternative-based processing.
 P1c: Any attribute-based processing that does occur should involve more hierarchical eliminations based on diagnostic attributes.

THE EFFECTS OF KNOWLEDGE

The amount of effort that inferencing requires should affect the magnitude of the proposed strategy shifts. This effort should vary from consumer to consumer based on many factors. One such factor may be the consumer's level of expertise within the product category. As inferences about missing attribute values are typically assumed to be based on cues provided about the same-brand, other brand, or category (Ford, et al 1987), consumers with more expertise in the category may be able to more easily use the available cues to form inferences (Alba and Hutchinson 1987). They may already have well-formed ideas regarding the correlations between the presence and values of different attributes (Johnson and Katrichis 1988). Further, they may have previously been faced with missing information in the category and thus be familiar with using cues to form inferences. Therefore, experienced consumers may require less effort to form inferences regarding missing attribute values. As a result, their choice of a strategy may not be influenced by missing information to the same degree as novice consumers.

This idea is supported by research in the area of consumer knowledge and its effects on processing. It has been argued that over time and repeated exposures, consumers may develop a set of expectations about a product category (Sujan 1985). Further, these expectations may provide consumers with a set of hypotheses regarding which attributes go together, typical configurations of attributes, and expected performance levels of products that can be matched to these categories. Extending this view, if a consumer has such expectations, classification of a product with missing information to a category based on the available information permits one to adduce or predict the missing information (Nisbett

and Ross 1980). Therefore, experience with the product category can lead to less effortful inferencing.

Alba and Hutchinson (1987) suggest a similar consequence. They suggest that consumer knowledge has two parts; familiarity, or the number of product related experiences accumulated by the consumer; and expertise, or the ability to perform product-related tasks. They hypothesize that product familiarity increases the likelihood of analytic processing. Consequently, highly familiar consumers will be more likely to perform tasks which require analytic processing. Schema-based inferencing, as discussed above is one such task. At very low levels of knowledge, novices lack the ability to make schema-based inferences. Therefore, when inferences are required, expertise should make them easier and more likely to be generated.

Alternatively, Alba and Hutchinson (1987) and Sujan (1985) suggest that while some level of knowledge is necessary for all inferencing, experts may be more judicious in their use of nonanalytic inferencing. It has been argued that consumers with at least a rudimentary knowledge structure may prefer to use prior evaluations based on simplistic criteria to make choices (Bettman and Park 1980). They may tend to use schema-based affective processes or nonanalytic inferencing more often than consumers with very low or high levels of category knowledge (Sujan 1985).

Overall, these arguments suggest that the likelihood of inferencing increases with experience. When faced with missing information, consumers with high levels of experience in the category may have less incentive to switch to alternative-based processing since analytic inferencing may not involve significant effort. This may also occur for consumers with moderate levels of experience who may more readily engage in nonanalytic inferencing. Conversely, those with lower levels of experience will require more effort to infer missing values and should show a greater shift to alternative-based processing. Thus the following propositions are forwarded:

- P2a: The number of inferences used in processing when missing information is introduced should increase less for novices than for consumers with moderate and high levels of category experience.
 P2b: Novices should exhibit a relatively stronger shift from the use of attribute-based processing when missing information is introduced than consumers with moderate or high levels of category experience.

EFFECTS OF TASK COMPLEXITY

Another factor which may affect the effort involved in inferring missing attribute values and therefore the magnitude of the inference induced strategy shift may be the overall complexity of the decision task. Studies support the concept that task complexity can directly influence the type of

decision strategy employed by the decision maker, as discussed earlier in this paper. We extend this framework by suggesting that one way in which task complexity affects strategy use is via its mediating effect on the effort of inferencing in situations with missing information.

Consider that tasks characterized by little missing information may require that only a few attribute values be inferred, and therefore only a marginal increase in effort is needed to process by attribute. This marginal increase may not be sufficient to induce the consumer to switch to alternative-based processing. However, as the amount of missing information increases and more attribute values must be inferred to process by attribute, the effort required increases as well. Eventually, consumers may reach some threshold of missing information where inferencing effort triggers a change in processing.

Similarly, in tasks involving no time pressure, the effort and time required to infer missing attribute values may not deter the consumer from processing by attribute. However, as time pressure is introduced, the consumer may feel unable to perform the decision task while taking extra time and effort to infer missing values. Consequently, the consumer may avoid the effort and time involved in inferencing by switching to alternative-based processing.

Finally, in decision tasks involving few alternatives, the overall decision effort involved is lower than in tasks involving many alternatives. It could be argued therefore, that the extra effort involved in inferring missing values would be more likely to cause a strategy shift in situations with many alternatives particularly when the missing information is spread across alternatives. However, as discussed earlier, many studies have shown the switch to phased strategies as the number of alternatives increased, in which an elimination phase typically involving an attribute-based strategy (such as EBA) is used first to reduce the alternative set. Therefore, increases in switching to alternative-based strategies to avoid inference effort in the many alternative task versus in the few alternative task may be masked or moderated due to the increased use of elimination strategies. At the same time, any switch to elimination strategies may be enhanced.

In summary, there is evidence that task complexity may directly affect the consumers' use of decision strategies. Further, complexity may also affect decision strategy use indirectly via its mediating effect on the effort involved in inferencing. Based on these arguments, the following propositions are forwarded:

P3a: The shift from the use of attribute-based processing to alternative-based processing when missing information is introduced should be relatively stronger in decision tasks involving more missing information than in tasks involving less missing information.

P3b: The shift from the use of attribute-based processing to alternative-based when missing information is introduced should be stronger in decision tasks involving time pressure versus tasks involving no time pressure.

EFFECTS OF CATEGORY ATTRIBUTE REDUNDANCY

The last factor to be considered for its effect on the *effort* involved in inferring missing values is the natural attribute redundancy within a product class. To the extent that a consumer perceives one attribute as an accurate predictor of another they may find inferences regarding those attributes to be more straightforward. When faced with missing information on an attribute from a product category with high redundancy, the consumer is more likely to recognize another given attribute as being an accurate predictor of the missing value. While this is related to the effects of experience as discussed earlier, redundancy or covariation within the product category *itself* may influence whether or not this learning takes place. And there is evidence that consumers may enter a category perceiving redundant information (Johnson and Katrichis, 1988).

This argument rests on the assumption that the level of attribute redundancy varies between product categories. This idea was supported in a study by Johnson and Katrichis (1988) which looked at attribute level redundancy across 65 product categories. They assessed brand by attribute matrices from *Consumer Reports* and found significant levels and ranges of attribute redundancy across product categories. Redundancy varied widely both across categories, and across attribute pairs within the categories.

This argument also assumes that consumers are able to perceive covariation. Many early studies in this area suggested that prior theories or expectations may be more important to the perceptions of covariation than observed data (Chapman and Chapman 1967; Jennings, Amabile, and Ross 1980; Nisbett and Ross 1980; and Olson 1974). However, recently these assertions have been challenged. Alloy and Tabachnik (1984) argue that people are reasonably accurate estimators of covariation in situations wherein they have no strong beliefs (see also Bettman, Roedder John, and Scott 1986). If beliefs are absent and the data clear and easily processed, covariation assessment will depend more on data. Johnson and Katrichis (1988) demonstrated that consumers appear to learn attribute relationships and do not perceive redundancy in the absence of actual redundancy, suggesting that expectations do not always dominate consumer perceptions.

In summary, there exists evidence that product categories do vary in their inherent attribute redundancy, and that consumers can perceive and may use these covariation assessments to aid in inferring missing attribute values. It follows that, in highly redundant categories, inferring missing attribute values may require less effort. Further, a

consumer may then be less likely to shift to an alternative-based decision strategy to avoid inferences in highly redundant categories because the inferencing effort involved is low versus that in less redundant situations. Therefore, the following proposition is forwarded:

P4: Because inferences are easier in product categories with high attribute redundancy, the shift from attribute-based to alternative-based processing when missing information is introduced should be relatively stronger in low redundancy categories than in highly redundant categories.

Similarly, it could be argued that inherent redundancy across attribute pairs of the specific attribute with the missing value will also influence the effort a consumer is required to exert to infer that value and, therefore the likelihood of a strategy switch.

EFFECTS OF DECISION IMPORTANCE

Another factor which may affect the balance of the cost/benefit relationship involved in the proposed inference induced strategy shift is the importance of the decision. While the previously discussed factors were argued to affect the effort involved in inferencing and therefore the likelihood of a strategy shift, decision importance may affect the motivation of the consumer to strive for accuracy. If an accurate decision is more important or salient to the consumer, it may take a greater increase in effort to induce a shift to a simplifying strategy.

Decision importance may be influenced by the importance of the decision consequences to the decisionmaker (Chaiken 1980), or whether or not the decisionmaker must justify the decision in some way (Hagafors and Brehmer 1983). Thus defined, it has been argued that the higher the importance, the more analytic, systematic, formal, careful, or complete the decision process (Billings and Scherer 1988; Chaiken 1980; Gabrenya and Arkin 1979; and Hagafors and Brehmer 1983).

As previously discussed, in Beach and Mitchell's (1978) cost/benefit contingency model, the selection of a decision strategy was contingent on the relationship between the value of a correct decision and the negative feeling associated with spending the time and effort required to apply the most accurate strategy. The cost/benefit relationship was argued to be influenced by significance and accountability. As these factors are increased, the use of more formal strategies were hypothesized to increase as well, even though the cost incurred (in terms of time and effort) were also positively related to the use of the formal strategies. This relationship has since been demonstrated in studies looking at the effects of importance on time taken to make a decision (Christenson-Szylanski 1978) and on the use of more analytical decision strategies (McAllister, Mitchell, and Beach 1979).

This suggests that the more important the decision, the more likely a consumer will stick with a strategy he feels will produce a more accurate decision even in the face of increased effort. Thus, the following proposition is forwarded:

P5: The shift from the use of attribute-based to alternative-based processing when missing information is introduced should be relatively weaker in situations of high decision importance than in situations of low importance.

Similarly, it could be argued that the importance of the specific missing attribute value to the decision task will also influence the effort a decisionmaker may be willing to exert to infer that value, and consequently the likelihood of an inference effort induced strategy shift.

CONCLUSION

Given that many consumer decisions are characterized by missing information, a better understanding of its influence on consumer decision processing may be important. This paper has proposed a cost/benefit based theory which explains the influence of missing attribute value information and particularly the role of inferences on consumer decision processing. This theory argues that when attribute values are missing, in order to use some preferred strategies (e.g. attribute-based comparisons) a decisionmaker must infer the missing attribute values. If attribute value inferences require effort, a decision maker may attempt to avoid the increased effort by switching to (1) alternative-based processing which can be applied directly, or (2) hierarchical elimination strategies which use diagnostic, available information.

Further, consumer experience with the product category, task complexity in the forms of amount of missing information and time pressure, product category attribute redundancy, and decision importance were all hypothesized to influence this cost/benefit relationship, and consequently the magnitude of the proposed strategy shift.

Finally, while we have outlined a theoretical framework for the effects of missing information on decision strategies, future research will test the propositions suggested in this paper.

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Knowledge and Context Effects on Typicality and Attitude Judgments

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ABSTRACT

This paper examines the effects of prior knowledge and context on typicality, frequency of instantiation, and global attitude judgments made in contexts that differ in exemplar typicality. We present research that shows significant effects of context on typicality judgments and significant interaction effects of context and knowledge on typicality and frequency of instantiation judgments. In general, the findings suggest that the information available to consumers in the judgment context has effects that differ depending on the level of prior knowledge of the consumer.

Studies of judgments and attitudes in consumer behavior typically assume a constant environment; that is, the context in which the judgments are made is often neglected as a source of possible impacts on the decision process of the consumer. However, the importance of environmental effects on judgments and consumer choice has emerged in the literature as an important topic of study. Specifically, among the issues that have been investigated are the effects of context on choice processes and outcomes (Bettman 1988; Klein 1989; Payne, Bettman, and Johnson 1988), the effects of context on choice models of noncompensatory processes (Johnson and Meyer 1984), the effects of framing and reference points on consumer decision-making processes (Klein and Oglethorpe 1987, Monroe and Chapman 1987, Rowe and Puto 1987), and effects of comparative versus noncomparative advertising on judgments of similarity, distinctiveness, informativeness, and polarization of attitudes (Sujan and Dekleva 1987). These studies strongly suggest that a product may be judged differently depending on the products with which it is encountered and the situation in which it is judged, but they only begin to detail the possible implications of the effects of context on other judgments and attitudes.

One of the most well-known treatments of the effects of context arises from social judgment theory (i.e. Sherif and Hovland 1961). According to social judgment theory, the extremity of a judgment with respect to a target depends in part on the reference point available - the standard of comparison. By manipulating the standard of comparison, the judgments elicited on aspects of a stimulus may be changed. The implications of social judgment theory and context effects for product judgments are important for product positioning and, more particularly, for advertising issues. For example, companies frequently use prototypical products or brand leaders as anchors or standards in comparative advertising.

However, with the exception of Sujan and Dekleva (1987), there has been no attempt to

combine categorization judgment measures, such as typicality, with context effects. In addition, the interactions of knowledge with context have not been investigated. In this paper, we report an investigation of the effects of context and knowledge on judgments of prototypicality within a product class.

THEORY AND PRIOR RESEARCH

Contrast Theory

Sherif, Taub and Hovland (1958) found that when a person was asked to judge the heaviness of stimuli that were distributed over some range of weight with equal frequency and there was no explicit anchor or comparison stimulus in relation to which the stimuli were to be judged, the judgments tended to distribute themselves over the judgment categories approximately rectangularly. When a stimulus more extreme than any of the others was designated as the anchor stimulus from which to base judgments, other stimuli were judged to be further from the anchor stimulus than they would otherwise have been (the contrast effect). Applied to social stimuli, it has been argued that the perceiver apparently exaggerates the discrepancy between the stereotype (on a particular attribute) and the observed (Manis, Nelson, and Shedler 1988).

At least three distinct conceptualizations exist of how contrast effects might derive from some sort of comparison process (Manis, et al 1988). First, an explanation based on adaptation-level theory (e.g. Parducci, Calfee and Marshall 1960) would argue that contrast effects derive from comparison with the central tendency of the individual's internal representation of the category under evaluation. A second possibility, based on range theories, is that judgments are determined by the location of the stimulus to be evaluated within the range that is established by the most extreme of the relevant contextual stimuli. Third, a "rank-based" hypothesis argues that assessment processes are based (in part) on the rank of a target stimulus relative to other relevant stimuli (i.e. How many are more extreme?). Regardless of the particular explanation, it appears that a comparison process takes place when consumers are asked to make judgments about products. Thus, a judgment is made in relation to other contextual stimuli rather than as an absolute value (see Smith, Diener and Wedell 1989 for further elaboration of range and other comparison processes).

In addition to providing a conceptual basis for hypothesizing effects on brand judgments, the context literature suggests that attributes may be judged differently in different contexts. Tversky (1977), for example, has shown that features may be weighted differently depending on the context.

Researchers have used a variety of procedures to manipulate the context in which objects are judged. Herr, Sherman, and Fazio (1983), for example, used a priming paradigm in which the category made accessible by the prime was used as the basis for contrast. In other cases, the stimuli provided have been the context that forms the basis for range and/or rank effects (e.g. Smith et al 1989). However the context is achieved, it is in effect a standard of comparison against which to assess the target(s).

Typicality Effects

People perceive exemplars of a category to vary in the degree to which they are representative, or typical, of a category (e.g. a robin is a more typical bird than a vulture). As discussed above in relation to social judgment theory, the context in which judgments are made may have effects on the extremity of those judgments. Specifically, different collections of exemplars may differentially influence judgments on a target stimulus. For example, a moderately typical exemplar embedded in a context of atypical exemplars may be judged to be typical, while the same moderately typical exemplar may be judged to be less typical when embedded in a collection of typical exemplars. The different collections of exemplars that comprise the context for the judgments on the target exemplar serve as standards of comparison in the same way that standards of comparison were used in the contrast studies discussed above (i.e. Smith et al 1989).

It seems likely also that a "hierarchy of contrast effects" may exist, where the contrast effects are strongest for typicality, next strongest for "surrogate" measures of typicality such as frequency of instantiation (Barsalou 1985), and least strong for attitude toward the target exemplar. The more closely the independent variable of context typicality is conceptually related to the dependent measure, the greater the effect predicted. These predictions also arise from measurement studies in categorization (i.e. Mervis and Rosch 1981, Barsalou 1985), where the category representation is argued to be most nearly approximated by typicality measures, next most closely by frequency of instantiation, etc.

The above arguments lead to the following predictions:

H1: A moderately typical target exemplar will be judged to be more typical in (a) a context with all atypical exemplars than in (b) a context with all typical exemplars. In (c) a context with a range of typicality of exemplars, the typicality judgments on the target exemplar will be somewhere in between the judgments from the other two contexts (context a and context b).

H2: A "hierarchy of contrast effects" will exist such that the above context effects on the target category member

will be strongest for global typicality measures, less strong for frequency of instantiation, and least strong for attitudes toward the target category member.

Knowledge

Expertise or prior knowledge is associated with richer, more complete, and more detailed representations of a category in memory (Alba and Hutchinson 1987, Brucks 1986, Murphy and Wright 1984). Experts in a product category thus should have readily accessible knowledge about a wide range of the products in that category. Further, as Chi, Glaser and Farr (1988) argue, experts are less likely than novices to rely on less relevant surface features or literal objects stated in the problem description in making judgments. Both experts and novices use conceptual categories, but these categories are richer and more semantically-based for experts and more syntactically or surface-based for novices (Chi et al 1988; Walker, Celsi and Olson 1987).

More knowledgeable consumers are likely to know more about the various product category members and are more likely to have insight into the characteristics and criteria that differentiate one product from another. Novices should have less developed cognitive structures about specific members of a category and the characteristics that determine category structure. Thus, subjects with extensive accessible prior knowledge should be more likely than subjects with low prior knowledge to use that prior knowledge as their standard of comparison, in accordance with adaptation theory. In contrast, subjects with low prior knowledge should be more likely to use an external context for the standard of comparison, such that range theories would be appropriate in determining context effects. Since experts' perceptions of category representativeness may then be less likely to be influenced by external context than novices' perceptions, we expect to see the smallest effects of (external) context for subjects with high prior knowledge and larger effects of (external) context for subjects with low prior knowledge. That is:

H3: Subjects with low prior knowledge about the product category will show larger context effects than will subjects with high prior knowledge.

METHODOLOGY

Overview

Data collected from a laboratory study were used to test the above hypotheses. After reading through a list of 15 makes of automobiles, a sample of 81 college students completed measures of typicality, frequency of instantiation, attitude, and knowledge. The list of automobiles, which were also the ones rated on individual measures, defined the context manipulation. Each subject was

randomly assigned to one of the three context conditions.

Context Stimuli Selection

Three contexts were used in testing the hypotheses in this study. Context 1 had fourteen automobiles that represented a range of typicality, based on typicality scores from a pretest (of 35 automobiles), relevant to the category of "economy cars". Context 2 had fourteen automobiles that were all previously rated as most typical of the category of economy cars. Context 3 had fourteen automobiles that were all rated as most atypical of the category of economy cars. In addition, each context included a target economy car (referred to here as Car "X"), which had been rated as typical of economy cars. (On scales ranging from 1 to 7, with greater numbers reflecting greater amounts of the dimension, the target car was rated as 5.86 for typicality and 4.67 for representativeness in a pretest; the target car was rated as one of the 4 most typical economy cars, out of a possible 35 cars).

For each context, half of the questionnaires had a randomly determined order and half had the reverse order. In each order, for each context, the target exemplar was the fifteenth automobile listed. This ensured that the context would be fully encoded by the time the target exemplar was rated and that comparisons of the target across contexts would not be confounded by order effects.

Measures

Measures of global typicality, frequency of instantiation, attitude and knowledge were taken, in that order. All subjects rated all fifteen automobiles in one context on all measures. However, only data pertaining to the target exemplar were used in subsequent analyses. The rationale for measuring all 15 automobiles was (1) to disguise the purpose of the study and (2) to strengthen the context manipulation.

Global typicality was measured on two single-item 7-point scales. The first was a "typicality" scale ranging from "very atypical" (1) to "very typical" (7), with instructions adapted from Hampton and Gardiner (1983). The second typicality scale was a 1 to 7 scale of "representativeness", ranging from "very unrepresentative" (1) to "very representative" (7). The correlation between the typicality and representativeness scales was 0.80 for the target exemplar, so the two scales were combined to form a summary scale. However, since initial pretest data suggested that the target exemplar yielded higher scores on the typicality scale than on the representativeness scale, these two measures were also treated independently in certain analyses. As subsequent analyses indicate, the representativeness scale yielded somewhat different findings than the typicality scale.

Attitude toward the target exemplar was measured on two 1 to 7 evaluative semantic differential scales (extremely bad (1) - extremely

good (7) and extremely unfavorable (1) - extremely favorable (7)). The two scales correlated 0.90 and were summed to form the measure of attitude.

Frequency of instantiation was measured by asking subjects to rate how frequently they encountered each category member (automobile) - in store, ads, etc. - as an instance of the category "economy cars". The frequency of instantiation (FOI) measure was a 7-point scale with endpoints "not at all frequently" (1) and "very frequently" (7). Instructions were based on Barsalou (1985).

Finally, knowledge about the category was measured in two ways. First, subjective knowledge was measured by a single-item 5-point scale, asking subjects to rate how knowledgeable they were about automobiles relative to other people, on a scale from "very familiar" to "very unfamiliar". A second 30-item objective knowledge scale was developed, some items of which were open-ended and some multiple choice. The open-ended questions encompassed terminology, personal experience, and industry knowledge. For example, one question was "What does V-8 engine mean?" Another asked subjects to give an example of each of eight types of automobiles (full size pickup truck, sedan, compact, etc.). The multiple choice questions tapped specific model knowledge, and included questions such as "The ___ has a 1.8 liter fuel-injected engine" and "The Pulsar is made by ___." The objective knowledge test was pretested and refined to enhance reliability (24 items remained). Cronbach alpha for the open-ended objective questions was 0.73; for the multiple-choice questions 0.71. The two scores (open and closed-ended items) were summed for a total objective knowledge score. On the refined scale, the maximum possible score for total knowledge was 48. Subjective and objective knowledge correlated moderately high (0.74) but were analyzed separately in subsequent analyses.

RESULTS

Overview

The main hypothesis investigated was the effect of context on typicality judgments for the target exemplar (Car "X"). In addition, other measures taken were analyzed for differences across contexts to examine the hierarchy of effects proposition (hypothesis 2). Finally, the effect of prior knowledge on the other results was examined. The results of these analyses are reported below. In the analyses, all data from 7 point scales were recoded from -3 (atypical, unfavorable, not at all frequently, etc.) to +3 (typical, favorable, frequent, etc.). Data from the 5-point scales were coded from 0 (very unfamiliar) to 4 (very familiar).

To test the hypotheses, two-way analyses of variance were performed with each typicality measure separately as the dependent variable and the three levels of context as one independent variable. The second independent variable was knowledge (high or low, split at the median).

TABLE 1
MEANS FOR DEPENDENT MEASURES FOR EACH CONTEXT CONDITION

Dependent measures	All typical	Range	All atypical	F-value
Representativeness	0.96	1.04	1.31	0.461
Typicality	0.50	1.22	1.54	3.666 ^a
Typ. + Rep. (summed)	1.46	2.26	2.85	1.796
FOI	-0.32	-0.41	0.42	1.410
Attitude	-0.89	-1.33	-1.77	0.498

^a Significant at 0.05

NOTE: N = 81 subjects, with 28 in the all typical context, 27 in the range, and 26 in the all atypical.

Effects of Context on Typicality Judgments

Results are shown in Table 1. The results for typicality show that, as predicted, judgments differ significantly ($p < 0.05$) by context. That is, in the all atypical exemplar context, the target exemplar was judged to be more typical ($M = 1.54$) than it was judged to be when it was in the context of all typical exemplars ($M = 0.50$). The mean of the typicality judgments for the target exemplar in the "range" context condition was somewhere in between the two context extremes ($M = 1.22$), as expected. The differences in means for the representativeness measure unexpectedly did not reach significance ($p = 0.63$), although the means are in the predicted direction.

Hierarchy of Contrast Effects

A hierarchy of effects of context was expected such that typicality and representativeness would show the largest effects of context, with FOI (frequency of instantiation) and attitude showing progressively smaller effects. Effects of context were not present for either FOI or attitude. However, as shown in Table 1, means were in the same direction as noted for typicality, and the F values were closer to significance for FOI than for attitude.

Effects of Knowledge on Typicality

The effects of both objective and subjective knowledge on typicality were also investigated as a function of context. As stated in hypothesis 3, an interaction between context and knowledge was expected such that subjects with low prior knowledge of automobiles would show larger effects of context than subjects with high prior knowledge. Results for typicality are shown in Table 2 and Figure A. The expected interaction effect is, indeed, significant for both objective ($F = 6.273$, $p < 0.005$) and subjective ($F = 3.252$, $p < 0.05$) knowledge, but the means are exactly opposite the predictions. As shown in Figure A, subjects with high knowledge were more likely than subjects with

low knowledge to show the predicted contrast effects (i.e. greater perceived typicality of the target exemplar as the frequency of atypical exemplars increased in the context condition). Similar interaction effects, but less pronounced, were found for frequency of instantiation for objective ($F = 7.516$, $p < 0.005$) and subjective ($F = 1.667$, $p < 0.20$) knowledge, and effects were less evident for attitudes toward the target ($F = 2.347$, $p = 0.10$ and $F = 0.227$, $p = 0.63$ for objective and subjective knowledge, respectively), as shown in Table 2 and Figures B and C.

In summary, in contrast to hypothesis 3, the effects of context were greater for high than for low knowledge subjects. A possible explanation for this effect is that only subjects with higher knowledge were able to appropriately categorize the context with respect to economy cars and use those categorizations to make typicality judgments. Further, the data seem to support the idea that the less knowledgeable subjects did not know about the characteristics of the stimuli since in the presence of the all atypical context they seemed to assume the target (typical) stimulus was atypical too, and thus their typicality rating for the target exemplar trended down. In other words, they seemed to know enough to realize that most of the stimuli in this context were atypical, but not enough to differentiate the target from this general judgment.

DISCUSSION

Summary of Findings

Several interesting results occurred, not all of which were expected. First, as predicted, we found that subjects' judgments of typicality were affected by context. In particular, when the target exemplar was presented within a list of very *atypical* exemplars, it was rated as more typical than when presented within a list of very *typical* exemplars. This finding is consistent with social judgment theory (Sherif and Hovland 1961) as well as more recent theories of contrast (Manis et al 1988) and

TABLE 2
 MEANS AND F TESTS FOR THE TARGET EXEMPLAR ON THE DEPENDENT VARIABLES FOR EACH KNOWLEDGE AND CONTEXT CONDITION

Dependent measures	Low Knowledge			High Knowledge			Knowledge F-value	Interaction F-value
	All typical	Range	All atypical	All typical	Range	All atypical		
<i>Subjective Knowledge</i>								
TYP	1.059	2.647	1.417	2.091	1.600	4.071	2.323	3.252 ^b
FOI	-0.294	-0.706	-0.583	-0.364	0.100	1.286	3.861 ^c	1.667
ATT	-0.412	-1.176	-1.750	-1.636	-1.600	-1.786	0.592	0.227
<i>Objective Knowledge</i>								
TYP	2.000	2.000	1.000	0.929	2.636	4.692	3.426 ^c	6.273 ^a
FOI	0.143	-0.812	-1.000	-0.786	0.182	1.846	5.336 ^b	7.516 ^a
ATT	0.214	-1.250	-2.538	-2.000	-1.455	-1.000	0.230	2.347

^a Significant at 0.01

^b Significant at 0.05

^c Significant at 0.10

NOTE: N = 81 subjects. Low and high knowledge splits are at the median knowledge scores.

FIGURE A
 MEAN TYPICALITY RATINGS FOR EACH CONTEXT AND KNOWLEDGE CONDITION

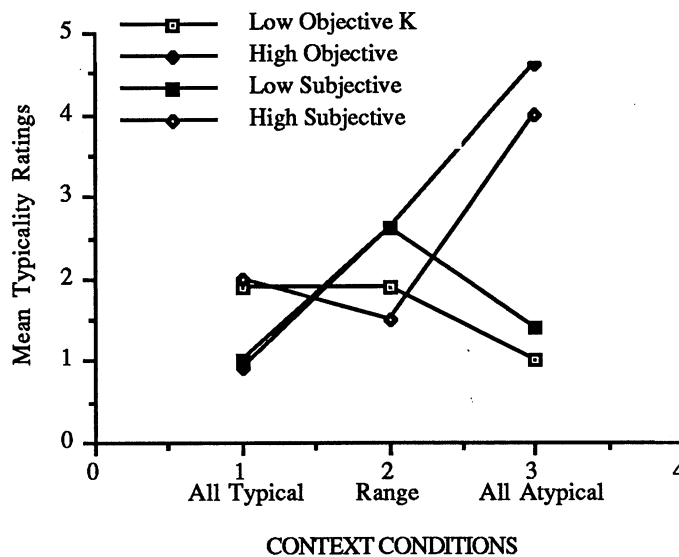


FIGURE B
MEAN FOI RATINGS FOR EACH CONTEXT AND KNOWLEDGE CONDITION

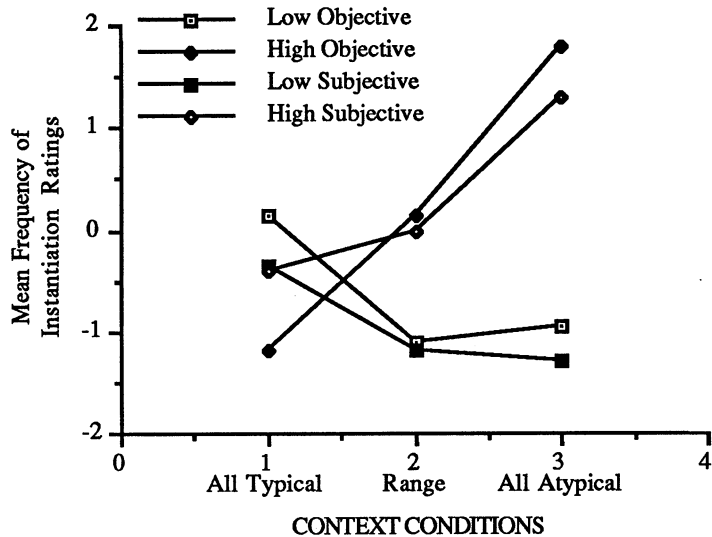
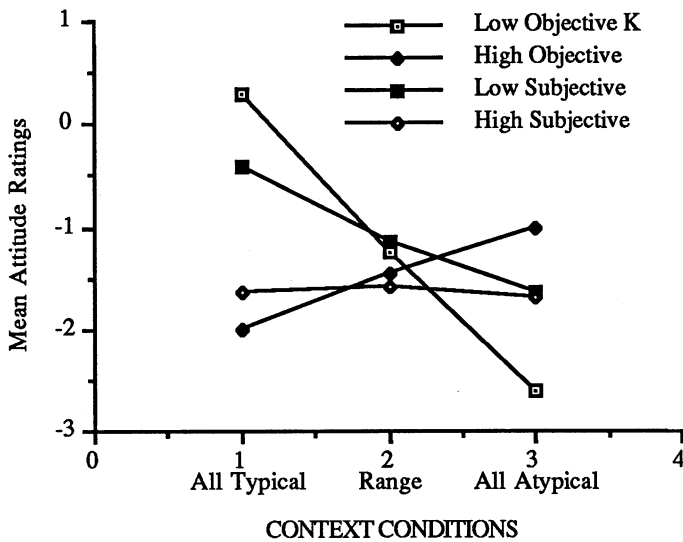


FIGURE C
MEAN ATTITUDE RATINGS FOR EACH CONTEXT AND KNOWLEDGE CONDITION



social comparison (Smith et al 1989). Not surprisingly, effects of context on frequency of instantiation (a "surrogate" measure of typicality) and attitude were less pronounced. That is, although means were in the same direction as judgments of typicality, subjects were not significantly more likely to judge the target as a familiar instance or as well-liked when the context included all atypical economy cars, than when the context included all typical economy cars.

Finally, knowledge was found to interact with context such that the above effects of context on typicality occurred for *high* knowledge but not for *low* knowledge subjects. This finding was exactly counter to predictions. However, it does suggest that higher and lower knowledge subjects have differing abilities to integrate their internal category representations with the context presented. We had predicted, in essence, that low knowledge subjects' judgments would be affected by context due to their lack of internal standard of comparison in this product category and that high knowledge subjects' judgments would not be affected because they would use their internal knowledge as a standard of comparison instead of the external context. An explanation for the results may lie in the amount of information provided and the corresponding usefulness of the information to subjects with differing levels of knowledge.

In the questionnaires, no attribute value information was given for the automobile stimuli provided to subjects. Instead, automobiles were identified only by maker and model name (e.g. Chevy Nova, Ford Tempo). Providing only a name conveys, through associations and inferences, a lot of attribute value information to high knowledge subjects, but it provides little information to subjects who are not able to make the appropriate connections of attribute values to car name, such as our low knowledge subjects. Thus the results obtained may be explained through an information provision proposition which has yet to be tested: for context effects to occur for low knowledge subjects, attribute value information must be available in the context. For high knowledge subjects, because they are able to use associations and inferences from brand names, context effects will occur even in the absence of attribute value information.

The differences in context effects between typicality and attitude judgments may be due to differences in the use of context stimuli. For attitude judgments, experts may be less likely to rely on the attributes of the other category members in making an evaluation than for typicality judgments. If in fact they had already stored an evaluation of Car "X" or "X"-type cars (recall that Car "X" was the target exemplar), their evaluation would probably be less influenced by irrelevant contextual factors than the evaluations of the novices. This is one explanation of why the experts' attitude judgments do not seem to be affected by context. Note here that the arguments

about attitude and typicality do not contradict each other if it is assumed that the typicality instructions oriented subjects more than the attitude instructions to use the category context as a reference. Finally, why were the non-experts' attitude judgments seemingly influenced by context while their typicality judgments were not? One explanation is that perhaps the non-experts did not have enough knowledge about the stimuli to form the context to influence the typicality judgment, which might require comparison on attributes, but did have enough overall evaluative knowledge (perhaps just overall stored affect about certain brands) that their attitude judgments were influenced by context.

The results found are interesting in that internal contexts (hypothesized to eliminate the contrast effects for high knowledge subjects) may not in some cases be responsible for contrast effects on judgments where an external context is available. High knowledge subjects' typicality judgments were affected by the context in which they were made. Research is needed on this question in order to clearly determine the conditions, if any, under which high knowledge subjects use their internal knowledge base as the context, or standard of comparison, against which they make their judgments. Finally, the unexpected results obtained indicate that the conclusions to be drawn are tentative. Further research is needed to test the explanations given and the conclusions drawn before any attempt to generalize is made.

CONCLUSIONS

These results, if supported by future research, have both managerial and theoretical implications. First, the results suggest that presentation of products to audiences may need to be adapted depending on the knowledge level of the targeted consumers and depending on the anticipated environment, or context, of presentation. For example, in a simple promotion presentation with minimal information given on context brands, context effects may occur only for individuals with high knowledge in the product category. Where attribute value information is available on context brands, context effects could occur for low knowledge individuals as well.

Context may be one avenue to help create a product image. On the surface, at least, it appears that if an "atypical" image is desired, the optimal context for presentation may be one with all typical brands. Of course, this assumes that the consumer will accept as credible the mix of brands presented by the advertiser. The results also suggest that much more subtle effects of context may appear with higher knowledge subjects due to their greater ability to sub-categorize context brands, with the sub-categorization subsequently affecting judgments.

Differences found between the effects of subjective and objective knowledge, or perceived and actual knowledge, although small, are interesting and may be integrated into other work in this area, such as Park, Gardner and Thukral (1989). However,

as subjective knowledge was measured with a single scale only, the conclusions to be drawn here are necessarily limited.

This research is one step in determining how prior knowledge and experience fit into the judgment process. It is suggested here that high knowledge subjects may use their internal knowledge with appropriate cues, but they may not always use their category representations as the integrating schema for presented information in some conditions. One avenue of research suggested by this study may be the conditions under which prior knowledge is used in making judgments, and the detailing of what knowledge is actually used (general category knowledge versus brand-specific information).

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Inferences About Missing Attributes: Contingencies Affecting the Use of Alternative Information Sources

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ABSTRACT

We examined the use of same- and other-brand information sources in inferences about missing attributes. Subjects often used a same-brand process--probabilistic inference--when the inferred attribute was expected to be correlated with a known attribute, but they did not use an other-brand process--average-value inference--when the inferred attribute was expected to be uncorrelated with any known attribute. Subjects' inference strategies were insensitive to attribute correlations in task product sets. Feature-absent inferences were made when (a) an undescribed attribute was described for other alternatives evaluated concurrently and (b) the inferred attribute was one that could logically be absent.

Recently there has been considerable interest in models of consumers' evaluative processes which assume that consumers infer a value for salient attributes for which information is not available (Ford and Smith 1987; Gardial and Biehal 1987; Jaccard and Wood 1988; Johnson 1989; Johnson and Levin 1985; Meyer 1981; Zwick 1988). While there is some question about how broadly these models may be applied--there is evidence that such inferences are often *not* made unless explicitly prompted (Huber and McCann 1982; Lim, Olshavsky, and Kim 1988; Simmons 1988; Zwick 1988)--it is nonetheless clear that such inferences *are* sometimes made in the ordinary course of evaluating a product. In addition, there are naturally occurring situations which may be used to explicitly prompt inferences about a product--most obviously, in advertising. Therefore, it is important to understand not only the contingencies which encourage or dampen inferences about missing attributes, but also the processes by which such inferences are made.

ALTERNATIVE INFORMATION SOURCES

The literature has focused on two basic ideas about how inferred values are determined. The first is that inferences are based on some knowledge about the object of judgment. The second is that inferences are based on some knowledge or expectation about objects which are comparable to the object of judgment.

Knowledge about the Object of Judgment

Inferences based on knowledge about the object of judgment--specifically, a brand--have been labelled *same-brand* processes (Ford and Smith 1987), *attribute-based* processes (Zwick 1988), and *intra-alternative* processes (Johnson 1989). The term *same-brand* will be used in this paper. It is

generally assumed that same-brand inferences follow a rule of consistency: the missing attribute is inferred to be in some way consistent with known attributes. Two types of consistency have been posited: *evaluative consistency* and *probabilistic consistency*. *Evaluative consistency* refers to a process in which the inferred attribute is assumed to be similar in evaluative implications to known attributes. In contrast, *probabilistic consistency* refers to an inference process which is based, not on the evaluative implications of known attributes, but rather on their expected ecological correlation with the inferred attribute.

Research which has examined same-brand inference processes has generally concentrated on probabilistic inferences (Ford and Smith 1987; Huber and McCann 1982; Johnson and Levin 1985; Simmons 1988; Yamagishi and Hill 1981), although at least two studies have examined evaluatively consistent inferences (Jaccard and Wood 1988; Zwick 1988). There has been little systematic examination of the relative importance of these two types of consistency, however. Fishbein and Ajzen's (1975) review of research on trait inference suggests that probabilistic consistency is preferred as long as there is a strong correlation between a known attribute and the inferred attribute; otherwise, evaluative consistency is used. Dick, Chakravarti, and Biehal (1988) have presented results in a product evaluation study which are consistent with this conclusion.

Knowledge or Expectations about Comparable Objects

Inferences based on knowledge or expectations about comparable products have been labelled *other-brand* processes (Ford and Smith 1987), *category-based* processes (Zwick 1988), and *inter-alternative* processes (Johnson 1989). The term *other-brand* processes will be used in this paper. Other-brand processes involve the inference that an undescribed attribute has a value similar to that for comparable products. Most often, it has been assumed that such inferences are based on the expected average value for the product class or choice set.

There is evidence that alternatives are often evaluated in ways consistent with an average-value or discounted average-value inference for undescribed attributes (Ford and Smith 1987; Jaccard and Wood 1988; Meyer 1981; Slovic and MacPhillamy 1974; Yamagishi and Hill 1983; Yates, Jagacinski, and Faber 1978; Zwick 1988). It should be noted, however, that one can explain these findings without assuming that inferences are made. Using process-tracing data, Simmons (1988) found evidence that subjects treated the absence of information as a neutral or negative cue, but they did

not actually make an inference about the missing attribute. This process results in evaluations that are consistent with what would be expected if neutral or negative inferences were made, and could lead researchers to overestimate the frequency of such inferences. The distinction between treating the absence of information as a neutral or negative cue and actually making an inference about a missing attribute is not trivial. Inferences create attribute "knowledge" which may subsequently affect responses to the product in a number of ways. For example, inferring that a product is expensive may discourage a person on a tight budget from considering the product. Treating the absence of price information as a negative cue--which lowers one's evaluation, but does not create a specific belief about price--may not have the same effect.

CONTINGENCIES AFFECTING USE OF ALTERNATIVE INFORMATION SOURCES

The Best-Predictor Hypothesis

A common theme in inference research is that inferences about missing attributes are made by a very rational process. It has often been assumed that a same-brand process--probabilistic inference--is used when there is an expected correlation between a known attribute and the inferred attribute, whereas an other-brand process--average-value or discounted average-value inference--is used when the inferred attribute is expected to be uncorrelated with any known attribute (Huber and McCann 1982; Johnson 1989; Johnson and Levin 1985; Meyer 1981; Simmons 1986; Yamagishi and Hill 1981).¹ This is essentially an assumption that consumers use the best predictor available. If there is no correlation between a known attribute and the missing attribute, the expected average value is the best predictor. If there is a correlation, then prediction can be improved by using the correlation (Simmons, 1986).

Although this prediction seems straightforward, it has not been directly tested. A strong test requires both that expected correlations be varied from high positive and negative to zero, and that process-tracing data be collected. When expected correlations are varied, probabilistic inferences can be diagnosed from patterns in overall evaluations (see Johnson and Levin, 1985, for these predictions). In such outcome data, however, average-value inferences are not distinguishable from a response in which no inference is made, but the absence of information influences the evaluation. Protocol data may thus be particularly useful in detecting average-value inferences. Protocols are

also potentially useful in testing the competing hypothesis that when the inferred attribute is not expected to be correlated with a known attribute, evaluatively consistent--rather than average-value--inferences are made. Depending upon the correct model of information integration, evaluatively consistent inferences may or may not be detectable in outcome data alone.

Assessment of the Accuracy of Expectations

If the choice of an inference strategy depends upon the nature of expected correlations between the inferred attribute and known attributes, then one might expect inference makers to be sensitive to evidence about the validity of these expectations. We have evidence that consumers are able to detect attribute correlations (Bettman, John, and Scott 1986) and that decision processes may be affected by such correlations (Huber and Klein 1988). Therefore, one might expect that the probability of making a probabilistic inference decreases when the relevant attributes in the observed product set are uncorrelated, while the probability of making an average-value inference decreases when attributes in the observed product set are highly correlated. Although Simmons (1986, 1988) found no evidence that the extent to which observed correlations were consistent with expectations influenced the *frequency* of inference making, it remains possible that for those who do make inferences, the *process* is altered.

Spontaneous versus Prompted Inferences

There is some evidence that spontaneous inferences tend to be based on same-brand information, whereas inferences which have been explicitly prompted are more variable, drawing on both same- and other-brand information sources (Ford and Smith 1987; Gardial and Biehal 1987; Zwick 1988). At least one study, however, has presented conflicting evidence that spontaneous inferences are based almost exclusively on other-brand information (Jaccard and Wood 1988). This mixed evidence is not surprising because these studies have generally varied in their sensitivity to various inference processes.

There are, however, a number of reasons that one might expect prompted inferences to be more likely to draw on other-brand sources than are spontaneous inferences. First, such an effect could be caused by a *selection bias*. Huber and McCann (1982) and Hansen and Zinkham (1984) have argued that unprompted inferences are rarely made unless there is a strong expected correlation between a known attribute and the inferred attribute--it is the expected correlation which cues the inference. This implies that unprompted inferences are made primarily by those people who are likely to make a probabilistic inference. Prompting then encourages those who do not hold strong correlational expectations to make inferences, and these people are perhaps more likely to draw on other-brand information sources.

¹The models are generally more complex than this in that inferences are predicted by the linear regression between a known attribute and the inferred attribute. The intercept term can capture any systematic bias in inferences, as well as any effect of expected average values on probabilistic inferences.

If this explanation is correct, then any external cue which encourages inferences should reduce the relative frequency of probabilistic inferences. For example, if an undescribed attribute becomes salient because competitive products emphasize that attribute, this may encourage inferences even though there is no correlational expectation. These inferences may be less likely to be probabilistic than inferences which are made in the absence of any such contextual cues.

Another reason that one might expect prompted inferences to be more likely to draw on other-brand information sources is *motivational*. Prompting may increase the motivation to make a valid inference by making the inference an integral part of the task. According to this explanation, the *process* by which inferences are made is altered. Feldman and Lynch (1988) have argued that people try to achieve their processing goals using the most easily accessible inputs. Only when these inputs are insufficiently diagnostic are other more diagnostic inputs retrieved from memory or sought externally. Since the explicit goal of a judgment task is to evaluate information about the object of judgment, same-brand information sources for inferences tend to be highly accessible. Inferences are therefore likely to be based on same-brand information. When the same-brand information is insufficiently diagnostic, as when prompting increases concern about the validity of the inference, the decision maker may supplement same-brand information with the less accessible other-brand information.

If this explanation is correct, then any manipulation which increases concern for the validity of the inference should have a similar effect. For example, being asked to report one's inference may increase one's concern for validity. On the other hand, an external cue which merely focuses attention on the missing attribute may not have this effect.

These two explanations for greater variability in the informational bases of prompted inferences--selection and motivation--are not mutually exclusive. Both processes may operate concurrently.

OVERVIEW OF STUDY

Process-tracing data were collected in a series of studies which examined spontaneous inferences made during product evaluation. Although these studies were not specifically designed to examine the contingencies governing the use of alternative information sources, they provide an opportunity to test a number of hypotheses suggested by the preceding discussion.

First, the "best-predictor" hypothesis is tested:

- H1: When there is an expected correlation between a known attribute and the inferred attribute, inferences tend to be probabilistic, whereas when there is no expected correlation, inferences tend to

be based on expected average values for the product class or choice set.

Consistent with this kind of rational inference strategy, it is predicted that inference makers are sensitive to evidence about the validity of their beliefs about attribute correlations:

- H2: If there is an expected correlation between a known attribute and the inferred attribute, the frequency of probabilistic inferences decreases when the attributes in observed product sets are uncorrelated. If there is no expected correlation between a known attribute and the inferred attribute, the frequency of average-value inferences decreases when the attributes in observed product sets are highly correlated.

Finally, it was argued that prompted inferences are more likely to draw on other-brand information sources than are unprompted inferences. Two causal mechanisms were suggested: a selection bias and a motivational effect. It was argued that a selection bias effect would occur any time an external cue encourages inferences, whereas the motivational effect would occur only when concern for the validity of the inference is increased. In the current study, the selection bias effect is tested. Therefore, it is predicted that:

- H3: The overall frequency of inference making increases when an external cue encourages inferences.

- H4: The overall frequency of probabilistic inferences is not influenced by the presence of an external cue.

- H5: The relative frequency of making a probabilistic inference is lower when an external cue encourages inferences.

Hypothesis 5 follows from Hypotheses 3 and 4. However, the relative frequency of making a probabilistic inference could be lowered for reasons other than a selection bias. Hypotheses 3 and 4 test the hypothesis that a selection bias is the causal mechanism.

METHOD

The data are from three studies (Experiments I, II, and IV) which are described in detail in Simmons (1986). A brief description of the method follows.

Subjects

Subjects were undergraduate psychology or business majors who participated in partial fulfillment of a course requirement. A total of 600 subjects participated in these studies, but with the exception of the tests of hypotheses 3 and 4, the following analyses are based only on the 177

TABLE 1
Expected Correlations Between Attributes

Expected correlation ^a	Refrigerator attributes	Carpet cleaner attributes
Zero	Capacity & warranty	Area cleaned per refill & versatility
High (positive)	Capacity & shelf space	Area cleaned per refill & tank capacity
High (negative)	Capacity & energy cost	Area cleaned per refill & weight
High (negative)	Capacity & price	Area cleaned per refill & price

^ain terms of evaluative implications

Note: The greater representation of attribute pairs which are highly correlated is because these studies were designed to test hypotheses regarding the effects of varying expected correlations from positive to negative; in the following analyses, no distinction is made between positive and negative expected correlations.

subjects who spontaneously made inferences (as indicated by protocols) during the course of the evaluation task.

Pretest

Two product classes were examined: refrigerators and steam carpet cleaners. These product classes were chosen because it was possible to describe these products in terms of attributes which pretest subjects believed to be either highly correlated or uncorrelated with the undescribed attributes of interest. These attribute pairs and their expected correlations are illustrated in Table 1.

Design

The design can be thought of as a 2 x 3 between-subjects factorial, with two levels of expectations about the relationship between the known attribute and the inferred attribute (high and zero) and three levels of evidence regarding the validity of these expectations (confirming, disconfirming, and no evidence).² Embedded in this design is a third factor, the presence or absence of an external cue. As will be described below, an external cue was provided in the confirming- and disconfirming-evidence conditions, but not in the no-evidence condition.

Expectations about correlations. One-attribute descriptions of refrigerators or carpet cleaners (e.g., refrigerators described only in terms of capacity) were evaluated by some subjects in a context in which most other alternatives were described in terms of two attributes (e.g., capacity and warranty) and by other subjects in a context in which all other alternatives were also described only

in terms of one attribute (capacity in this example). Interest focuses on the process by which the one-attribute descriptions were evaluated. It was expected that in the contexts in which most alternatives were described in terms of two attributes, inferences would tend to focus on the second attribute for which information was sometimes available, and this was found to be true. In a between-subjects manipulation, the undescribed attribute made salient by the context, and therefore the inferred attribute, was either one expected to be correlated with the known attribute or one that was expected to be uncorrelated with the known attribute. For example, the no-expected-correlation condition includes four groups of subjects: those who received information about capacity and made an inference about warranty, those who knew warranty and inferred capacity, those who knew area cleaned and inferred versatility, and those who knew versatility and inferred area cleaned. The expected-correlation condition includes all subjects who received one of the remaining twelve combinations selected in the pretest (see Table 1).

The remaining subjects--who never had information about a second attribute--were classified post hoc according to whether the attribute they inferred was expected (based on the pretest) to be correlated with the known attribute.

Evidence regarding validity of expectations. In the second between-subjects manipulation, subjects who did usually have information about a second attribute saw product sets in which correlations were either consistent or inconsistent with expectations. These were the confirming- and disconfirming-evidence conditions, respectively. The no-evidence condition consisted of those subjects who never had any information about a second attribute.

Presence or absence of an external cue. Subjects in the confirming- and disconfirming-evidence conditions were cued by the context to

²With the exception of the no-expected-correlation/disconfirming-evidence condition, at least two of the original experiments (I, II, and IV) contributed subjects to each cell of this design.

think about specific undescribed attributes because information was provided about these attributes for other products being evaluated concurrently. These subjects constituted the external-cue condition. The subjects in the no-evidence condition never had any information about the inferred attribute, and thus were not cued by the context to make the inference. They constituted the no-external-cue condition.

Other design factors. In a within-subjects manipulation, product descriptions varied in attractiveness across four levels. Each subject made evaluations for a set of alternatives in each product class. As it turned out, only 10% of the subjects made inferences in both product classes. The two observations from these subjects are treated as independent observations in the following analyses.

Procedure

The task was presented as one of examining a catalog in anticipation of a purchase. A general description of the features common to all models (of refrigerators or carpet cleaners) was followed by specific information about individual models. Subjects were asked to evaluate each alternative. Following completion of this task, they were asked to retrospectively describe how they went about forming their evaluations.

Dependent Variable

Inferences revealed in the protocols were coded according to the type of inference process used. Only inferences about the attributes examined in the pretest are included in the following analyses. This is because the expected correlation between the known attribute and the inferred attribute is a variable in the design, and expected correlations were known only for the attributes from the pretest. Ninety-eight percent of these inferences were found to fall into one of the following categories: (a) probabilistic, (b) average-value, (c) feature-absent, and (d) indeterminate. An inference was coded as probabilistic if the subject stated a probabilistic inference rule (e.g., "the lower the price, the fewer cubic feet"), or if multiple inferences made by the subject varied as predicted by the expected correlation (e.g., for a low energy cost: "It's probably a small refrigerator;" for a high energy cost: "It's probably quite large").³ An inference was coded as average-value if subjects indicated assuming an average value (e.g., "I assumed [the area cleaned] was average amount"), or if the subject inferred the same value of the missing attribute for all alternatives evaluated (no examples of this category were observed).⁴ An inference was coded

³In the case of a positive expected correlation, it is possible that some subjects coded as making a probabilistic inference actually relied on evaluative consistency, but no subjects made comments which indicated such a process.

⁴This definition of an average-value inference was adopted to prevent underestimating the number of average-value inferences which would occur if

as feature-absent if subjects assumed that the product did not have the feature (e.g., "Why get one without a warranty if you can get one with one?"). If it was not possible to determine the type of inference made, the inference was coded as indeterminate.

RESULTS

Inferences were coded independently by two coders, and discrepancies were resolved by discussion. There were initially disagreements on 13% of the inferences, but 60% of these differences involved the strictness with which the rule governing the use of the indeterminate category was applied, and were resolved by coding the inferences as indeterminate type.

Eighteen percent of all inferences made were coded as indeterminate type and were not included in the following analyses. This category occurred more frequently in the expected-correlation condition than in the no-expected-correlation condition (proportions = .18 and .03, respectively, $p < .01$).⁵ Based on the intercoder discrepancies, it appears that this occurred because at least 40% of the indeterminates were apparently probabilistic inferences, which were more likely to be made in the expected-correlation condition, as will be shown below. If this is correct, then it appears unlikely, given the results of the following analyses, that inability to classify these inferences introduced any bias.

Test of Hypothesis 1

Hypothesis 1 predicts that when there is an expected correlation between the known attribute and the inferred attribute, inferences tend to be probabilistic, whereas when there is no expected correlation, inferences tend to be based on average values. The proportions of subjects making each kind of inference are presented in Table 2.

As predicted, the probability of making a probabilistic inference was higher when there was an expected correlation between the known attribute and the inferred attribute ($p < .01$). In fact, only one out of 39 subjects made a probabilistic inference in the no-expected-correlation condition, although more than three quarters of the subjects in the expected-correlation condition did. This relationship held both when there was confirming evidence ($p < .01$) and when there was disconfirming evidence ($p < .02$). When there was no evidence about the validity of the expectation, there was no difference between cells, but this result is based on a sample of 1 in the no-expected-correlation cell.

Contrary to Hypothesis 1, the probability of making an average-value inference was not higher when there was no expected correlation between the known attribute and the inferred attribute. In fact,

subjects did not use terms like "average", "typical", etc.

⁵All reported significance levels are for Fisher's exact test.

TABLE 2
Proportions of Subjects Making Various Types of Inferences

Evidence regarding validity of expectation	Correlation expected					No correlation expected				
	Cell n	Inference Type				Cell n	Inference Type			
		Prob.	Avg.	Feature absent	Other		Prob.	Avg.	Feature absent	Other
Confirming	54	.65	.00	.30	.06	29	.00	.00	1.00	.00
Disconfirming	16	.50	.06	.44	.00	9	.00	.00	1.00	.00
None	54	1.00	.00	.00	.00	1	1.00	.00	.00	.00
Total	124	.78	.01	.19	.02	39	.03	.00	.97	.00

only one subject made an average-value inference and that subject was in the expected-correlation condition. For this reason, no further tests of effects on average-value inferences were conducted.⁶

There was also no evidence that subjects in the no-expected-correlation condition made evaluatively consistent inferences. No subject made comments which suggested such an inference process, nor were probabilistic inferences--which is how an evaluatively consistent inference could be misclassified--common.

Test of Hypothesis 2

Hypothesis 2 predicts that inferences consistent with expectations about attribute correlations are more likely to be made when the observed product set confirms expectations than when it disconfirms expectations. In the expected-correlation condition, the proportions of subjects making probabilistic inferences were in the predicted direction, but the difference was nonsignificant ($p > .38$). In the no-expected-correlation condition, the hypothesis could not be tested. No average-value inferences were made at all, so they could not vary as a function of the nature of evidence. However, feature-absent inferences may also be construed as being consistent with the expectation that the inferred attribute is uncorrelated with the known attribute. Whether evidence was confirming or disconfirming had no impact on the frequency of

feature-absent inferences either; all inferences in these cells were feature-absent.

Tests of Hypotheses 3, 4 and 5

Hypothesis 3 predicts that the overall frequency of inference making increases when there is an external cue. For this test and the test of hypothesis 4, all subjects were included in the analysis, not just those who made inferences. Hypothesis 3 was supported, although the effect was small. The proportion of subjects making inferences when inferences were not cued by the context was .15 and when inferences were cued by the context was .21 ($p < .02$).⁷

Hypothesis 4 predicts that the overall frequency of making probabilistic inferences is not affected by the presence of an external cue. This hypothesis was not supported. The overall frequency of probabilistic inferences decreased when inferences were cued by the context. These proportions were .13 and .07 ($p < .02$).

Hypothesis 5 predicts that the relative frequency of probabilistic inferences is smaller when there is an external cue. This hypothesis was supported. Of the subjects who made inferences, the proportion making a probabilistic inference was 1.00 when the inference was not cued by the context and .40 when the inference was cued by the context ($p < .01$).

Taken together, these results suggest that the external cue encouraged subjects who would not have otherwise done so to make an inference, and that it either suppressed inferences by some who would have made a probabilistic inference or altered the process by which inferences were made. The second explanation perhaps seems most plausible. Almost all non-probabilistic inferences made were feature-absent inferences. These inferences were only made

⁶A feature-absent inference may be construed as an average-value inference if it is typical for members of a product class to not have a certain feature. Limitations of the design -- specifically, differential representation of attributes which can logically be absent in the expected-correlation and no-expected correlation conditions -- made it impossible for us to examine the effects of expectations about correlations on such inferences.

⁷See Simmons (1988) for detailed analyses of the effect of an external cue on inferences about individual attributes.

in the external-cue conditions, and only for three of the ten inferred attributes examined: warranty, shelves, and versatility. Based on subjects' comments, a more accurate name for the versatility dimension is "restrictions on use," as this is how they interpreted versatility information (e.g., "can only be used on synthetic carpets and rugs"). In contrast to the other inferred attributes examined (energy cost, price, capacity, and weight), it is logically possible that a warranty, shelves, and restrictions on use could be absent. Therefore, it appears that the effect of the external cue was both to increase the frequency of inferences and to encourage a particular inference process for those attributes which could in fact be absent.

DISCUSSION

When the results of this study are considered in the context of other research which has examined similar issues, we gain a number of insights into how alternative information sources may be used in inferences about missing attributes.

The "Best-Predictor" Hypothesis

As predicted, probabilistic inferences predominated when the inferred attribute was expected to be correlated with a known attribute. Contrary to prediction, average-value inferences were not made when these attributes were expected to be uncorrelated.

Many researchers have found evidence that incompletely described alternatives are evaluated in ways consistent with average-value or discounted average-value inferences about missing attributes (Jaccard and Wood 1988; Meyer 1981; Slovic and MacPhillamy 1974; Yamagishi and Hill 1983; Yates, Jagacinski and Faber 1978; Zwick 1988). In these studies, however, it is not always possible to distinguish between a strategy in which neutral or negative inferences are made about the missing attribute and one in which the absence of information is simply treated as a neutral or negative cue. This is an important distinction because inferences can create product "knowledge" which may affect subsequent behavior.

Some of the strongest support for average-value inferences comes from a study in which evidence of average-value inferences in evaluations was found only when inferences were prompted (Zwick 1988)--presumably, the difference in evaluations between the unprompted and the prompted conditions was due to inferences--and from a study in which process-tracing data showed a high rate of average-value inferences made spontaneously during a choice task (Gardial and Biehal 1987). In contrast, the current study examined spontaneous inferences in a judgment task.

It may be that average-value inferences occur more frequently in these situations--when inferences are prompted and in choice tasks--than in judgment tasks in which inferences are not prompted. It was argued above that prompting may increase average-value inferences in two ways. First, prompting may create a selection bias by increasing the likelihood

that those who do not hold correlational expectations will make inferences. Such people are perhaps more likely to make average-value inferences. Second, prompting may increase motivation to make a valid inference, and thus increase the likelihood that the decision maker will supplement same-brand information with the less accessible other-brand information--such as an expected average value--as input to the inference.

Similarly, in choice tasks, the motivation to make a valid inference, or to make an inference at all, may be higher than in judgment tasks. In evaluation, processing tends to proceed by alternative. In choice tasks, processing tends to be dimensional; alternatives are compared on each dimension (Payne 1982). The tendency to make dimensional comparisons may increase the desire to make valid inferences about attributes for which information is available for some of the alternatives, but not for others.

This is not to claim that average-value inferences are never made spontaneously in the course of evaluating a product, but rather that this and other inference processes may be influenced by variables such as prompting and processing goals. Process-tracing techniques may be especially useful for identifying other variables that encourage or dampen particular inference processes.

Some evidence suggests that evaluatively consistent inferences, rather than average-value inferences, are made when there is no expected correlation between the inferred attribute and a known attribute. In particular, Dick, Chakravarti, and Biehal (1988) found that evaluatively consistent inferences were made when information about correlated attributes was not available, but only among subjects who were prompted to make an inference. We found no evidence of such a process, but their task situation differed from ours in a number of ways. While the evidence is too limited to allow any conclusions, there is clearly a need, as with average-value inferences, to examine the task and contextual factors which lead one to the use of an evaluative consistency inference strategy.

Probabilistic Inference and Contingent Decision Behavior

Probabilistic inferences depend upon the expectation that the inferred attribute is correlated with a known attribute. One might expect, then, that a decision maker's inference strategy could be altered by varying the correlations in task product sets. We found little evidence that this occurred.

This result is consistent with a view of contingent decision behavior recently discussed by Bettman (1988). He argued that there are two distinctive ways in which decision strategies can be adaptive to environmental conditions. The first is a top-down mode in which the environment is assessed in a deliberate manner in order to select a strategy tailored to the environment. In a top-down mode, for example, an inference maker would assess attribute correlations before deciding whether to implement a probabilistic inference strategy. In a

bottom-up mode, the process of adapting strategy to the environment is not so foresightful. Instead of choosing a strategy based on a thorough assessment of the environment, the decision maker begins with a strategy which seems reasonable, and then alters this strategy in response to task feedback. For example, an inference maker might begin by making probabilistic inferences because of a belief that two attributes are correlated, but alter this strategy as disconfirming evidence accumulates.

Bettman argues that much adaptation to the environment occurs in the bottom-up mode. In this mode, adaptation occurs over time. Therefore responsiveness to contextual factors such as attribute correlations may not be apparent in the short run. Our subjects exhibited a nonsignificant tendency to make fewer probabilistic inferences in the disconfirming-evidence condition. With more experience in the task environment, they might have shown stronger evidence of an adaptive strategy. Others have also reported results consistent with a bottom-up adaptation to correlations in task product sets (Huber and Klein 1988; Klein and Yadav 1989).

Effect of an External Cue

The external-cue manipulation was intended to test the hypothesis that a selection bias occurs when inferences are cued externally, as when one is prompted to make an inference. It was expected that the cue would decrease the relative frequency of probabilistic inferences by increasing the likelihood that people who did not hold correlational expectations would make inferences.

In the external-cue condition, some alternatives were described in terms of two attributes. It was expected that when the one-attribute descriptions were evaluated, this manipulation would encourage inferences about the second attribute, and this was found to be true. This particular cue, however, not only increased the overall frequency of inference making, but it also initiated specific kinds of inferences. When it was logically possible for a feature to be absent, this is what was often inferred. As it seems unlikely that prompting would have a similar effect, these results should not be taken as evidence regarding the effects of prompting on inferences.

These results have both practical and methodological importance, however. Since consumers often encounter just such differences in the availability of attribute information, feature-absent inferences may be relatively common. In addition, it should be recognized that the manipulations we employ to encourage inferences may alter the process under study. This criticism is relevant to the current study. However, the results in our no-external-cue condition are consistent with our conclusion that probabilistic inferences predominate when there is an expected correlation, whereas spontaneous average-value inferences may be rare in these kinds of judgment tasks.

Limitations of Study

Protocols are imperfect indicators of cognitive processes. In particular, retrospective protocols may be subject to errors in encoding and retrieval. Our subjects were always shown the product descriptions during the protocol procedure to aid recall, but it is possible that they inaccurately reported how they formed their evaluations, or were perhaps more likely to articulate probabilistic inferences than average-value inferences.

Although multiple exemplars of inferred attributes expected to be correlated or uncorrelated with known attributes were examined, some of the differences in the inferences made in these two conditions could be due to the particular exemplars examined. This is more of a limitation in the no-expected-correlation condition, in which there were four exemplars, than in the expected-correlation condition, in which there were twelve.

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The Effects of Familiarity on Cognitive Maps

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ABSTRACT

This paper investigates the impact of product familiarity on consumers' cognitive structures. Using two low involvement product categories, breakfast cereals and fast food restaurants, differences in cognitive structures derived from similarity ratings and product attribute descriptions were examined. The results indicate that, for low involvement products, product familiarity has almost no impact on perceptual structure and organization but it does have an effect on the consistency (e.g., the degree of stress) of the derived structures.

INTRODUCTION

Consumer researchers often use perceptual mapping techniques as a basis for assessing the basic cognitive dimensions consumers use to evaluate alternatives within a product category or the relationships among the alternatives with respect to those dimensions (Carroll 1972). The use of these techniques is often based on the assumption that there is no significant variation across consumers in the manner in which alternatives are judged.

However, there are several sources of variations among consumers that may influence the judgmental process. Different consumers are often exposed to different types of information about the alternatives. Furthermore, consumers are sometimes exposed to a product directly through one or more usage occasions while in other cases information about a product is only available indirectly through word of mouth or advertising. Consumers also tend to vary in the frequency of exposure to the different information sources. The extent to which and the way information is processed are also likely to vary across consumers depending on their levels of involvement in a product category and their predispositions toward the alternatives within the category. Due to the fact that consumers normally vary in terms of their experiences with the judged alternatives or in terms of overall product knowledge, differences in product familiarity may influence the way judgments are made. In particular, knowledgeable consumers may exhibit superior capacities to process and integrate product-relevant information (Johnson and Russo 1984). Thus variations in product knowledge are likely to influence both the manner in which judgments are made and the consistency of the reported judgments.

Familiarity and expertise are major components of consumer knowledge and should have a considerable impact on consumer cognitive structures (Alba and Hutchinson 1987). Familiarity is defined as the number of accumulated product related experiences while expertise is the ability to perform product-related tasks. However, for low involvement, experience related, and nontechnical products--like those to be examined here--these two

components are highly interrelated and perhaps indistinguishable.

This paper presents an attempt to examine the impact of product knowledge on cognitive representations produced by perceptual mapping techniques. Recent research suggests that familiarity with a product category is likely to have an impact on these representations (cf. Srinivasan, Abeele and Butaye 1989). As consumers become more familiar and knowledgeable with a product category, there are at least two apparent consequences regarding the structure of cognitive representations. First, one would expect knowledgeable consumers to develop more clearly established criteria for making their judgments which in turn could lead to the development of different underlying dimensions for judging a product. Second, more knowledgeable consumers could apply these criteria more consistently; in that case, we would expect differences in familiarity to be a source of systematic variations in the perceptual maps produced by the various mapping techniques as well as in the measures of goodness of fit associated with them. Furthermore, since different mapping techniques require different types of judgments, we would expect the impact of product knowledge to depend on the mapping technique employed.

METHODOLOGY

This study is part of a current research program investigating the interrelationships between consumers' evaluations and product familiarity for two low involvement products, breakfast cereals and fast food restaurants. We consider the influence of product familiarity on perceptual maps generated by two different types of data: perceived similarities between product pairs and product attribute ratings.

Similarity measures are based on subjects' pairwise comparisons of stimuli (e.g., brands) and are generally analyzed by employing multidimensional scaling techniques (MDS) (e.g., INDSCAL; Carroll and Chang 1970). The results of these techniques allow one to reveal the dimensions used by consumers when evaluating the stimuli or to confirm whether a particular dimension is salient in consumers' judgments for that product category. Attribute ratings of products can also be used as a basis for deriving perceptual maps. Factor analytic techniques use correlations among attributes and products in order to determine the basic perceptual dimensions in forming product judgments.

Theoretically, if the set of attributes is relatively complete and all attribute information is adequately processed when forming similarity judgments, then maps produced by MDS and factor analytic techniques should be similar (cf. Hauser and Koppelman 1979). However, if the consistency of attribute judgments or the set of attributes in

forming judgments varies systematically as a function of familiarity with product category, then we would expect the maps produced by the various techniques also to vary with product familiarity.

The analyses to be presented here will allow us to examine three issues regarding product familiarity and cognitive structure for low involvement products: (1) whether more product-familiar subjects have more robust and consistent cognitive configurations, (2) whether the relationships between brands in these configurations will differ as a function of product familiarity, and (3) whether different perceptual mapping techniques will reveal different cognitive configurations.

In this study we will consider two low involvement, experience related, and nontechnical products, breakfast cereals and fast food restaurants, which are relevant to our surveyed population: college students. A unique feature of both product categories is the large number of available brands, their relatively frequent consumption, and the high variabilities in consumption and familiarity for our surveyed population. Furthermore, employing two different product categories allows for more extensive and convergent validation of any hypothesized contentions.

DATA

In order to generate the list of products and product attributes employed in the present study, 77 undergraduate business students were asked to list the breakfast cereals they could recall while another group of 78 students generated a similar list for fast food restaurants serving hamburgers. In addition, the students were asked to list the attributes they felt were most important in their consumption decisions of these products. From these lists, ten of the most frequently mentioned brands and product attributes were selected for use in the study.

Two weeks following the initial survey, 129 students completed questionnaires concerning perceptions and preferences with regard to alternatives and attributes of one of the two products. Based on a random assignment to one of the two product categories, 63 subjects completed questionnaires relating to breakfast cereals and 66 completed questionnaires relating to fast food restaurants. Most of these subjects were part of the initial 155 subjects used to generate the lists of products and attributes. All subjects in the study were undergraduate business students at a private midwestern university.

Questionnaires were divided into four sections which could be classified as (1) familiarity, (2) preferences, (3) perceived similarities among products, and (4) perceived attribute ratings of the products. The sequence of the sections in each questionnaire was randomized in order to minimize the impact of any learning effects that might have taken place during questionnaire completion. In addition, products and attributes were each arranged in two separate random sequences so as to minimize any effects of establishing reference points that

could be attributed to the sequence of items in the questionnaire.

The familiarity section consisted of two sets of questions. The first set asked subjects to report, based on their consumption habits over the course of the previous year, their average monthly consumption frequencies for each brand listed and for the product category as a whole. The second set of questions asked subjects to rate, on a zero to ten scale, their familiarity with each of the brands (based on personal consumption, family, friends, advertising, etc.).

The preference section consisted of five sets of questions that elicited subjects' preferences regarding products and attributes. The first two sets asked subjects for their brand preferences through ratings on zero to ten scales and rank orderings, respectively. The remaining three sets of questions asked subjects for their attribute preferences through rating the importance of the attributes on a zero to ten scale, a ranking of the ten attributes in order of their importance, and a description of their most preferred attribute levels on zero to ten scales.

The remaining two sections concerned subjects' perceptions regarding the brands tested in the study. The similarities section asked subjects to compare each product to each of the remaining nine products and rate how similar the products were on a zero to ten scale in which low ratings corresponded to an evaluation that the products were very similar while high ratings corresponded to an evaluation that the products were very different. The attribute ratings section asked the subjects to evaluate the attribute levels of each of the products on a zero to ten scale.

RESULTS

Overall Product Familiarity

Product knowledge can be assessed by subjective measures (i.e., perceptions), learned knowledge based on objective criteria, and usage experience (Brucks 1985). In the present study, product familiarity was assessed by subjective measures. Despite theoretical advantages of employing objective measures (Brucks 1985; Sujana 1985) and possible distortions due to memory errors and mental calculations, we believe that the low involvement nature of the products used here justifies the use of subjective measures of familiarity. Furthermore, for both product categories, actual brand consumption (which reflects usage experience) and brand familiarity were highly correlated. For the cereal category, the correlations ranged from .30 to .42 (all p 's < .01) with an average of .35. For the fast food category, except for the most widely known brand (McDonald's $r = .14$), correlations between brand consumption and brand familiarity ranged from .37 to .71 (all p 's < .01) with an average correlation of .45.

Given the convergence between brand consumption and reported brand familiarity, reported brand familiarities were used to operationally define product familiarity. Subjects were considered

familiar with the product category if they rated themselves as highly familiar with the individual brands in the category. Specifically, a measure which will be referred to as Product Category Familiarity was defined as the sum of the ten questions regarding the subject's degree of subjective familiarity for each brand. Theoretically, the value of this index could range from 0 (for a subject who responded 0 for all 10 products) to 100. Actual values ranged from 22 to 98 for cereals and from 26 to 90 for fast food restaurants. The mean familiarity rating for the breakfast cereal category was 68.96 with a standard deviation of 16.96; the mean for the restaurant category was 57.80 with a standard deviation of 13.68. Using the below the 33rd and above the 67th percentiles of the distribution on Product Category Familiarity, three subgroups of Low, Medium, and High Familiarity were formed.

Familiarity and preferences

Before investigating the interrelationships between familiarity and perceptual configurations, it is important to examine two issues: how brand familiarities and brand preferences were interrelated and whether preferences for the various brands differed for the different groups of overall product familiarity. The importance of these two questions stems from the particularly low involvement nature of the two products employed in the present study. For, if the group of higher product familiarity subjects shows a higher preference for particular brands, then any differences in perceptual configurations may be attributed to evaluative preferences and not solely to cognitive judgments.

We therefore anticipate that brand familiarities and brand preferences will be highly related for low involvement and frequently consumed products. Yet, at the same time, we expect to find the same patterns of brand preferences across the three levels of product category familiarity. In other words, because of the low involvement nature of the products, we do not expect substantial differences in the preference for, say, "Hardee's," between product familiar and unfamiliar subjects. It should be noted, however, that this assertion is likely to hold only for low involvement products; for higher involvement products, more knowledgeable consumers are likely to express preferences for particular (e.g., higher quality) brands.

In the cereal category, the correlations between brand familiarity and brand preference were quite high; the values for the ten correlations ranged from .33 to .57 (all $p < .01$) with an average of .47. Moreover, using univariate ANOVAs, no statistically significant differences were found in preferences for each of the ten cereals by the three subgroups of familiarity. The grand means for preferences arranged for the ten products were: Frosted Flakes, 7.19; Fruit Loops, 6.73; Cap'n Crunch, 6.34; Rice Krispies, 5.84; Post Raisin Bran, 5.71; Lucky Charms, 5.60; Cheerios, 5.07; Kellogg's Corn Flakes, 4.76; Grape Nuts, 4.04; and Total, 3.94. As with cereals, the correlations between brand familiarity and brand preference in the restaurant

category were quite high (correlations ranged from .26 to .70 with an average of .52). Except for one product (Steak N' Shake, $F(1,63)=4.74$, $p=.01$), ANOVAs did not reveal significant differences in brand preferences by the three levels of familiarity. This product was given high preference ratings by those who were familiar with it, suggesting that Steak'n Shake is a desirable product that does not have a high quality image product among uninformed subjects. In general, however, these results suggest that Product Category Familiarity did not influence brand preferences even though brand familiarity was strongly related to brand preference for specific brands.

Similarity ratings and Replicated Multidimensional Scaling

MDS analyses were conducted using two different approaches. The first approach is replicated multidimensional scaling (RMDS) which allows for a joint map of objects and individuals (Young 1975). The second approach uses the average similarities of the relevant groups to construct the multidimensional scaling maps. The difference between the approaches is that the first deals with N similarity matrices (where N = number of subjects) whereas the second deals with one matrix of average similarities.

Stress coefficients and percent of explained variance associated with RMDS analysis are presented for the various familiarity groups in Table 1.

Based on the criteria of stress and interpretability, the one dimensional solution seems to be the most appropriate for the cereal category and captures the tradeoff between artificial sweetness and naturalness. The coordinates for this dimension were: Cap'n Crunch, 1.39; Fruit Loops, 1.34; Lucky Charms, 1.24; Frosted Flakes, .86; Rice Krispies, -.59; Kellogg's Corn Flakes, -.64; Post Raisin Bran, -.87; Total, -.82; Cheerios, -.89; Grape Nuts, -1.01.

Simple correlations between the coordinates on the one dimensional solutions and canonical correlation coefficients between the coordinates of the two dimensional solutions, revealed that the four populations (whole, low, medium and high familiarity) resulted in extremely similar configurations (all simple and canonical correlations were above .99; $p < .001$).

As indicated in Table 1, in the fast food category, the one- and three-dimensional solutions for higher levels of familiarity were accompanied by lower stresses and higher levels of explained variance. However, for the two-dimensional solution, stress levels increased with familiarity; nonetheless, the percentages of explained variance remained at about the same levels. For the combined population, the two-dimensional solution seemed to be the most appropriate in terms of stress and interpretability. The first underlying dimension was interpreted as prototypicality of product offerings; the second dimension captured the perceived degree of quality of these restaurants. The whole population's two-dimensional solution is

TABLE 1

Stress coefficients and percent of explained variance (in parentheses) for the two products by degrees of overall product familiarity.

CEREALS

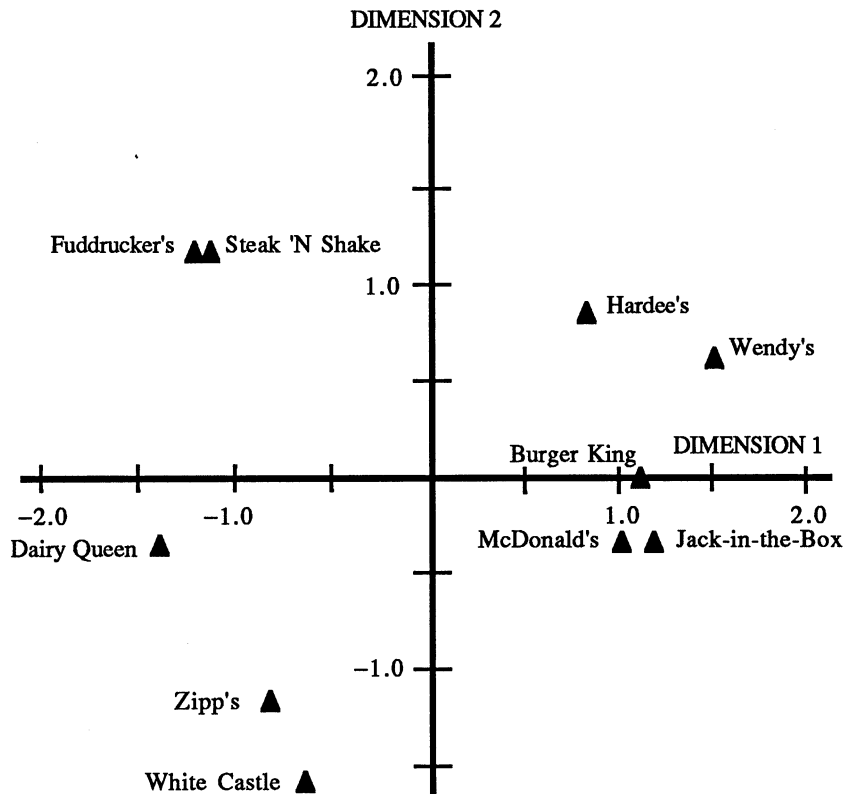
	Whole Population	Low Familiarity	Medium Familiarity	High Familiarity
Dimensions	N=63	N=21	N=21	N=21
1	.445 (56)	.476 (51)	.426 (57)	.422 (62)
2	.329 (60)	.335 (58)	.329 (60)	.307 (67)

FAST FOOD RESTAURANTS

	Whole Population	Low Familiarity	Medium Familiarity	High Familiarity
	N=66	N=22	N=21	N=23
1	.545 (31)	.540 (29)	.544 (31)	.527 (35)
2	.380 (48)	.357 (50)	.378 (48)	.383 (51)
3	.265 (63)	.272 (62)	.266 (63)	.263 (64)

FIGURE 1

RMDS two-dimensional solution for fast foods (whole population) based on average similarities



presented in Figure 1. The two-dimensional RMDS solutions for the four populations (whole, low, medium and high familiarity) were similar among themselves and with that of the whole population (all canonical $R^2 > .80$; $p < .01$).

In order to further investigate the relationship between familiarity and perceptual configurations of similarity, the matrices that were based on the

average similarities of the whole population and the low and high familiarity groups were also examined. For the cereal category, the one-dimensional solution seemed to be the most acceptable both in terms of stress (stress = 0.147, 94% explained variance) and interpretability. As anticipated, the stress coefficient for the low familiarity group was higher than that of the high familiarity group;

TABLE 2
Comparisons between the low and high familiarity groups on the stress coefficients and explained variance of the 10X10 matrices of average similarities (fast food restaurants)

Solution	Population	
	Low Familiarity	High Familiarity
One dimensional	.391 (53)	.276 (77)
Two dimensional	.132 (91)	.118 (94)
Three dimensional	.050 (98)	.050 (98)

TABLE 3
Cumulative variance explained by the factor solutions by three levels of overall product familiarity.

Factors	CEREALS			
	Whole Population	Low Familiarity	Medium Familiarity	High Familiarity
	N=63	N=21	N=21	N=21
1	40.2	39.2	39.6	42.5
2	70.3	69.6	72.0	70.4
	FAST FOOD			
	N=66	N=22	N=21	N=23
1	24.9	25.8	25.4	27.1
2	39.3	39.3	41.4	42.9
3	52.5	51.2	54.5	56.0

(stress = 0.184, 89% explained variance versus 0.116, 96%). As in the RMDS analysis, the underlying dimension was interpreted as Sweetness-Naturalness. The coordinates in the RMDS and present analyses had a correlation of 0.97. In the fast food restaurant category, the perceptual maps based on average similarities had stress values .284, .121 and .077 for the one, two, and three dimensional solutions respectively. As indicated in Table 2, the difference in stress between the low and high familiarity groups were in the hypothesized direction with the maps of the more familiar groups exhibiting lesser stress.

Factor Analyses: Product descriptions on performance attributes

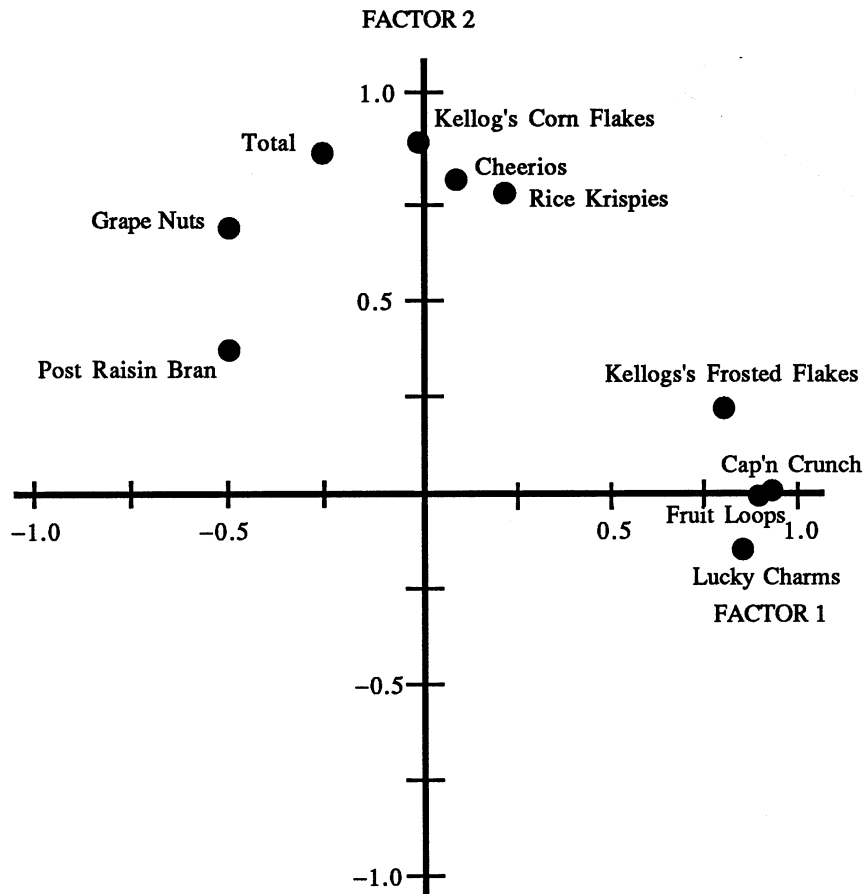
For each of the four relevant populations (whole, low, medium and high levels of familiarity), factor analyses were conducted using product descriptions on the ten attributes across subjects as observations. This analysis provides a product space whereby each brand is positioned closer to another brand if the two brands were given similar attribute descriptions.

The analyses in the cereal category for each of the four relevant populations revealed two factors with eigenvalues greater than unity. Table 3 presents the cumulative variances explained by the first two dimensions for the relevant populations.

For the one factor solution, the cumulative explained variance did increase with overall product familiarity; however, this effect was not present in the two factor solution.

The whole population and the medium and high familiarity groups, had very similar one factor solutions (r 's $>.995$; $p <.0001$). For the whole population, coordinates on that factor were similar with the sweetness-nutrition dimension obtained in the RMDS one-dimensional analysis of product similarities; the correlation between the two sets of coordinates was .672 ($p = .03$). The low familiarity group, however, resulted in a different factor configuration; the correlation between its coordinates and those of the one factor solution of the whole population was .485 (n.s.). An examination of the two factor solutions revealed that the second factor was not easily interpretable, even though it made a considerable contribution to the explained variance. Nonetheless, the three familiarity groups had highly similar two factor configurations; the canonical correlations between the two factor solutions for the three subgroups and the whole population solution were above .97 (p 's $<.01$). Figure 2 presents the two-dimensional solution for the whole population. This two factor solution was only moderately similar to the whole population's RMDS two-dimensional solution (canonical $R = .77$, $p <.20$).

FIGURE 2
Cumulative Variance explained by the factor solutions by three levels of overall product familiarity



In the fast food category, three factors with eigenvalues greater than one were revealed for all familiarity groups except for the moderate familiarity which revealed four such factors. However, the eigenvalue for the fourth factor was 1.1; therefore, due to the eigenvalue's proximity to unity and the small number of objects, this factor was excluded from further analyses. As can be seen in Table 2, the hypothesized relationship between overall familiarity and cumulative explained variance is, overall, confirmed. In particular, comparisons between the low and high familiarity groups revealed considerably higher cumulative explained variance for the high familiarity group. The two factor solution seemed the most appropriate and is presented in Figure 3. Finally, it is noteworthy that this two factor solution was only moderately similar to the whole population's RMDS two-dimensional solution (canonical $R = .90$, $p < .02$).

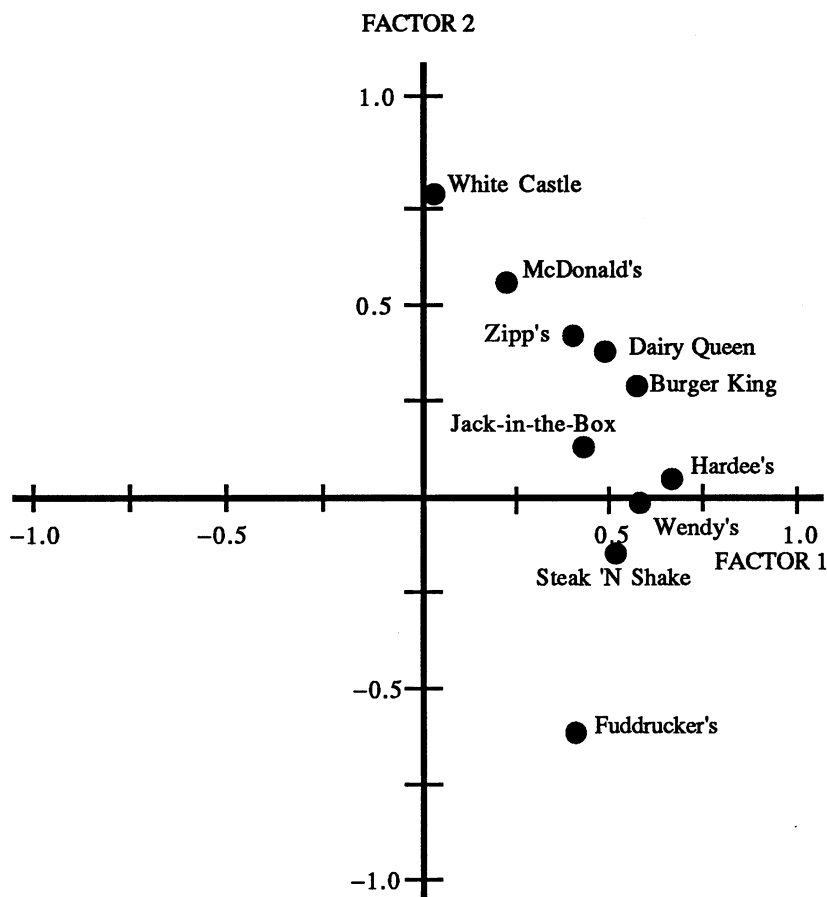
CONCLUSIONS

The results suggest that overall product familiarity may be an important determinant of consumer's cognitive structures, even for such low involvement products as the ones employed here. In

particular, more product-familiar subjects had more consistent cognitive configurations than those exhibited by less familiar subjects. It appears that increased product familiarity enables the consumer to differentiate brands according to more veridical criteria (Alba and Hutchinson 1987; Johnson 1984) and apply these criteria more consistently. In terms of inter-brand relationships, however, no considerable differences were revealed among the different groups of product familiarity. Thus the major difference between the lower and higher familiarity groups' maps were not as much in terms of positioning of the objects but rather on the fuzziness of the maps.

Hauser and Koppelman (1979) suggested that factor analytic techniques are superior to MDS for identifying consumer perceptions when there is variation in the way consumers perceive products in the category. In contrast, our comparisons between the two perceptual mapping techniques showed that, at the level of interpretable solutions, multidimensional and factor analytic techniques resulted in quite comparable configurations. For example, when considering the whole population for cereals, the one dimensional RMDS and the one

FIGURE 3
Two factor solution for fast foods (whole population)



factor solution were strongly correlated ($r=.672$, $p = .03$). The comparable analysis, however, for the fast-food restaurants revealed a correlation of .40 (n.s.). Nonetheless, when two dimensions and two factors were jointly examined for fast foods, the two solutions were very similar (canonical correlation .90, $p < .02$). This result suggests that the attributes contributing to the third factor were not consistently utilized by subjects when forming similarity judgments and simplifying heuristics may have been implemented when making these judgments.

Our results presented aggregate analyses of the interrelationships between perceptual configurations and familiarity. An analysis of these interrelationships on an individual level may provide useful insights into the factors influencing consumers' judgments of products. This and other related topics provide a promising field for future research.

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In Search of the Elusive Consumer Inference

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ABSTRACT

A critical question raised by the papers in this session is how consumers respond to missing information. More specifically, when might we expect consumers to make inferences to fill in informational gaps in the environment? A framework is proposed which highlights the conditional nature of consumer inference making. This framework serves to 1) integrate the somewhat piecemeal research questions and methodologies which have characterized inference research to date and 2) suggest areas for future research.

INTRODUCTION

How consumers respond to informational deficiencies in the environment is a fundamental issue for those interested in consumer decision making. The number of recent studies concerning missing information, in general, and consumer inference making, in particular, attests to the amount of interest and attention which has recently been generated around the topic. However, despite the amount of research which has been forthcoming, we still seem to be grappling with some basic issues regarding inference making. How often does it occur? What types of consumers are most likely to make inferences? When is inference making a preferred decision (sub)strategy?

To some extent, researchers may be drawn to this issue because of its intuitive appeal. We all know that we can and do make inferences about all kinds of consumer products. We also know that most consumers have limited time to deal with the multitude of gaps in the informational environment, and that inference making may be an efficient way to fill in missing data. However, knowing that the phenomenon exists, and being able to actually isolate and understand it are totally different issues.

To some extent, it's like hunting an elusive jungle creature. We may see its tracks, and we may often encounter strong evidence that the beast has passed through. But we haven't been able to trap it. The scent is heavy on the trail, but the creature is too crafty or evasive to be caught. The main problem is knowing when and where the creature is going to appear. If we could only isolate some of the predictable aspects of its behavior, we could intercept it more successfully.

Such is consumer inference research. While we are sure the phenomenon exists, much of our lack of success in measuring and understanding inference making may be because we are not clear about the conditions under which it will appear. Two of the papers in this session address this issue ("The Effects of Missing Information on Decision Strategy Selection" by Sandra Burke and "Inferences About Missing Attributes: Contingencies Affecting the Use of Alternative Information Sources" by Carolyn Simmons and Nancy Leonard). These papers, as well

as other research, can be viewed within a broader framework that suggests when inference making may be used to fill in missing data in the consumer environment. The framework suggests a logical sequence of decision points which may lead the consumer toward or away from inference making. In addition, it suggests a list of potential mediating factors which must be taken into account at each decision point. Hopefully, it provides a mechanism for integrating and explaining much of what we know, and don't know, about consumer inference making to date.

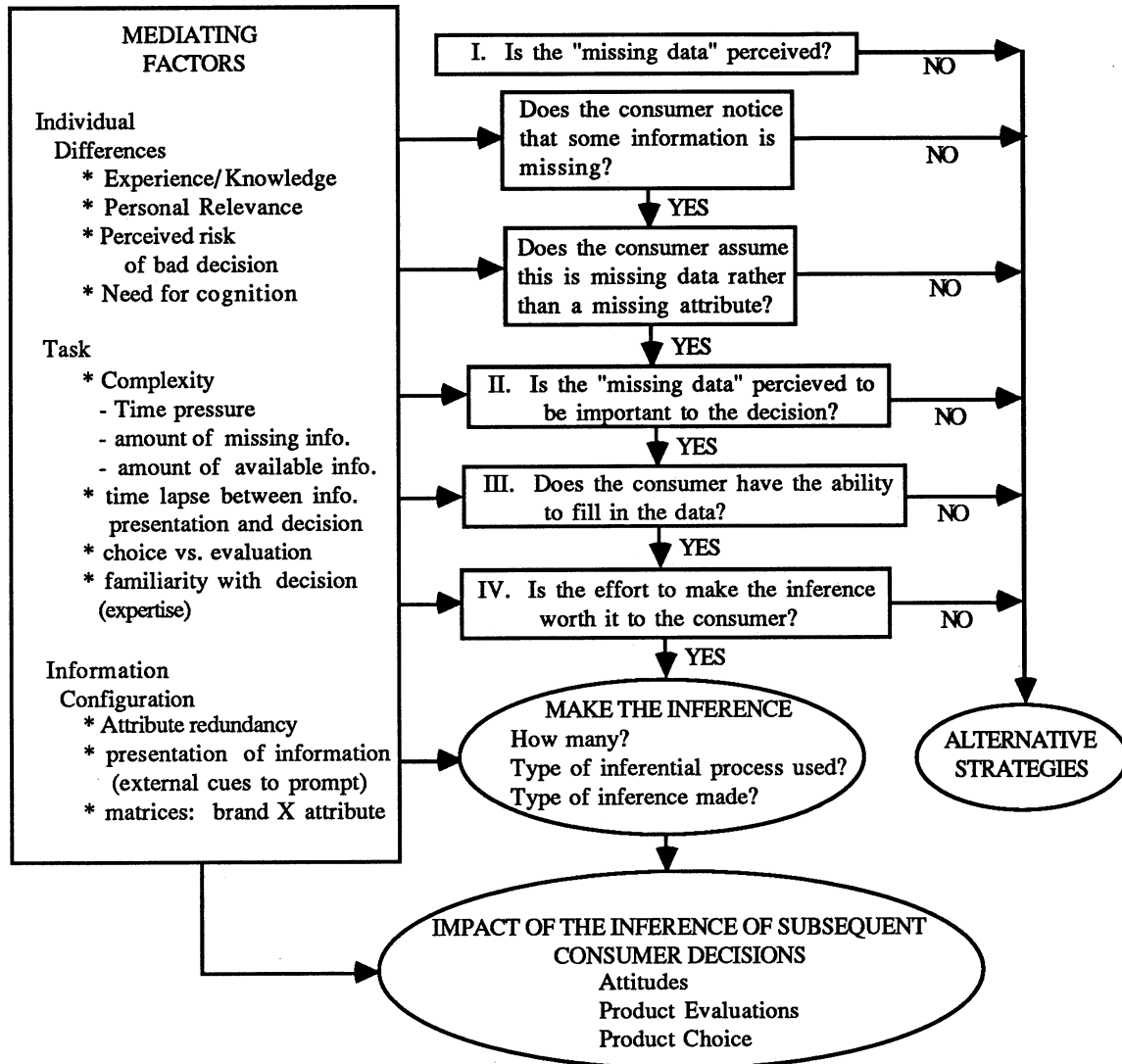
THE BASIC QUESTION

In order to address when consumers make inferences, it is necessary to identify other alternative strategies for the missing information problem. Consumers don't have to make inferences at all. It is a matter of when they choose that course of action over others which are available.

There are at least four alternative strategies which the consumer may adopt when missing information is encountered. The first option, probably more likely for high risk decisions, is that the consumer may delay the decision until the missing information is obtained. We must keep in mind that in laboratory settings consumers will be faithful subjects and follow our instructions. If they are asked to make decisions with incomplete data, they will do so. However, in the real world they have the option to defer decisions. Many types of consumer product decisions may lead to this alternative, including those with high financial or psychological costs, those for novice consumers, or those with long-term or personal consequences, e.g., buying a house or medicines. It is easy to imagine this as a viable and frequent alternative to inference making.

Second, the consumer may simply ignore missing data (Zwick 1988). That is, acknowledging that missing data can lead to a suboptimal decision, the consumer may simply decide to continue with the current decision strategy while operating within the constraints of less information. Whether the consumer is using a compensatory, hierarchical, lexicographic or other decision framework, each can be pursued using only available attribute information. Some researchers suggest that there may be some evaluative discounting due to the absence of information (Meyer 1981), but an attitude may be formed nonetheless. Given the low risk associated with many consumer decisions and possible preferences for particular decision strategies, this seems to be a plausible response. In fact, consumers may become quite good at ignoring what is not available and constraining the decision to the most accessible, least effortful information at hand.

FIGURE 1.
THE EFFECT OF MISSING DATA ON CONSUMER DECISION MAKING



The third alternative, suggested in the Burke paper, is for the consumer to actually change the decision strategy to one which better accommodates missing information. In particular, she suggests that the consumer may move away from attribute based strategies, requiring between brand comparisons, toward strategies which are 1) more alternative based (within brand) or 2) hierarchical strategies using only available information. While also a plausible alternative, it is important to note that such a change requires both that the consumer is aware of alternative strategies and is amenable to their use. In other words, the consumer must not have a strong preference for attribute based strategies.

The fourth alternative to missing information is inference making. The preceding three

alternatives (and possibly others not described) will be collectively termed "other" alternative strategies for the remainder of the discussion. The realization of "other" strategies reduces the question to a very simple one: when will consumers choose inference making over other strategies. In short, if we can isolate the conditions which would lead the consumer toward alternative four (or, conversely, toward alternatives one through three), then we will be a great deal closer to capturing inferences in our research and determining their influence on day to day consumer decisions.

THE FRAMEWORK

The following is a brief overview of the proposed framework (see Figure 1). Research will be occasionally referenced to note where previous

knowledge may be brought to bear on different parts of the framework. However, this paper will by no means attempt to provide a thorough review of the state of inference research to date. Rather, its intent to show where the two presented papers in this session may be viewed in a larger context, and to identify issues which are ripe for future research.

The central part of the framework consists of four critical questions. These four questions are those most likely to impact whether the consumer pursues an inference strategy versus whether an alternative "other" strategy is more attractive. Note that there is no attempt to indicate which alternative strategy will be used, that is another research question. Here we are only interested in identifying when inference making is the likely response.

The framework also lists some of the many possible mediating factors determining the response to the four questions. This is only a partial list, some of which have been suggested by previous research, others which are more speculative but may be fruitful areas for further study. They have been grouped into three broad categories representing individual, task and information configuration differences.

Finally, two "outcome" issues are identified: 1) how are the inferences actually made and 2) what impact do they have on subsequent consumer decisions. Each of these topics could well be expanded into sub-frameworks of equal length and complexity. For now, these issues will be relegated to others to develop. They are listed here to acknowledge that understanding the conditions under which inferences are made is only a *limited first step* in integrating our knowledge of inference making into the larger consumer decision making context.

The Four Critical Questions

The first question is the most obvious: Is the missing data perceived? Obviously, consumers must perceive that attribute information is unavailable before they can attempt to infer it. Consumers cannot be expected to know all of the potential attributes to considered in evaluating a product. Thus, the likelihood that any one particular unavailable attribute is even noticed may be small. This is certainly possible given the demands of information overload or the possibility of a novice consumer.

In fact, available evidence suggests that this may be the case. Much of the existing inference research explicitly prompted inference making (e.g., Meyer 1981, Huber and McCann 1982, Kardes 1986, Johnson and Levin 1985). However, recently some studies have found greater inference making under prompted (cued) than unprompted conditions (Zwick 1988, Ford and Smith 1987). Although it is possible that in the latter condition missing data was noted but ignored, these results also suggest that at times consumers may be unaware of missing information.

A second question, noted in the Simmon/Leonard paper, relates to this issue. That is, once noted, does the consumer assume that

information is missing or that an *attribute* is missing. For instance, a consumer may notice that warranty information is not available. In this case, s/he might assume that 1) the product has a warranty which is simply not mentioned or 2) that the product does not come with a warranty. Obviously, if the latter is assumed there will be no incentive to make an inference about the warranty. Therefore, perceiving missing information is a two-step function: it requires both that the product attribute is noted and that it is assumed to be available elsewhere.

Looking at the list of potential mediating factors, it is interesting to speculate about factors which may cause the consumer to *never* notice missing information. This may be likely for consumers with low product knowledge/experience or those with a low need for cognition. Task factors, such as time pressure or a long time lapse between information presentation and the decision may also inhibit missing information perception. Finally, the information configuration may facilitate or inhibit the perception of missing information, e.g., whether the information is presented by brand, attribute, or brand-attribute matrices (Zwick 1988) or whether realistic ad configurations are used (Gardial and Biehal 1989).

The second question is one to which very little research attention has been given. Is the missing data perceived to be important to the decision (Hansen and Zinkhan)? Typical inference research has not allowed the decision maker to select which information s/he wishes to use to evaluate the product. These studies seem to assume that all information provided to the decision maker (and none which is not provided) is important to the decision at hand. Clearly consumers come to decisions with idiosyncratic decision criteria. Those who have high product knowledge may have especially well developed schemas for brand evaluation. Thus, even if information is noted to be missing, it may not be considered critical to the decision. Because of the effort involved in inferring missing information, it is unlikely that consumers will infer missing, but relatively unimportant, attributes.

Again, mediating factors may effect this question. For instance, the higher the perceived risk associated with a decision, the more thorough a consumer might be in his/her evaluation. Under this circumstance, the list of attributes considered important may be expanded and more exhaustive than when the decision carries less risk. In addition, attribute importance may change depending on whether the consumer is choosing between brands or simply evaluating individual brands. Differences caused by between-brand (choice) versus within brand (evaluation) decisions strategies may impact the perception of attribute importance. Simmons (1986) has suggested that inference making may be more common to choice than evaluation. Also, the amount of available/missing information may impact this issue. If a great deal of information is generally available, the consumer

may be more likely to overlook the absence of even important attributes. As suggested by Burke (1989), attribute redundancy may also play a part. Even if a particularly "important" attribute is missing (e.g., repair costs over time), the availability of an attribute with redundant implications (e.g., warranty) may reduce the need for the former's inference.

The third question is perhaps the most critical of the four: does the consumer have the ability to fill in the data? Even if the motivation to make inferences is present (questions one and two), inability to do so stops the process at this point. The answer to this question may also have a significant impact on the fourth question. If a consumer has sufficient ability to make an inference, e.g., an "expert," s/he may also perceive little effort is required to do so, although this does not always have to be the case.

Several researchers have suggested that product experience is positively related to inference making ability (Sujan and Dekleva 1987, Gardial and Biehal 1989, Olson 1978, Alba and Hutchinson 1987). In the Simmons/Leonard paper in this session, it is quite possible that students were unfamiliar with purchasing refrigerators and carpet cleaners, thus hampering their ability to make inferences. Others have suggested that ability to make inferences is a function of what information is available to the consumer, and how "redundant" or how closely correlated the available and unavailable information is (Burke 1989, Ford and Smith 1987). It is also possible that the availability of visual along with verbal cues may increase consumers ability to make inferences (Smith 1988, Chattopadhyay and Alba 1988).

The final question is that posed by Burke: is the effort to make the inference worth it to the consumer? Presumably, if it is, inference making will occur. Otherwise, alternative strategies will be pursued. In her paper, Burke identifies some of the factors which might mediate the consumers' perceived effort. That list is contained within the larger list of mediating factors in this framework.

It is interesting to note how "late" in the framework the effort issue comes into play. While Burke asks an important and worthwhile question, it only becomes a consideration when the three previous preconditions (questions) have *all* been answered in the affirmative. Thus, it is important to note where her piece of the puzzle fits in to the larger context.

Other Framework Issues

Four issues relating to the interpretation and use of the framework are worth noting. First, the four questions are presented in a somewhat logical sequence, i.e., it is unlikely that the consumer would ever encounter question number two if s/he failed to answer question number one in a positive fashion. Likewise, question number four is moot unless question number three is answered in the affirmative.

Second, note that multiple mediating factors may drive the response at any level of the framework. In addition, it is perfectly possible that

one type of mediating factor may drive the response to one question (e.g., prior knowledge may have a significant impact on question three), while a completely different factor may impact another question (e.g., time constraints may impact question four). Thus, the presence of mediating factors significantly complicates the model (and may explain some of our difficulty in explaining the inference making phenomenon).

Third, inferences may only be made if *all four* of the critical questions are answered in the affirmative. If the response to any of the four is negative, then the consumer will probably resort to other alternative strategies. The complexity of the framework to this point, and the numerous potential conditions which would encourage "other" alternative strategies, may leave the impression that inference making is a relatively rare phenomenon and not worthy of our research attention. However, most consumer decisions are relatively repetitive, low risk, and familiar ones for consumers. In addition, realistic advertising constraints (cost, length and consumer attention spans) dictate that only partial product information is conveyed to the consumers. For these reasons, consumers should frequently encounter missing information *and* frequently have the ability to make inferences as a consequence. The more product experience consumers have, the more likely they are to notice missing information, to have the ability to make inferences, and to require relatively little effort to do so.

Even in a world of "cognitive misers," inference making may be so routine and effortless that consumers often create information beyond that which is available to them, while at the same time ignoring some available information. One could even posit that inference making is a simplifying strategy, i.e., a few pieces of quickly gathered product information may be expanded into a more complete profile. Thus, despite the reasons why inference might not be made, there is probably still ample opportunity for this phenomenon to affect a wide range of consumer decisions.

Finally, successfully bringing the consumer to the point of making an inference explains only part of the inference phenomenon. Several additional questions are then raised, including how many inferences are made (Gardial and Biehal 1987, Chattopadhyay and Alba 1988), what types of inferential processes are used (Simmons 1986, Zwick 1988), and the nature of the inferences that are made. In addition, once these inferences are produced, how do they impact subsequent decisions (Kardes 1986, Johnson and Levin 1985)? These questions are important in their own right, and illustrate how much more has to be learned in order to approach a complete picture of the consumer inference process.

SUMMARY

Like stalking the elusive jungle creature, researching the consumer inference making phenomenon is a challenging proposition. The

framework proposed here is one which may help researchers integrate and assimilate the sometimes disparate evidence that has been reported in the literature. In addition, it will hopefully move the research stream forward in a systematic way, highlighting what is known and unknown, and suggesting the need to understand the many and subtle complexities of this phenomenon.

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AIDS Prevention Through Consumer Communication: Ideas from Past and Current Research

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ABSTRACT

The purpose of this paper is to suggest workable communication approaches to increasing heterosexuals' condom usage to protect against AIDS transmission. First we review studies of communications aimed at reducing the likelihood of AIDS transmission among heterosexuals. Then we examine literature on efforts to alter health behaviors that are similar to condom usage. Both of these sets of studies indicate that behavioral changes are difficult to achieve, especially through communications presented in the mass media. Face-to-face interactions and other non-mass media appear to hold more hope for increasing heterosexual condom consumption. Furthermore, we argue, a thorough empirical analysis of any communication effort must focus on the separate effects of message source, medium and content on the receiver.

In the early 1980s, a new and significant health care problem emerged: AIDS. It is a virulent, unforgiving disease, both incurable and fatal. Further, there is no vaccine against AIDS and there are very few effective therapies. Sexual contact and intravenous drug use are two important modes of AIDS transmission. Hence, certain changes with respect to these behaviors can reduce the risk of contracting this disease. Clearly, then, communication efforts that encourage people to make such behavioral changes are crucial to controlling this disease (Bayer 1989). This paper uses an understanding of consumer behavior to address this challenge.

This paper examines the relatively more simple problem of changing sexual behavior, rather than drug abuse. Ways to lower the risk of transmission through sexual contact include abstinence, monogamy and condom usage. Clearly, these alternatives vary in their suitability for different individuals, e.g., Catholic bishops have argued against promoting condoms as a response to AIDS (Burns 1988). However, given our interest in consumption behavior, we focus exclusively on condom usage. We will limit our discussion to heterosexuals, because they have not been studied as extensively as homosexuals.

For people who are sexually active (i.e., not abstaining) but not in a monogamous relationship, condom usage is an appropriate response to the threat of AIDS. In a national survey of 400 such adults, 67% of the women and 54% of the men said they were very likely to insist that a new partner use a condom. However, only 38% of the women and 48% of the men reported using a condom in the past year (Carter-Wallace 1988). Likewise, a national survey indicates that only 14% of sexually active unwed teenagers used a condom the last time they had intercourse (U.S. News & World Report 1988). Thus, it appears that many sexually active,

heterosexual Americans are not using condoms. Therefore, the purpose of this paper is to suggest workable approaches for communication efforts that increase condom consumption in this population to protect against AIDS transmission.

Specifically, we search two sources of suggestions for communications that affect condom consumption. The first source is research specifically on AIDS. Given the dearth of research in this area, we also review a second source: literature on efforts to change other health behaviors, with a focus on behaviors judged to be most similar to condom usage. We base our definition of similarity on key characteristics of condom usage and other health behaviors (e.g., seat belt usage, smoking cessation). Based on both sources, we present our conclusions on how to increase condom consumption. Last, we propose a future research study to test some of our conclusions.

RESEARCH ON AIDS

To answer the question of what type of communications would increase condom usage by heterosexuals to protect against AIDS, we first review research on this topic. Any communication effort involves a source, content, a medium (i.e., means of transmission), a receiver, and destination (i.e., opinion-change impact) (McGuire 1969). Because of our focus on behavior change by heterosexuals, we consider neither other groups of receivers nor destination. Rather, we examine each study for information on the effects of source, content and medium.

Of the few papers published on AIDS and heterosexual condom usage, the first we discuss examines the attitudinal and behavioral impact of a television-quality, soap opera-style videotape in which the female protagonist, with advice from her brother and girlfriend, convinces her boyfriend to use condoms (Solomon and DeJong 1989). Compared to those who did not see the videotape, clinic patients who watched it had greater knowledge and more positive attitudes toward condoms. A second group of patients who saw the videotape redeemed significantly more coupons for free condoms from the clinic. Thus, viewing the videotape affected knowledge, attitudes and behavior. The authors stress the videotape's source, i.e., members of the target audience, and several aspects of the message. The latter include portraying condoms as socially acceptable and normative, as well as sexually appealing, and focusing on interpersonal and communication skills. However, the effects of source, content and medium are confounded. In a related paper, Solomon and DeJong (1986) give a more complete list of their principles for STD and AIDS risk reduction message design. Most concern the content (e.g., develop

strategies to acknowledge and reduce the stress that AIDS causes) with fewer focusing on the medium or source (e.g., use intermediaries with access to the audience).

The Solomon and DeJong study (1989) is the only one that demonstrates that communications can affect condom usage, assuming, of course, that redemption of coupons for condoms is a good proxy for such usage. Another study finds no effect on behavior (Sherr 1987). The communication was a full page advertisement that appeared once in every national newspaper in the U.K. and presented information and advice about risk factors for AIDS and safe sex guidelines. A content analysis (performed after its appearance) found that only 24% of the population could understand the advertisement, which also used unclear terms, such as "intimate kissing" and "rectal sex". In brief, the message was weak on readability and clarity. Perhaps not surprisingly, it had no impact on self-reports of intended sexual behavior or on attitudes, desire for more information, or AIDS anxiety among its readers. Although information gaps among readers decreased, this effect was not quite significant. These findings were based on comparisons before and after the message appeared; at each time, different samples of the same populations were questioned. Unfortunately, the sexual orientation of respondents was not adequately assessed. Moreover, the study confounds the effects of source, content, and medium. However, all three differ from the Solomon and DeJong (1989) study: the source was a group of medical officials and the medium was a newspaper. The content was informational and did not address social norms, interpersonal skills, or the erotic nature of condoms.

The remaining two papers on AIDS and condom usage by heterosexuals do not examine the effects of specific communication efforts. However, they, along with Solomon and DeJong's (1986) earlier paper give good directions for message content. Siegel and Gibson (1988) discuss six barriers to heterosexuals' use of condoms to lower the risk of contracting AIDS: perceptions of low vulnerability, misperception of the efficacy of adaptive behaviors, barriers to the adoption of condoms, confusion regarding the magnitude of the threat to heterosexuals, interpersonal nature of sexual activity, and the stigma of AIDS. Based on these barriers, the authors make several recommendations, including one for wider availability of condoms. Their remaining suggestions focus on the content of communications efforts: operationalize terms such as "multiple partners" and "sexually active", destigmatize AIDS, convince people that they cannot identify AIDS carriers by their own judgments, change perceptions of condoms, and show people how to negotiate limits with sex partners. The latter two suggestions concur with Solomon and DeJong (1986, 1989).

In another study, heterosexual college students reported their reactions to two hypothetical scenarios involving condom usage (Hill and Stephens forthcoming). In the first, the student

suggests condom usage to a new partner. The students reported they would be concerned about their partner's sexual history and consequently envision a short-term relationship. They are, as one respondent stated, "pointing an accusatory finger". The students also reported their responses to a scenario in which a first-time sex partner suggests using a condom. They anticipate responding with a feeling of shared responsibility and/or favorable reactions towards the suggesting partner. Since suggesting condom usage can be other-serving as well as self-serving, a partner may interpret it as an act of "mutual consideration", as one respondent suggested.

The students' positive reactions to the partner request scenario contrast with the more negative ones from the scenario in which the student him/herself suggests using a condom. But these positive feelings are consistent with the sexual intimacy literature which suggests that self-disclosure, revealing ones' fondest dreams as well as deepest fears, is often interpreted as a sign of the other person's continuing interest (Masters, Johnson and Kolodny 1986; Millett 1970). The implications for message content are clear: portray the positive responses of a partner to the suggestion of condom usage.

Although our focus is on heterosexuals, we did examine communications about AIDS aimed at homosexuals. Bayer (1989) reports that gay groups provided information about safe sex to many members of the gay community and that subsequently, knowledge about safe sex has become widespread (e.g., 90% awareness in two samples of gay men). Further, there have been dramatic changes in sexual behavior (e.g., celibacy rose from 2% to 12% in a two-year period among a sample of 5000 men). However, many gay men continue to engage in risky behaviors (e.g., one third of the sample of 5000 do not use condoms). Bayer credits education with the changes that have been achieved, but also argues that personal knowledge and experience with those ill and dead from AIDS has had a powerful effect on behavior.

On the whole, the studies discussed above afford us little opportunity to examine the effects of communication source, content, and medium on the beliefs and behaviors of heterosexuals regarding condom usage to decrease the likelihood of AIDS transmission. However, the studies do suggest useful guideline for designing messages for more detailed empirical testing.

CHARACTERISTICS OF HEALTH CHANGE BEHAVIORS

Our goal is to identify communication efforts that are successful in encouraging heterosexuals to use condoms as protection against AIDS transmission. However, there is little past research on this problem. Therefore, we examined literature on changing other health behaviors. We focused on behaviors that are similar, i.e., have dimensions in common with using condoms to protect against AIDS transmission. In this section, we discuss

several characteristics or dimensions that describe health change behaviors. We will then review past efforts to change such health behaviors.

Frequency of Behavior

Health change behaviors can range in frequency from once in a lifetime to every day or every time a given set of conditions occurs. For example, inoculations, e.g., for hepatitis, or the installation of a smoke detector in one's home need to be done infrequently, while a seat belt must be used every time one is in a automobile. Likewise, condoms must be used every time sexual intercourse occurs. The more frequent the behavior, the more important are attention, memory, and motivation. Not only must the user pay attention to and recognize the conditions that require the behavior, but he/she must also be motivated to perform the required action.

Convenience

Convenience is a subjective belief, particular to an individual consumer. The convenience of a health change behavior depends on several dimensions: time, place, duration, pleasure, and usage situation. Note that convenience differs from repetition, i.e., a behavior can be repetitive but convenient. For example, taking a pill once a day is repetitive but convenient. However, taking AZT every four hours is repetitive and inconvenient, because of timing; the user must interrupt his sleep to take it. Most immunizations are infrequent, but a rabies or penicillin shot seems inconvenient due to unpleasant effects, unlike a hepatitis shot. Condoms are generally considered inconvenient, due to the delicacy of the usage situation, and because pleasure may be diminished (Felman and Santora 1981).

Individual versus Passive

This dimension contrasts health behaviors the individual must perform, with those that are performed *for* him/her, thus permitting the individual to remain passive (Robertson 1976). For instance, a seat belt is an individual responsibility while air bags are passive; likewise using fluoride gel is an individual responsibility while obtaining fluoridated water is passive, i.e., it requires no individual effort. The implication is that passive actions depend much less, if at all, on each person, while the motivation of each user is critical for individual actions. Clearly, condom usage is an individual responsibility, as are other changes related to preventing sexual transmission of AIDS.

Private versus Public

A public health behavior is done so that others can observe compliance, e.g., smoking cessation. However, a private behavior is observed only by the person doing it, e.g., flossing teeth. Condom usage is semi-private; two people are involved. The implication is that public behaviors have a greater opportunity for social influence than

do private ones; a semi-private one should fall between these two extremes.

Consequences

The physical consequences of performing or not performing a health behavior may be to the self only or to the self and others. For example, drinking (without driving) may be harmful only to the drinker, but drinking and then driving is harmful to the occupants of other cars and to pedestrians. Similarly, the consequences of overeating affect the eater but overfeeding one's children clearly affects others. Condom usage has consequences for one other person besides the self. When a health behavior has consequences that extend beyond the self, appeals to change the behavior can focus on protecting other people, especially loved ones.

Summary

In summary, condom usage must occur every time there is intercourse, is perceived as inconvenient, and requires responsibility and action from the individual. It is a semi-private behavior, with consequences for the self as well as others.

RESEARCH ON OTHER HEALTH CHANGE BEHAVIORS

In reviewing research on health change behaviors, we begin with work related to other sexually transmitted diseases (STDs). Among the few studies on communication efforts with regard to other STDs, even fewer look at the effects on behavior. More typically, they examine gains in knowledge. For example, a programed learning guide, an audiovisual tape and an interview all significantly increased patients' knowledge of STDs (Alkhateeb, Lukeroth and Riggs 1975). The interview was the most effective and evaluated the most favorably.

A few studies do examine effects on STD-related behaviors, such as levels of clinic use (e.g., Adler 1982) and gonorrhea patients' rate of return for test-of-cure examinations (Kroger 1980). Patients new to a clinic mentioned the media as a source of reference more often after the airing of a television program that concerned STDs and frequently mentioned the name of the clinic's hospital (Adler 1982). In this study, the effects of content, medium and source are all confounded. When nurses used "prescription" pads and simplified information sheets to communicate expected behavior, instead of verbal-only instructions and more complicated information sheets, more patients returned for test-of-cure (Kroger 1980). However, much of the improvement disappeared when the nurses were no longer monitored. Moreover, the impact of medium (pads versus verbal instructions) was confounded with content; without the pads, many times nurses did not give any instructions at all.

These findings are of limited usefulness for the problem of encouraging condom usage among sexually active heterosexuals. Both first time visits to a clinic and returns for test-of-cure are infrequent, somewhat inconvenient, and public, require

TABLE
Health Change Behaviors that are Similar and Less Similar to Condom Usage

Health Change Behavior	<u>Characteristics of Health Change Behaviors</u>				
	Frequency	Convenience	Individual/Passive	Private/Public	Consequences
Condom usage	Every time	Low	Individual	Private	Others
<i>Behaviors Similar to Condom Usage</i>					
Smoking cessation	Every time	Low	Individual	Private & Public	Others
Exercise	3-7 times/week	Low	Individual	Private	Self
Nutrition	Daily	Low-Moderate	Individual	Private	Self
<i>Behaviors Less Similar to Condom Usage</i>					
Return checkup	Once	Moderate	Individual	Public	Others
Seat belt use	Every time	Low-Moderate	Individual	Public	Self
Hepatitis shot	Once	Moderate	Individual	Public	Others
Installing air bags	Once	High	Passive	Public	Others

Note: Characteristics in bold type are similar to those for condom usage.

individual responsibility, and have consequences for others. Hence these behaviors differ from condom usage on the dimensions of frequency, convenience, and their public versus private nature (see Table for behaviors that are dissimilar and similar to condom usage). Further, there are confounded communication-related effects in both studies.

Other behaviors, even though they are not related to STDs, more closely resemble condom usage, for example cessation of smoking (see Table). Like condom usage, it must occur every time given circumstances occur (i.e., there is desire for a cigarette), is inconvenient (i.e., the smoker gives up a pleasurable activity with addictive properties), is an individual responsibility and has consequences for others. But unlike condom usage, smoking cessation occurs in public as well as in private.

There is some evidence that communications efforts encourage smoking cessation. More Australian smokers in towns with media campaigns against smoking quit, compared to a control town (Egger, Fitzgerald, Frap, Monaem, Rubinstein, Tyler and McKay 1983). The media campaigns were intensive and included television, radio, print, stickers, posters, T shirts, balloons and self help "Quit" kits. In addition to media antismoking efforts, one town had community programs, such as quit smoking groups, fact sheets, and aids to help smokers quit. In this town, declines in smoking continued past the first year of the media campaign, to the second and third years. These results suggest that face-to-face media (e.g., quit smoking groups) or "little" media (i.e., fact sheets) are more effective for long-run behavior changes than mass media (e.g., television). Unfortunately, there may be

confounds between the effects of medium and source or content.

Similar results occurred in a Finnish study of smoking (Puska, Niemensivu, Puhakka, Alhainen, Koskela, Moisio and Viri 1988). The proportion of smokers declined more in areas with both an anti-smoking media campaign (i.e., a 15-part television series) and worksite programs (i.e., opinion leaders, risk factor profiles and health education brochures) than in areas exposed only to the television series. Like those in the Australian study (Egger et al 1983), these results suggest that a mass medium (i.e., television) is less effective than other media, including face-to-face interaction (i.e., opinion leaders) and other non-mass media (i.e., brochures). However, once again, the study does not clearly control for differences in source (e.g., a known opinion leader versus unknown, albeit similar, workers in the television series) or in content (e.g., information from the risk factor profile) between different mass media, or between the various non-mass media channels.

Two other health change behaviors that resemble condom usage are exercise and diet or nutrition (see Table). Adequate nutrition and exercise both must occur frequently, require individual responsibility, and are often private. For many people trying to change their diet or increase their exercise level, these behaviors may well seem at least somewhat inconvenient. These four characteristics resemble those of condom usage; however, diet and exercise have consequences only for the self.

A study on osteoporosis prevention examined both exercise and nutrition (Rook 1986). All

subjects received one page of information about the prevalence of osteoporosis, risk factors associated with it, and actions (exercise and diet) that would help prevent it. Some subjects read the information in an abstract version, i.e., in reference to women in general, while others read a vivid version, i.e., in reference to a particular woman. Their attitudes and behavioral intentions were combined into a measure of persuasiveness. Premenopausal women (for whom osteoporosis is a distant threat) found the vivid information more persuasive. But postmenopausal women (for whom osteoporosis is a proximal threat) found both presentations equally persuasive. However, after six weeks, none of the women reported changes in exercise or diet (i.e., eating calcium rich foods). Despite the disappointing results for behavior, this study does demonstrate the impact of one message characteristic, vividness, on attitudes and intentions. This demonstration reinforces Bayer's (1989) argument that personal knowledge of individuals who have suffered (i.e., vivid information) has affected sexual behavior of homosexuals.

In sum, these studies on health change behaviors that are similar to condom usage suggest that the medium has an effect on behavior and that one aspect of the content (i.e., vividness) may have an effect. Reviews of mass media campaigns on a variety of health behaviors, including smoking, drug use, alcohol use, general health, and obesity, conclude that mass media campaigns have no lasting effects on behavior (Atkin 1979, Flay 1981, Robertson and Wortzel 1978). Typically the mass media campaigns reviewed simply involve televised public service announcements (PSAs). Clearly, a series of short (30 or 60 seconds) PSAs, often aired at off-times when the audience is small, is similar to Rook's (1986) information sheet and to the newspaper advertisement reviewed by Sherr (1987) but very different from the two anti-smoking campaigns reviewed. The Australian study used brief PSA-like announcements on TV and radio; however, they bought the time to control the amount of exposure and also used a wide variety of other channels. Although in the Finnish study only one channel (television) was used, the messages were 35-minute programs.

Thus, as Bettinghaus (1986) concludes, few mass media campaigns have lasting effects on health behavior, although weak positive effects are likely and some campaigns with special features do generate significant behavior changes. Rather, mass media communications efforts are more effective for creating awareness, affecting attitudes and beliefs, initiating information search (Schlinger 1986), and reinforcing existing behaviors (Robertson and Wortzel 1978; Schlinger 1986). Also, as demonstrated in the studies discussed here, reviews of mass media campaigns on a variety of health behaviors conclude that face-to-face interactions are more effective than mass media campaigns for inducing behavior changes (Atkin 1979, Flay 1981).

CONCLUSIONS

In sum, there is very little information on communications efforts to change condom usage by heterosexuals, to protect against AIDS. Only one study reports encouraging results for changing behavior (Solomon and DeJong 1989). Despite many recommendations about message source, content and medium, there are no definitive results on the impact of each of these communication elements, due to confounding. Hence, we argue that a thorough empirical analysis of any communication effort must focus on the separate effects of message source, medium and content on the receiver. However, for message content, Solomon and DeJong (1986) and Siegel and Gibson (1988) provide worthwhile suggestions, although they have not been rigorously tested. As for the medium, studies concerning other, but similar, health change behaviors suggest that mass media are not effective for changing behavior, but that face-to-face and other non-mass media are.

Thus the soundest suggestion is not to rely on mass media campaigns to change condom usage. Instead, channels that allow for direct interaction (e.g., in groups or between a pair of individuals) or for more detailed information which receivers can process at their own pace (e.g., brochures) seem more effective.

FUTURE RESEARCH

As the previous review illustrates, the most effective medium, source and content of communications for convincing heterosexuals to change their sexual behavior in response to AIDS is not clear. In particular, which type of non-mass media (i.e., face-to-face interactions versus printed matter such as brochures) is most effective is not clear. Further, there are no findings and few suggestions about source. Thus, work on message source and on the relative effectiveness of non-mass media seems quite crucial. We are currently developing a field study that will compare the effects of these two variables. It will take advantage of a college campus which has an important medium -- small, peer groups -- to communicate information about AIDS.

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AIDS and the Arts

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ABSTRACT

Kimmelman (1989, p. 1) writes:

It would hardly be an exaggeration to describe American culture in the late 1980's as art in the era of AIDS. Art has confronted AIDS the way people confront AIDS - with fear, anger, sorrow, defiance, and confusion. In a country that idolizes youth and health, AIDS has struck at the very heart of the American self-image.

This paper explores this outlook by focusing on the images of AIDS and its victims as they are depicted in the visual and performing arts. Implications of this portrayal on opinions and attitudes within society also are presented.

INTRODUCTION

The AIDS (Acquired Immune Deficiency Syndrome) virus has captured the attention of the world and ultimately may infect more people than any other deadly disease in recent history. Since 1981, when the first case was discovered, 87,188 people in the United States have been diagnosed as carriers of the AIDS virus and 49,976 of these persons have died (Chase 1989). Once linked to homosexuals and intravenous drug users (Bayer 1988), AIDS is now viewed as a growing threat to heterosexuals worldwide (Altman 1989). The total cost due to the premature deaths of thousands of young adults in their prime years of productivity is projected to reach \$66.4 billion by 1991 (Foltz 1987). According to Dr. Andrew Moss, an epidemiologist at San Francisco General Hospital, "AIDS will be a routine sexually transmitted disease, and we have to adapt to thinking in those terms" (Altman 1989, p. A1).

A disease with such potential to destroy life might have prompted the public to demand immediate action by the U.S. government. However, the average American found it difficult to respond to an illness perceived to be "spread throughout the country mainly by anal intercourse between promiscuous homosexuals" (Lepkowski 1987, p. 59). Hospital workers nicknamed the disease "WOGS," for "wrath-of-God syndrome," and *Commentary* Editor Norman Podhoretz condemned efforts to develop a vaccine, complaining that "they are giving social sanction to what can only be described as brutish degradation" (Horn 1989, p. 62). Because of these ambivalent feelings, elected officials were slow to react to this crisis (Shilts 1988). According to Rock (1987), the Reagan administration underestimated the scope of the epidemic, played down the risk to heterosexuals, and deliberately minimized bad news in an attempt to avoid panicking an already anxious population.

One consequence of this early government neglect was the onslaught of invalid as well as valid

information available to the public from a wide variety of formal and informal sources (Hill 1988). For example, while the work of former Surgeon General Koop has raised awareness that the AIDS virus can be transmitted through sexual contact (*Associated Press* 1988), a *Washington Post-ABC News* poll found that people also believe that AIDS can be contracted through kissing, being sneezed on, donating blood, using the same drinking glass, and sitting on a toilet seat (Okie 1987). Many of these misperceptions are the result of widespread media coverage of a 1983 *Journal of the American Medical Association* editorial which suggested that AIDS could be spread through "routine household contact" (Shilts 1988). The result of this mixed information, contrary to the early expectations of the federal government, has been widespread societal confusion and anxiety (Goodman 1988).

ARTISTS' RESPONSES TO THE AIDS EPIDEMIC

No group is more aware of the deadly power of the disease than the arts community, where AIDS has taken an especially painful toll. Many artists are working to change the way the disease is portrayed by rewriting the language that positions AIDS as an act of divine retribution or as a disease of degeneracy and despair. Jan Zita Grover, curator of a show called "AIDS: The Artists' Response" at Ohio State University, asserted that "Artists have a sense of urgency, a sense that what they're producing can make a difference" (Horn 1989, p.62). Thus, the goal of much of this art work is not to produce "masterpieces" but "to save lives, by whatever means at an artist's disposal" (Kimmelman 1989, p. 6).

Consequently, work in the performing and visual arts that refers directly to the AIDS virus has grown exponentially since the syndrome was first diagnosed in 1981. Artists' examinations of AIDS range from Larry Kramer's passionate and provocative play "The Normal Heart" to the less outspoken television movie "Ryan White Story," and from the Names Project quilt, gut-wrenching in its often highly personal portrayal of thousands of dead AIDS victims, to the graphic photographs of Nicholas Nixon shown last year at the Museum of Modern Art in New York. While many of these artistic endeavors are quite painfully eye-opening, others have perpetuated harmful inaccuracies in public opinions. For example, plays like Harry Kondoleon's "Zero Positive" continue to portray AIDS as a problem confined to gay men, reinforcing the belief that AIDS is a "gay plague". Also, television movies like the "Ryan White Story" prefer to focus on "innocent victims" of AIDS (e.g., hemophiliac children) rather than on minorities who are at much greater risk.

This paper now turns to an examination of the portrayal of AIDS in a wide range of visual and

performing arts including television, photography, plays, dance, and a subset of lesser used art forms (i.e., cartoons, posters, and the Names Project quilt). The focus is on the stated purposes of the artists and, where possible, public reactions. Finally, implications for the use of these arts on societal opinions and attitudes are discussed.

Television

The television media, with few exceptions, has tended to reinforce the developing societal distinction between "innocent" and "guilty" victims. The innocent victims scenario is a well-intentioned effort by the media to make AIDS everyone's disease by producing stories of infected children and hemophiliacs. For example, ABC broadcast "The Ryan White Story," a television movie about a white hemophiliac boy who becomes ostracized by neighbors and schoolmates after developing AIDS. Another TV-movie titled "The Littlest Victims" involves infants who contract the disease through the contaminated blood supply, and focuses on heart-wrenching scenes of these children with their grief-stricken parents.

The "guilty" victims scenario is portrayed much differently. In a recent episode of the NBC program "Midnight Caller," a bisexual man with AIDS is depicted as utterly depraved as he knowingly infects women with the virus in an attempt to feed his insatiable sexual appetite. Also, a similar situation was the focus of a 1985 public television program where a documentary crew followed a black, gay man with AIDS as he wandered around the country engaging in sex with unsuspecting partners. One exception to this approach is the NBC television movie "An Early Frost". Dubbed by some critics as a "conscientious tear-jerker," this film presents a gay man with AIDS who attempts to regain the love of a disapproving father. Interestingly, while the film had high ratings and received several Emmy award nominations, the networks never attempted a project with a similar theme again.

Photography

No other visual art has attempted or achieved the graphic portrayal of AIDS and its victims as photography has, and Nicholas Nixon, well-known for his searing, sobering, and unforgettable photographs, may have produced the most powerful of these images. His subjects include gay men, a woman, and a male hemophiliac. The photographs, taken over time, show the visible signs of the destructive progress of the disease as well as the inner torment of its victims. The result is quite dramatic - the viewer sees not only the physical deterioration of the subjects but also an apparent reduction in their concern about composing themselves for the camera. In the case of one subject, the first image is of a mother and son embracing in their attempt to console each other. By the end of the sequence (and just prior to the death of the subject), the young man appears to be

ignoring the camera, gazing into infinity, and lost to his surroundings.

Robert Mapplethorpe, a well-known photographer who died of AIDS recently, also produced striking images of AIDS victims. He first gained public notoriety in the late 1970s when he chose to publicly depict the sado-masochistic subculture of male homosexuals. While many critics and members of the public found his photographs disturbing, his compulsive and unabashed portrayal of homoeroticism won him considerable fame by the late 1980s. It was the topic of AIDS, however, that led him to produce some of his most unforgettable work. After being diagnosed as having AIDS, Mapplethorpe's willingness to make his illness public helped focus attention on the disease throughout the art world. His 1988 self portraits, showing his once handsome face grim and emaciated next to a skull's head walking stick, provide a stark reminder of the personal tragedy caused by the disease.

Artist Linda Troeller provides a unique perspective on AIDS through her use of photcollage. By juxtaposing journal excerpts, family snapshots, and surreal images, she draws parallels between today's AIDS victims and the ostracism her mother faced as a tuberculosis patient in the 1930s. Using photographs taken by her mother during her isolation in a TB sanitarium in combination with pictures taken by Barbara Cleaver of her son who died recently from AIDS, Troeller shows the defiance, rage, and shame experienced by victims and their families.

One exception to the photographic portrayal of AIDS as a predominantly male and gay disease is the work of Ann Meredith. Her subjects are women with AIDS, and her pictures present these women with their children in settings from their homes to the hospital. By showing heterosexual mothers of different races and social classes infected with the disease, Meredith suggests that no individual can afford to be complacent about AIDS.

Plays

Many plays have been directly touched by the AIDS pandemic. In their wariness toward sex, "Burn This" and "Frankie and Johnnie in the Clair de Lune" could be viewed as "AIDS" plays. Also, "Eastern Standard," "The Heidi Chronicles," and "Gus and Al" are three plays recently on New York stages that make references to the disease. However, two plays - "As Is" by William Hoffman and "The Normal Heart" by Larry Kramer - directly confront the issues surrounding AIDS.

"The Normal Heart" is both a love story and a searing indictment of the indifference of New York's political and health officials to the suffering of gay men afflicted with the disease. The play covers the first three years of the AIDS crisis, and attempts to show that AIDS kills homosexuals *and* heterosexuals, men, women, and children. Though the acronym "AIDS" is never spoken, this angry play points "an accusatory finger" at all groups in society for turning away, in fear or hate, from this

common threat. In this sense, "The Normal Heart" is a "call to arms" to pressure local and national authorities to provide the necessary resources to educate society about the disease and to continue the search for a cure.

"As Is" has a more narrow focus and looks at the relationship between two gay men who were formerly lovers. After one contracts AIDS and is shunned by friends and family, his former partner invites him back into their home and comforts and takes care of him until his death. While the production contains several long, painful scenes, the use of comic blackouts rather than intermissions acts to reduce the sense of pessimism and despair inherent in other plays such as "The Normal Heart".

If "As Is" strikes a middle ground with relation to "The Normal Heart," plays such as "The AIDS Show," which is a series of mostly comic sketches staged by the Theater Rhinoceros in San Francisco, represent the other end of the spectrum. Several of the performers have AIDS, and by their presence they seem to insist that coming down with the disease does not mean giving up living or enjoyment. The humor in the production is both cathartic and inspirational.

Dance

The performing art of dance has focused attention on classic images of death in its personification of AIDS. In "21 Supported Positions," a dance performed by Bill T. Jones and Arnie Zane (who died recently from AIDS), the AIDS victim is depicted much like Christ during the crucifixion. With compassion and love, Jones lifted, caught, and carried his fragile partner through the dance. At one point, Jones held Zane in his arms as the infected man collapsed from exhaustion, evoking the image of Christ cradled in the Virgin Mary's arms. Another choreographer, Martha Clark who suffered the loss of a principle collaborator as a result of AIDS, recently produced a major production concerned with obsessive desire and death titled "Miracolo d'Amore (the Miracle of Love). In this work, which she conceived while mourning the loss of her close friend, a woman makes love to a chalky skeleton.

In a less personal but no less haunting portrayal of AIDS, choreographer Phyllis Lamhut created the dance "Man". She originally approached the topic of death in a 1980 dance called "Passing," and since then has continued to focus on the decay of modern civilization using informative cultural references. She treats the subject of AIDS with uncharacteristic and numbing reverence through the dance of solo performers. A Greek chorus of three women in dark robes opens the dance and moves through it in a way that suggests communal mourning. During each solo, the women sit quietly or lie face down at the edge of the stage framing a context of loss and death.

Lesser Used Art Forms

Besides the major performing and visual arts mentioned, the AIDS crisis has impacted other art

forms, especially cartoons, posters, and a craft project titled the "Names Project" quilt. Political and social cartoonists often have attempted to provide commentary in their work regarding current events, and the AIDS pandemic is no exception. For example, Gary Trudeau, in his comic strip "Doonesbury," has chronicled the misunderstanding and reticence regarding the disease. In one episode, a politician cannot bring herself to say the name of the disease in a public meeting: "I'd like to focus on all of these [issues] tonight in a no-holds-barred dialogue on...on...on the great unpleasantness." In another episode, Trudeau shows the same politician answering questions about the disease. A member of the audience asks what is being done to change the perception that AIDS is a "gay" disease. She responds that "... it's clearly not a gay disease. It's a perfectly ghastly one!"

Other AIDS activists use alternative art forms since they question the display of work in traditional cultural institutions where artists preach mostly to the converted. For example, the AIDS Coalition to Unleash Power (Act Up) designs and distributes posters (as well as flyers, stickers, and buttons) using the pink triangle used to identify homosexuals in World War II concentration camps with the words "Silence = Death". Also, two advocacy groups, Gran Fury and General Idea, use the format of Robert Indiana's quintessentially 60s "LOVE" painting to display the words "RIOT" and "AIDS," suggesting the spiritual distance between the 1960s and the 1980s. Another atypical visual expression involving the AIDS crisis is the Names Project quilt. Started shortly after AIDS began to devastate the gay communities in New York and San Francisco, this work of art has been described as a "giant field of cloth tombstones" since each segment of the quilt contains the name of a victim of this deadly disease. Contributors were allowed to personalize the individual squares, and many contain treasured artifacts of the deceased.

Implications

Contagious diseases and plagues tend to transform a society. Illness and mortality become communal experiences, and fear may capture the attention of healthy individuals. Further, if the group primarily stricken with the disease is disenfranchised, negative stereotypes may be reinforced, and society may attempt to ignore the afflicted rather than share their experience. In most respects, this scenario is epitomized by the AIDS pandemic. The traditional "walls" around disease and death in our society have been buttressed in recent years by an almost neurotic obsession with health and beauty. Also, the fact that AIDS has been linked primarily to gay men and intravenous drug users tends to foster an "us" versus "them" dichotomy and increase the perceptual distance between AIDS victims and healthy individuals.

Many performing and visual artists feel it is their duty to unsettle the American public through realistic and sometimes graphic portraits of AIDS and its victims in an attempt to rectify this

situation. However, these efforts often have revealed the limitations of art as a vehicle of change. Artists are constrained by their own experiences, beliefs, and needs for self-expression as well as by factors beyond their control. For example, plays like "As Is" and photographs such as those taken by Robert Mapplethorpe, while grounded in personal experience and insight, tend to reinforce perceptions of AIDS as a "gay plague" and the arts community as predominantly gay. Also, many of the most startling works, including the photographs of Nicholas Nixon, portray AIDS victims as "freaks" who are sickly and often helpless in their present condition. In combination with television programs like "Midnight Caller," which furthers the stereotype of AIDS as the disease of hedonistic excess, this representation tends to underscore the difference between "us," the uninfected onlookers, and "them," the unhealthy afflicted. Finally, television, which is the vehicle with the largest and most diverse audience, prefers to reserve empathy and compassion for "innocent" victims such as hemophiliac children in order to avoid alienating advertisers, conservative members of the public, and certain advocacy groups.

In the final analysis, little can be done to coordinate the efforts of visual and performing artists. Each work is developed individually, with an emphasis on the personal experience and motivations of the creator rather than its contribution to information dissemination or attitude formation within society. Nevertheless, the images presented by the arts of AIDS and its victims have an important effect on the way we view and respond to this deadly disease.

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An Exploratory Study of Lottery Playing, Gambling Addiction and Links to Compulsive Consumption

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ABSTRACT

Little research has been devoted to lottery ticket buying. Review of the literature suggests that lottery players are distinct from nonplayers, and that addicted gamblers differ from normal gamblers. Also, excessive lottery playing may be a manifestation of a general compulsive consumption trait which is evident in other consumption areas. A telephone survey reveals that lottery players are younger and have less income and education than nonplayers. Heavy players are found to have less income and to fantasize more than light players. Very heavy lottery players share characteristics of addicted gamblers, namely they are older, higher in income, fantasize more, and engage in other forms of gambling. A subset of them also exhibits compulsive consumption in the forms of browsing and heavy buying, sensation-seeking, and risk-taking. The dream of winning the lottery seemingly accommodates the strong fantasy need found in them quite well.

INTRODUCTION

Literally millions of Americans play legal lotteries. At last count, thirty-three U.S. states have lotteries, and most not only have a weekly lottery, but also daily "pick three" or "scratch and win" varieties as well. Lottery sales in 1985 were estimated to be \$9.4 billion and increasing at 36% per year (*Business Week* 1985). A number of states who do not have lotteries are actively considering ones at this time. In the aggregate, state lotteries appear to be generating a nation of millionaires. But lottery playing is a most peculiar form of consumer behavior. It is peculiar because the odds are stacked astronomically against winning. In other words, the rational expectation of anyone buying a lottery ticket must be that the dollar will be lost. Yet lottery players persist in buying tickets week after week.

This irrationality and ethical aspects of lottery gambling give rise to interesting controversy surrounding lotteries, and this controversy is revisited practically every time a state legislature debates instituting one. Opponents claim that lotteries prey on minorities, low income families and older people (Blakey 1979, Dielman 1979, Edmondson 1986, Kallick-Kaufmann 1979). These opponents also claim that lotteries have the potential of unleashing compulsive gambling inclinations lurking in individuals who would ordinarily not be exposed to easily accessible legal gambling (Dielman 1979). Lottery proponents, on the other hand, argue that lottery gambling is socially acceptable since state revenues are enhanced

and all state residents ultimately benefit from the use of these revenues (Kallick-Kaufmann 1979). They also claim that "shallow" gambling on bingo, slot machines, or lotteries is quite dissimilar from "deep play" gambling such as casino, race track, or craps; therefore, the potential for creating compulsive lottery gamblers is minimal (Edmondson 1986).

Perhaps due to the relative newness of lottery access by large numbers of consumers, scant research exists on the phenomenon. Consequently, this paper addresses a knowledge gap and describes the results of an exploratory study on lottery playing behavior. The objectives of the paper are as follows:

1. To identify differences between lottery players and nonplayers;
2. To investigate differences between different types (e.g., light versus heavy) of lottery players
3. To determine the extent to which very heavy lottery players share characteristics of compulsive gamblers; and
4. To explore possible relationships between very heavy lottery gambling and compulsive consumer behavior.

BACKGROUND ON LOTTERY PLAYING, GAMBLING AND COMPULSIVE CONSUMPTION

Lottery Player Profile

As noted above, very little published research exists on lottery players. McConkey and Warren (1987) recently reported the results of analysis on a sample of females residing in one of sixteen lottery states. Nonplayers were found to be concentrated in retired households with college education and low income. Heavy lottery players, on the other hand, tended to come from larger families, be middle aged, and to have higher income. Light players' demographic profiles tended to fall between the nonplayers' and heavy players' characteristics. Also, nonplayers embraced conservative, traditional, and less optimistic values, while light players were optimistic and less traditional, and heavy players displayed tendencies toward excess and to experience stress. Another study cited in *American Demographics* (Edmondson 1986) reported that most lottery players were males over 35 years old with some college education and moderate to low income. Heavy players in the first 45 days of the California

lottery were found to be minorities who were less educated and poorer than the average Californian (Schreiner 1986). Understatement due to unreachables (no telephone, suspicious of poll takers) leads to the conclusion that California lottery players tended at that time to be from the low end of the socioeconomic scale (Schreiner 1986). Motivationally, lottery players are distinguished from deep-play gamblers by an overriding motive of making money rather than enjoying the excitement of gambling (Kallick-Kaufmann 1979). They are also likely to consider a lottery the means of fantasizing an escape from a dull and routine existence (*Forbes* 1986). In short, some evidence exists to support lottery opponents' claims the lotteries appeal to those least able to afford them.

Gambling and Addicted Gamblers

In contrast to the paucity of information on lottery players, there is much more research information and some theories available to explain gambling in general. Factors which have been found to differentiate gamblers from nongamblers include: childhood or previous exposure, current exposure, perceived availability, and legal status of gambling alternatives. At the same time, there is evidence that gamblers desire more stimulation in their lives than do nongamblers. Similarly, they often perceive they have better luck and greater skill than do nongamblers (Kallick-Kaufmann 1979). At least one author (Kusyszyn 1977, 1983, 1984) has developed a theory that gambling is a form of adult playland where fantasy has as important a role as does actual winnings. Kusyszyn (1983, 1984) concludes that individuals with strong tendencies toward risk-taking, sensation-seeking and fantasy more likely to be gamblers.

Interestingly, the general profile of gamblers is opposite that of lottery players on certain dimensions. That is, while more males than females gamble, gambling exhibits a positive correlation with income, and it decreases with age (Kallick-Kaufmann 1979). Moreover, important motivational differences are evident. The deep-play gambler seeks excitement while the shallow-play gambler seeks to make money (Kallick-Kaufmann 1979). The lottery or slot machine player relies primarily on luck, while the (e.g.) race track gambler or casino gambler feels that his skill is a determinant of winning. Both types are situationally enticed (Kallick-Kaufmann 1979). That is, both gamble more with larger potential winnings; however, the deep-play gambler manipulates the potential winnings with bet sizes, handicapping, or hedges, while the lottery player can only wait until the jackpot grows as a result of no one winning and the amount rolls over into the next week. Lottery players are then stimulated by the larger winnings, increased media hype (Edmondson 1986) or the possibility of instantly gaining celebrity status (*Forbes* 1986).

The vast majority of gamblers is not pathological. They place limits on their playing and live within the limits (Kusyszyn 1984).

However, about 1 percent of males and .5 percent of females are estimated to become addicted to gambling (Dielman 1979). Numerous clinical studies have been performed on addicted gamblers (See, for example, Galski 1987, Kusyszyn 1983, or Orford 1985) and have identified salient characteristics which appear to accompany this compulsion. To some degree, addicted gamblers exhibit the same qualities of gamblers in general, but these qualities are intensified. For instance, they are typically males in higher income and educational categories. Addicted gamblers have been described as energetic, impulsive, and sensation seeking. They apply their skill with a perfectionist bent, and they distort the odds of winning in their own favors. Intergenerational gambling influence is commonly found with addicted gamblers, and they often are found to be cross addicted to tobacco, alcohol, drugs, or sex. This cross-addiction trait is common for all types of addicts.

Compulsive Consumption and Hedonic Consumption

Addiction manifests itself as compulsive behavior which has recently become of interest to consumer researchers. Faber, O'Guinn and Krych (1987) provide a general description of compulsive consumption, terming it as "inappropriate, typically excessive, and clearly disruptive" of the lives of those consumers afflicted with it. These authors conclude that compulsive consumers are exhibiting a dependency much the same way a drug addict or alcoholic is dependent on a substance or someone is dependent on gambling. Further, compulsive consumers share psychological characteristics with addicts including abnormal thrill-, variety-, or sensation-seeking, impulsivity, and a need to relieve the stress of low esteem via escape or fantasy. Shopping and buying become the mechanisms for satisfying these desires. Faber, O'Guinn, and Krych (1987) contend that important public policy issues reside in compulsive consumption and recommend further study on this topic.

Further reflection on sensation-seeking, fantasy, and hedonic consumption reveals the theoretical underpinnings for some of the hypotheses addressed in this study. Hirschman and Holbrook (1982) have contended that hedonic consumption is based on what consumers desire or fantasize reality to be. They have posited a paradigm which explicitly includes the experiential aspects of consumption including fantasies, daydreams, and imagery, and they have urged researchers to address these factors in addition to information processing constructs (Holbrook and Hirschman 1982). MacInnis and Price (1987) have categorized these notions into the concept of "consumption imagery," an area they claim deserves research attention and promises managerial insight. Lottery playing obviously provides good opportunity for consumption imagery, and the fantasy aspect of lottery ticket purchases should be readily apparent. Also, since compulsive consumers are known to be high on the experiential

consumption scale, one would anticipate that heavy (possibly compulsive) lottery players would share sensation-seeking and other hedonic consumption characteristics as well.

HYPOTHESES

Given this background, there are four expectations underlying this study. First, lottery playing is affected by a myriad of personal, historical, social, and situational factors. Second, attributes exist which are useful in differentiating heavy from light lottery players. Third, very heavy lottery players may exhibit characteristics similar to compulsive gamblers. Finally, very heavy lottery playing may be related to other consumer behaviors indicative of socially-acceptable addiction, variety-seeking or compulsivity.

The descriptions above constitute the following hypotheses.

H1: Factors which will distinguish lottery players from nonplayers.

- a. Demographic (lottery playing with)
 - 1.) Males
 - 2.) Lower income
 - 3.) Lower education
 - 4.) Older
 - 5.) Minorities
- b. Historical (lottery playing with)
 - 1.) Parents as gamblers
 - 2.) Experience in another state with lottery
- c. Social (lottery playing with)
 - 1.) Socially acceptable
- d. Motivational (lottery playing with)
 - 1.) To make money
 - 2.) Need to fantasize
 - 3.) Need for escape
 - 4.) Risk-taking propensity

H2: Factors which will distinguish heavy from light lottery players.

- a. Heavy players will possess more of each characteristic listed in H1 than will light players.
- b. Situational (heavier playing with)
 - 1.) Greater amounts in jackpot
 - 2.) Purchase of some lottery book or aid
 - 3.) Previous lottery winnings

H3: Very heavy lottery players may exhibit characteristics of compulsive gamblers.

- a. Demographic
 - 1.) older
 - 2.) more income
 - 3.) more education

- b. Historical
 - 1.) Parents as gamblers
- c. Motivational
 - 1.) Sensation-Seeking
 - 2.) Impulsivity
 - 3.) Perfectionism
- d. Perceptual
 - 1.) Distortion of reality
- e. Cross-addiction with
 - 1.) Other forms of gambling
 - 2.) Alcohol
 - 3.) Smoking

H4: Very heavy lottery players may exhibit evidence of compulsive consumption

- a. Sensation-seeking
 - 1.) Browsing
 - 2.) New product trial propensity
 - 3.) Brand switching
- b. Compulsive buying
 - 1.) Heavy purchasing

METHOD

Setting

The study was performed in Florida which instituted a lottery in January of 1988. The typical weekly jackpot is approximately \$10 million, and the largest jackpot to date has been over \$40 million. In 1988, total lottery sales exceeded \$1.5 billion, and 50 percent of these revenues was awarded as winnings according to state law. Data was gathered during the month of March, 1989. Thus, it was believed that any curiosity buying or unusual playing associated with the newness of the lottery had abated.

Questionnaire and Data Collection

A questionnaire was designed for telephone administration in Orlando. Since no scales were available from previous research on the various motivational and compulsive consumption constructs (e.g. need to fantasize, heavy buying, etc.), statements were generated to be used with a 5-point agree-disagree scale. The statements were refined by having a class of marketing research students attempt to match them with descriptions of the constructs. Two statements with a minimum of 60% agreement were retained for each construct. Most had agreement levels in excess of 80%.

The questionnaire was administered by college students who were compensated for their work. Respondents were selected from the local telephone book using systematic sampling with a random starting point. Interviewers were instructed to attempt three callbacks and to alternate interviews with male and female heads of the household. A subsample of respondents was recontacted for

verification purposes, and all indicated they had participated.

RESULTS

Sample Profile

A total of 235 usable questionnaire resulted with an approximate 50-50 male-female split (48% males, 52% females). The typical respondent was 41 years old (standard deviation of 14.9), white (88%), married (66%), and had played the lottery (74%). Considerable variability in income and education levels was evident. While 23% of the sample had an annual family income before taxes of \$20,000 or less, 18% indicated income of over \$50,000, and the remainder of the sample was spread approximately evenly across the \$10,000 intervals in between these extremes. About 35% of the sample had high school or less education, 23% had some college, 28% had college degrees, and 14% either had some graduate work or a graduate degree. Lottery players in the sample bought an average of 3.6 tickets each week (standard deviation of 4.7).

Construct Measurement Reliability

Cronbach's alpha coefficients were computed for each pair of statements designed to measure the various constructs. Many failed to exhibit acceptable reliability levels. Inspection of correlations suggested considerable multicollinearity between statements intended to measure separate constructs. To control for this problem, it was decided to perform exploratory factor analysis with varimax rotation to determine underlying structure. A split-half approach was used, and nine factors identical in items with factor loadings of .60 or greater were determined for each half of the sample. The reliabilities based on the items comprising each factor were acceptable ($\alpha > .60$) except in two cases, and in two others, only one item loaded. The empirically determined constructs and the statements whose sum scores were used in subsequent analysis are described in Table 1.

Lottery Players versus Nonplayers

Table 1 also presents the results of differences tests (t-tests) and associative analyses (Chi square tests) used to test the study's various hypotheses. Because of the exploratory nature of this study, statistical significance was set at the $p < .10$ level; although, most of the statistically significant findings were at the $p < .05$ level or less.

As noted earlier, approximately one-quarter of the respondents had not played the lottery in the past. The following description parallels the categories of factors listed in HI. Compared to nonplayers, lottery players were found to be lower in family income, less well educated, and younger. No statistically significant differences were found for race or sex. Intergenerational influence was not related to playing, but experience with a lottery in another state was. Lottery playing was deemed more socially acceptable by players than nonplayers. As was expected, players tended to fantasize about

winning more than nonplayers, and they were more positive toward risk-taking. (Although not a part of HI, it was found that lottery players exhibited more heavy shopping and browsing than nonplayers.)

Light versus Heavy Lottery Players

While the average number of tickets purchased per week was 3.6, inspection of the distribution of responses, revealed that an approximate median split at 2 tickets. Consequently, those respondents who typically purchased 2 or fewer tickets per week and those who bought more than 2 were arbitrarily classified into light and heavy groups, respectively.

Heavy players were found to have less education than light players, while no other significant demographic factors (sex, income, age, or minority membership) were determined. Hypothesized historical factors such as parents gambling or lottery experience in another state also were not supported. Two motivational factors, greater fantasizing of winning and risk-taking propensity, did distinguish heavy players from light ones. (Heavy players were also more likely to browse and bargain hunt).

The situational influences aspect of the hypothesis was found to be supported by the results. Lottery players bought significantly more tickets on average (5.0 versus 2.3) if they had ever won anything in the lottery, and they bought more (7.2 versus 3.4) if they had purchased some lottery book or aid. Finally, with jackpot sizes of \$20, \$30, \$40, and \$50 million, respondents indicated they would buy 5.6, 6.7, 8.7, and 10.3 tickets, respectively.

To further understand the roles of the several factors hypothesized to be related to the amount of lottery playing, a regression analysis was performed using the number of tickets typically purchased as the dependent variable and the various demographic, historical, social, motivational, and situational factors as candidate independent variables. Six were found to have significant beta weights. Alone, they accounted for 21 percent of the variance in ticket purchases. These six were (standardized beta's in parentheses): age (.19), income (.16), education (-.20), parents gambling (-.15), won something in the lottery (-.30), and participating in other forms of gambling (-.14). Although tentative, these beta's suggest that lottery playing is not dominated by any single factor. In other words, greater lottery ticket purchasing is found with older residents who enjoy higher income but possess less education than average. Also, people who have not won anything in the lottery tend to buy more tickets, as do people who have lower participation in other types of gambling.

Very Heavy Lottery Players versus Other Players

The identification of Very Heavy lottery players was determined by inspection of the distribution of the number of tickets typically bought and facilitated by knowledge of the play slips used to select lottery numbers. The distribution revealed that 28% of the sample typically bought one ticket, while 23% normally bought five. The play slips used in this state have

TABLE 1
Factors Characterizing Various Types of Lottery Players and Nonplayers

Factor	Nonplayers	Players	Light	Heavy	Very Heavy	Possibly Compulsive
<i>Demographic Factors</i>						
Sex (Percent Males)	47%	48%	48%	46%	46%	43%
Income (Mode. in thousands)	>50	20-30*	<20	20-40	40-50*	30-40
Education (Mode)	Col.	High *	Some	High*	High	High
	Grad.	Sch.	Col.	Sch.	Sch.	Sch.
Age	47.1	39.4*	38.1	41.0	44.0*	45.9
Race (Percent White)	88%	89%	90%	85%	81%	85%
<i>Historical Factors</i>						
Parents Gambled (Percent Yes)	12%	6%	10%	14%	23%*	14%
Played Lottery in Other State	35%	18%*	30%	41%	35%	43%
<i>Social Factors</i>						
SOCIALLY-ACCEPTABLE (.57)	6.5	7.7*	7.6	7.8	7.8	7.3
The lottery helps the state of Florida.						
Playing the lottery is unethical. (reverse scored)						
<i>Motivational Factors</i>						
PLAY TO MAKE MONEY (n.a.)	3.6	3.6	3.6	3.6	3.8	4.0
The main reason for playing the lottery is to make money.						
DREAM OF WINNING (.83)	4.4	5.9*	5.2	6.5*	6.6*	7.3*
You often daydream of winning the lottery.						
You think about winning the lottery a lot.						
ENERGETIC-EXCITING LIFE (.67)	10.9	10.7	10.7	10.6	10.6	11.1
You are an energetic person.						
Your everyday life is exciting and stimulating.						
You have more energy than most of your friends.						

TABLE 1 (CONTINUED)

Factor	Nonplayers	Players	Light	Heavy	Very Heavy	Possibly Compulsive
IMPULSIVE SENSATION SEEKER (.64)	10.6	10.6	10.7	10.5	10.3	10.7
You enjoy having many different experiences						
You seek out new and different experiences.						
You like to do things on the spur of the moment.						
RISK-, CHALLENGE-TAKER (.50)	5.8	6.8*	6.6	7.0*	7.0	7.3
You don't mind taking risks.						
Picking lottery numbers is challenging						
<i>Cross-Addiction Factors</i>						
Use Other Forms of Gambling	24%	24%	22%	26%	31%	43%
<i>Compulsive Consumption Factors</i>						
BRAND LOYAL (n.a.)	3.6	3.6	3.5	3.6	3.6	3.6
You usually buy the same brand of grocery items.						
HEAVY SHOPPER (.68)	7.0	7.6*	7.3	7.8	7.2	7.4
You buy more things than the average person.						
You go shopping for clothes more than your friends.						
You are often one of the first to buy a new product.						
BROWSER-BARGAIN SEEKER (.63)	9.4	10.3*	10.0	10.6*	10.5	11.1
You enjoy buying things.						
You like to browse in malls and stores.						
You enjoy shopping for bargains.						

Cronbah's alphas in parentheses; "n.a." means alpha could not be computed.

*Statistically significant at $p \leq .10$ (Refer to text)

five separate panels, allowing up to five tickets; thus, the large percentage of 5 ticket players was probably due to the play slip capacity: they simply filled one slip. It was therefore decided to use purchases of greater than five tickets to designate very heavy players; approximately 15% of the sample fell into this category.

Tests of significance were performed comparing the very heavy players group with all other lottery players. It was found that these players tended to be older and represented the second highest income group. They were also more likely to have observed gambling in their parents. They were found to fantasize about winning the lottery more than other lottery players. There was no evidence to support hypotheses of distortion of the odds of winning or cross-addiction to alcohol or drinking. But Very Heavy lottery players did report significantly more horse race, slot machine, and poker gambling in the last 12 months than did other lottery players.

Evidence of Compulsive Consumption in Very Heavy Lottery Players

Table 1 reveals that no significant differences were found between very heavy lottery players and other players on any of the three consumer behavior factors related to compulsive consumption and sensation-seeking. Realistically, one is hard pressed to argue that buying even \$10 worth of lottery tickets per week is excessive or disruptive consumer behavior: however, it was found that some respondents did report purchasing 15, 20 or even 40 tickets weekly. Exploratory analysis was performed using 7 respondents (1.7% of the sample) who purchased 15 or more tickets weekly. They are identified as "Possibly Compulsive" in Table 1. A statistically significant difference was found for this group's greater fantasizing about winning the lottery. Other statistical significance was obviously severely hampered by the very small sample size. Nonetheless, the mean response on the browser-bargain seeking dimension was higher for this group. It was higher for energetic-exciting life, impulsive and the making money motive for playing the lottery. The Possibly Compulsives were higher in risk-taking; they were older, had played lotteries in other states, and tended to engage in other forms of gambling more than other lottery players.

DISCUSSION

Some of the concerns of lottery opponents have been verified by the results of this exploratory study. That is, lottery players tend to have lower income and to be less well educated than nonplayers. However, they are younger than nonplayers. Lottery players apparently view their playing as socially acceptable risk-taking which provides them with a means of fantasizing sudden wealth and escape from their current status. Players are stimulated by situational factors, and they are likely to increase their purchases when the jackpot grows in size. There are heavy players who buy more tickets

regularly even when the jackpot is at its lowest level. These consumers have less education than the light players, and they fantasize about winning to a greater extent. Some evidence exists to suggest that the amount of tickets purchases increases with age and income; consequently, lottery playing may be less of a social problem than claimed by opponents. It appears that the vast majority of lottery players, regardless of the amount of playing, is purchasing a low cost fantasy.

There is a subset of very heavy players who are typically older and in higher income brackets. These players are more likely to have observed gambling in their parents; they fantasize of winning the lottery to a greater degree, and they participate in other forms of gambling more than other lottery players. Within the very heavy players is found a small group which appears to exhibit the characteristics of compulsive consumption. These consumers are most extreme in fantasizing, and they score high on other dimensions of compulsive consumption, namely, browsing and heavy buying, sensation-seeking, energy, and risk-taking. They are also the oldest group of lottery players and engage in other forms of gambling more. Although inconclusive, these findings do not support the claim that lotteries create addictive gamblers. Rather, excessive consumer behaviors of various types appear to be manifestations of a strong need to fantasize and perhaps to seek out sensations. Playing the lottery serves those with a strong fantasy need particularly well and holds promise of a wealth of new experiences if one should win.

A great deal of additional research must be applied to this area before definitive statements can be made. To be more specific, the measurements of the study's various constructs should be performed with greater reliability and validity tests. The sample should be broadened to provide representation in other states. Finally, a theoretical model of compulsive consumption should be developed in order to properly map out what behavioral phenomena are logically clustered together as a result of extreme sensation-seeking and fantasizing needs in consumers.

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Compulsive Buying Tendencies of Adolescent Consumers

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ABSTRACT

Based on the results of a qualitative study and a review of the relevant literature, research hypotheses pertaining to adolescent consumers' tendencies to buy compulsively are presented. The results of a survey of 394 adolescents support most of the hypotheses and show that teen-agers' compulsive buying tendencies are influenced by both personal and environmental factors.

INTRODUCTION

The topic of compulsive consumption, that uncontrollable urge to buy which affects a great many consumers, has received increasing attention from researchers during the past few years. This interest has been spurred by magazine articles with sensational overtones (e.g. Froom 1989; Holstrom 1985) and by some more serious research conducted by Faber and O'Guinn (1988; Faber, O'Guinn and Krych 1987; O'Guinn and Faber 1988). These researchers have reported several interesting findings about this intriguing form of addiction. Their general research strategy has been to contrast compulsive buyers from ordinary consumers on theoretically relevant variables. They have found compulsive consumers to be more materialistic but without necessarily attaching greater importance to the possession of consumer goods. They have also found them to be more envious, more likely to think that shopping is fun, less generous, more likely to feel guilty after buying things, higher on a general fantasy-imagination orientation and lower on self-esteem.

The compulsive versus normal research strategy has also been adopted in other studies. As part of the process of validating a measuring instrument, Valence, d'Astous and Fortier (1988) have found compulsive buyers to be more anxious in general and more likely to have in their family circle a parent showing an abusive consumer behavior such as alcoholism, toxicomania or bulimia. In yet another study (d'Astous and Bellemare 1989), a small number of compulsive and normal buyers matched on age, sex, income and occupation were contrasted on their reactions to print ads. The compulsive group was shown to react more favorably than the other group to image-oriented ads (e.g. "Polo Ralph Lauren. For those who have class.") as opposed to ads that emphasize product benefits (e.g. "Polo Ralph Lauren. Just quality."). The authors explain these results by arguing that compulsive consumers' buying frenzies serve as a means to improve their self-image. They prefer image-oriented advertising because it is consistent with buying as a mark of social status.

In a recent paper, d'Astous and Tremblay (1989) have taken a different approach to investigate the phenomenon of compulsive

consumption. These researchers argue that there is a generalized urge to buy characterizing all consumers at different levels and probably at different times. According to their view, compulsive buyers are at the utmost of the urge to buy continuum all the time. This leads d'Astous and Tremblay (1989) to propose that less extreme forms of compulsive buying behavior are also worth studying. So, instead of the familiar comparison research strategy, they looked at compulsive buying within the normal consumer population. They administered the compulsive buying scale developed by Valence, d'Astous and Fortier (1988) to a probabilistic sample of consumers and got results generally consistent with previous research. Thus, the higher subjects were on compulsive buying, the lower their self-esteem, the lower their age, the greater the extent of irrational use of credit cards and the greater the chance of being a woman. In addition, the authors reported some interesting relationships between compulsive buying tendencies and three items pertaining to childhood experiences: "When I was a kid, I could not help but spend immediately the money that I got" ($r = 0.2977$; $p = 0.0001$), "When I was young, I used to save the money I had in order to buy myself things that I wanted most" ($r = -0.1898$; $p = 0.0095$) and "When I was young, my parents used to buy me everything I wanted" ($r = 0.1616$; $p = 0.0279$). On the basis of these results, d'Astous and Tremblay (1989) speculated that compulsive buying tendencies might originate in early consumption experiences and therefore suggested to study the phenomenon within the teen-ager consumer population.

This paper presents the results of a research study whose objective was to follow the above suggestion and test several hypotheses related to compulsive buying tendencies in the adolescent consumer population.

GENERATING RESEARCH HYPOTHESES

Research hypotheses were developed through references to previous work on compulsive buying and on adolescent consumer behavior and by conducting a small-scale qualitative study with teen-agers. The study involved twelve adolescents, age 13 to 18, who admitted having problems with controlling their spending. The interviews were semi-structured, conducted individually and organized around three main themes: consumption habits, social and family influences, and compulsive buying tendencies. The study also allowed a pre-test of a version of the Valence, d'Astous and Fortier (1988) compulsive buying scale modified to better relate to adolescent language and interests.

The young consumers who participated in this preliminary study spend their money mostly on

TABLE 1
RESEARCH HYPOTHESES

Type of influence	Adolescents' compulsive buying tendencies are:
Mass media	H ₁ : positively associated with television viewing.
Peers	H ₂ : positively associated with peer influences.
Family	H ₃ : negatively associated with family discussion about consumption matters.
	H ₄ : positively associated with (perceptions of) their parents' compulsive buying tendencies.
	H ₅ : positively associated with family problems such as alcohol consumption, fighting, parents' absence and divorce.
Individual	H ₆ : negatively associated with self-esteem.
	H ₇ : positively associated with introversion.
	H ₈ : positively associated with generosity.
	H ₉ : negatively associated with the performance of rational consumer behaviors.
Demographic	H ₁₀ : negatively associated with age.
	H ₁₁ : negatively associated with social class.
	H ₁₂ : greater among girls.

activities like going to the movies, restaurants, disco-dancing, arcade games and on buying records and tapes. They also spend some money on clothing, garments, cosmetics and perfumes. For most of them, their parents are the main source of income. A few would sometimes borrow money to buy the things they want.

In all cases, friends appear to play a significant role in these adolescents' consumption experiences. They usually show them their purchases and sometimes ask for their opinions. We have noted however that there is a common desire to be different from peers, which leads these young people to look for products that have distinctive characteristics. On the other hand, family interactions seem minimal. A few adolescents, mostly girls, said they talk with their parents when they plan to buy something expensive.

Our young subjects said they make a lot of unplanned purchases. Many admitted being impulsive and incapable of refraining from buying things they see in stores. Budgeting is also a problem since ten of the twelve participants said their weekly or monthly allowance quickly disappears. As one teen-ager commented: "As soon as I got some money, it seems to burn my hands! You know, it's like a nervous habit, I've got to give it out!"

Two final observations are of interest. First, contrary to our expectations, we found these youngsters to be very generous with their friends. They like to please people that they appreciate by offering them, with no particular reason, gifts and treats. Second, half of the participants said they tend to isolate themselves when they have a

problem. We interpreted this as a sign of a tendency to introversion.

Table 1 presents the research hypotheses. Five of them (H₂, H₃, H₇, H₈ and H₉) are suggested by the results of the preliminary study. The others have been derived from the literature. Thus, the hypothesized relationship between compulsive buying tendencies and television viewing (H₁) follows from Moschis and Churchill (1978) who reported a positive association between TV viewing and materialism among adolescents. It is also consistent with the general belief that advertising - and by implication television advertising - contributes to reinforce the materialistic ideal among members of society (see Pollay 1986). H₄ and H₅ are simple extensions of Valence, d'Astous and Fortier's (1988) result linking compulsive buying to the presence of other dysfunctional behaviors in the family. The hypothesized negative relationship with self-esteem (H₆) comes from results obtained in studies conducted with adult consumers (d'Astous and Tremblay 1989; Faber, O'Guinn and Krych 1987; O'Guinn and Faber 1988). H₁₀, which proposes a negative relationship between age and compulsive buying tendencies, is taken from d'Astous and Tremblay (1989) who reported such a relationship with adult consumers and from Moschis and Churchill (1978) who observed a positive correlation between age and the performance by adolescents of socially desirable consumer behaviors. H₁₁, which concerns social class, follows from several studies (see the review by Moschis 1987) showing that young people from upper classes are more competent consumers and that lower class adolescents are more likely to exhibit

TABLE 2
THE MODIFIED COMPULSIVE BUYING SCALE

-
1. When I have money, I cannot help but spend part or the whole of it.
 2. I often buy something I see in a store without planning, just because I got to have it.
 3. Shopping is a way of relaxing and forgetting my problems.
 4. I sometimes feel that something inside pushes me to go shopping.
 5. There are times when I have a strong urge to buy (clothing, tapes, jewelries, etc.).
 6. At times, I have felt somewhat guilty after buying something because it seemed unreasonable.
 7. There are some things I buy that I do not show to anybody because I fear people will think I did a foolish expense or I wasted my money.
 8. I often have a real desire to go shopping and buy something.
 9. As soon as I enter a shopping center, I wish to go in a store and buy something.
 10. I have often bought a product that I did not need even when I knew I had very little money left.
 11. I like to spend money.
-

deviant consumer behaviors (e.g. shoplifting) and more susceptible to marketing stimuli. In addition, d'Astous and Tremblay (1989) have shown that compulsive buying tendencies within the adult consumer population are lower in the upper-class. Finally, H_{12} is based on d'Astous and Tremblay (1989) who found that women are significantly higher than men on compulsive buying behavior tendencies.

METHOD

A self-administered questionnaire containing all measures of interest was constructed and pre-tested to insure that the questions were clear and that there were no ambiguities. To facilitate the data collection, the researchers obtained the cooperation of school administrators and teachers. The questionnaire was distributed in student classes of four different schools: one public and one private high schools, one public and one private colleges. This was done in order to get some variability on age and social class. The final sample comprises a total of 394 French-Canadian adolescents aged between 13 and 19 years old ($\bar{x} = 15.96$). Girls are a little superior in number, since they represent about 54 percent of the total sample.

Measures

Table 2 presents the items that make up the compulsive buying scale used in the study. The scale is an adaptation of an existing instrument that has been shown to meet satisfactory levels of reliability and validity (see Valence, d'Astous and

Fortier 1988; d'Astous and Tremblay 1989). Some items were eliminated because of their irrelevance to teen-agers (e.g. "I am one of those people who respond to direct mail offers") and most items were re-worded to enhance understandability. The self-esteem measure is composed of four items (e.g. "In general, I am satisfied of myself") selected from the well-known 10-item scale of Rosenberg (1965). The other scales were developed by the authors specifically for this study. Introversion is measured with three items such as "I like to give my opinion to others" and the rational consumer behavior scale has four items such as "I rarely compare prices before I buy something". For all measures, respondents had to indicate their agreement with each item on a five-point Likert-type scale.

RESULTS

Reliability Estimates

Cronbach's alpha was computed for each scale. In spite of the important modifications to the original instruments, the compulsive buying and self-esteem scales' reliability estimates are very acceptable (0.7805 and 0.7311 respectively). The introversion and rational consumer behavior scales are less reliable (0.5900 and 0.5169 respectively), but the estimates meet the usually accepted norms for new measures (Churchill 1979).

Hypotheses Tests

Mass Media. The correlation between adolescents' estimates of the number of hours they

TABLE 3
PEER AND FAMILY INFLUENCES

	Correlations with compulsive buying score	p-value ^a
<i>Items pertaining to peer influences:</i>		
What my friends have influence what I buy	0.3439	0.0001
When I buy something, my friend's opinions are very important to me	0.2537	0.0001
I often show my purchases to my friends	0.2266	0.0001
When I buy something, I wonder what other people will think of me	0.3069	0.0001
Usually, when I want to buy something, I talk with my friends	0.2038	0.0001
When I go shopping, I often try to find things that are different from things that my friends have.	0.0953	0.0299
<i>Items pertaining to family influences:</i>		
Usually, when I want to buy something, I talk with my parents	- 0.0303	0.2742
There are products that my father (or my mother) seems unable to stop buying (shoes, tools, clothing,)	0.2538	0.0001
My father (or my mother) often buys things that he (she) doesn't need	0.1180	0.0096

^a One-tailed tests with at least 389 degrees of freedom.

watch television a day and their compulsive buying score is positive ($r = 0.1123$) and statistically significant ($p = 0.0136$; one-tailed test), which supports H_1 .

Peers. Table 3 presents the estimated correlations between the items pertaining to peer influences and compulsive buying. All correlations are positive and statistically significant, which supports H_2 . Although the tendency to compulsive-like buying behavior is positively associated with adolescents' perceived efforts to purchase distinctive products, that relationship is not strong ($r = 0.0953$).

Family. As Table 3 shows, the hypothesis of a negative relationship between compulsive buying tendencies and family discussions about consumption matters (H_3) is not supported. However, adolescents' perceptions of their parents' compulsion to buy is strongly associated with their own dispositions toward compulsive buying (H_4).

Table 4 displays results relevant to the test of H_5 which proposes a link between young consumers' tendencies to compulsive buying behavior and the presence of various problems in the family. Although compulsive buying means are consistently higher for adolescents who report such problems, the difference reaches statistical significance only in the case of divorce.

Individual. Three of the four hypotheses pertaining to individual characteristics are supported by the data. The correlation between compulsive buying tendencies and self-esteem (H_6) is, as predicted, negative ($r = -0.1270$) and highly significant ($p = 0.0058$; one-tailed test). However, adolescents who show greater dispositions to compulsive consumption are not more likely to be introverts ($r = -0.0825$; $p = 0.1031$) and H_7 is therefore rejected. The empirically-based hypothesis of an association between teen-ager's compulsion to buy and generosity (H_8) is supported, the correlation

TABLE 4
 ADOLESCENTS' COMPULSIVE BUYING TENDENCIES AND FAMILY PROBLEMS

	Compulsive Buying Means		t	p-value ^a
	Yes	No		
Alcohol problems	32.1013 (n = 79)	30.9137 (n = 313)	1.2503	0.1060
Fighting problems	31.7358 (n = 53)	31.0887 (n = 338)	0.5801	0.2311
Parents' absence	31.9455 (n = 110)	30.9100 (n = 278)	1.2157	0.1124
Divorce	32.3684 (n = 95)	30.7297 (n = 296)	1.8483	0.0327

^a One-tailed tests with at least 386 degrees of freedom.

with the item "I like to buy things to others without specific reason (gift, restaurant, ...)" being positive ($r = 0.2627$) and highly significant ($p = 0.0001$; one-tailed test). Finally, the correlation between the index of rational consumer behavior and adolescents' compulsive buying score is negative and significant ($r = -0.2897$; $p = 0.0001$; one-tailed test), which supports H_9 .

Demographics. The correlation between age and compulsive buying tendencies is negative ($r = -0.1925$) and highly significant ($p = 0.0001$; one-tailed test), as predicted by H_{10} . In order to test H_{11} , the occupation of the participants' father was transformed to a status rating using Hodges, Siegel and Rossi's (1966) index of occupational prestige. The appropriateness of this index as an estimate of the respondent's social class is questionable but no better measures were available. Still, the index appears to capture part of the social class construct since, as we expected, there is a significant mean difference between the status ratings of the fathers of public ($\bar{X} = 69.2474$) and private ($\bar{X} = 76.2733$) schools' students ($t = 6.7823$; $p = 0.0001$; two-tailed test). However, the hypothesis of higher compulsive buying scores in lower social classes has not been supported since the correlation between the occupational status index and the compulsive score is not significant ($r = -0.0612$; $p = 0.1228$; one-tailed test). Finally, in support of H_{12} , on average, girls have higher compulsive buying scores than boys (32.5667 versus 30.0670; $t = 3.2923$; d.f. = 387; $p = 0.0005$; one-tailed test).

Regression Analysis

All the results presented so far were obtained through simple bivariate analyses. In order to see if the relationships that were uncovered would hold in a multivariate context and to determine the relative

importance of the various types of influences on compulsive buying, a multiple regression analysis was conducted using the compulsive score as dependent variable and the influence measures as independent variables. The results are displayed in Table 5. In comparison with the bivariate results, there are three important changes. First, adolescents' estimates of the number of hours they watch television a day is no longer significantly related to their compulsive buying score. Second, family communication becomes now significant. That is, the more adolescents agree that they talk with their parents when they want to buy something, the less inclined to compulsive buying they are. Finally, the regression coefficient attached to the self-esteem variable is not significant, a result that is also inconsistent with the bivariate analyses.

Although they are unsatisfactory as measures of the relative contribution of the independent variables in multiple regression, the standardized regression coefficients are often used for this purpose. Table 5 shows that the largest standardized beta is that associated with peer influences. The size of this coefficient is twice that of the second largest beta weight (parents' compulsiveness). This concurs with researchers' belief that peers play a significant role in the socialization of young consumers (see Moschis 1987).

DISCUSSION

To the authors' knowledge, this study represents the first investigation of the phenomenon of compulsive buying among adolescent consumers. Conceptually, our approach has been to think of compulsive buying as a generalized urge to buy characterizing all adolescent consumers at different levels instead of an all-or-none trait attributed only to individuals affected by a totally uncontrollable

TABLE 5
MULTIPLE REGRESSION ANALYSIS

Independent Variables	Standardized Regression Coefficients	t	p-value ^a
<i>Mass Media</i>			
TV Viewing	0.0471	1.016	0.3103
<i>Peers</i>			
Peer Influences ^b	0.3438	7.183	0.0001
<i>Family</i>			
Family Communication	- 0.1239	- 2.596	0.0098
Parents' Compulsiveness	0.1714	3.658	0.0003
<i>Individual</i>			
Self-Esteem	- 0.0077	- 0.161	0.8725
Introversion	- 0.0364	- 0.771	0.4410
Generosity	0.1662	3.456	0.0006
Rationality	- 0.1384	- 2.996	0.0029
<i>Demographics</i>			
Age	- 0.1280	- 2.711	0.0070
Father's Social Status	- 0.0657	- 1.431	0.1532
Sex	0.1035	2.068	0.0394
<p>^a Two-tailed tests with 338 degrees of freedom.</p> <p>^b Summative measure using the first five items pertaining to peer influences shown in Table 3. A principal components analysis of these items resulted in one single factor.</p>			

and continuous craving for buying. Without denying the interest of adopting a quasi-pathological orientation to study compulsive buying behavior, we argue that our approach has much to offer to consumer research because it is driven by the belief that less excessive forms of dysfunctional consumption behavior are also important and must be studied.

The results of our study show that adolescents' compulsive buying tendencies seem to be influenced by many personal and environmental factors. Some of these results are consistent with prior compulsive buying studies involving adult consumers. Thus, higher scores on compulsive buying have been previously associated with female and younger consumers (d'Astous and Tremblay 1989). Some other results are consistent with those of studies in the area of consumer socialization. For instance, the impact of peers on compulsive buying tendencies parallels Moschis and Churchill's (1978) conclusions about these influences on adolescents' materialistic attitudes. Also, the negative relationship between age and compulsive buying is consistent with Moschis and Churchill's (1978) finding that younger adolescents are less likely to engage in socially desirable consumer behaviors. Related to the latter result is an interesting research

question: Does that imply that being a compulsive-like buyer is a stage that most adolescents pass through? Unfortunately, the cross-sectional nature of this study refrains us from providing even a partial answer to this question. Future studies using longitudinal data are needed to address the issue.

Finally, this study leads to new findings that contribute to our knowledge of the phenomenon. Thus, contrary to what Faber and O'Guinn (1988) have observed with adults, we have found that generosity is positively related to adolescents' tendency to buy compulsively. Perhaps, as some argue (see e.g. d'Astous and Bellemare 1989), compulsive buyers are generally motivated to improve their social image. For adolescents, sharing may be perceived as an appropriate means to achieve this objective. Other results of interest pertain to family influences. The positive relationship between parents' and adolescents' buyingmania for instance is intriguing. One possible explanation might be that there are modeling effects occurring. However, as noted by Faber, O'Guinn and Krych (1987), biological causes have been identified for compulsive behaviors, hence genetic inheritance is also a plausible alternative explanation. In addition, the study has brought some empirical evidence for the impact of

family problems on teen-agers' compulsive buying dispositions. Though not all family problems that were examined have a statistically significant influence, overall the pattern of results is consistent with the idea that conflicts, troubles or disorders within the family unit are potential explanatory factors for adolescents' compulsive consumption tendencies.

CONCLUSION

This study is an addition to the growing body of research on compulsive consumption. To this day, that phenomenon had not been studied with young consumers. We have shown that, while there are clear similarities between our results and those of other studies conducted with adult consumers (e.g. self-esteem), compulsive buying behavior among adolescents appears to have its own particularities (e.g. generosity). We have looked at some of the differences and tried to identify the important sources of influence. There remain many other research questions in this area and we hope that this study will stimulate some further research.

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Risk-Taking Behavior: Protecting Consumers From Themselves

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ABSTRACT

No social system is equipped to expend unlimited resources on protecting its members. Each system must establish some level of individual self-responsibility to be required of its constituents, beyond which no systemic protection will be afforded. This paper argues that the current Federal Trade Commission deceptive advertising standard demands a level of self-responsibility analogous to that of the tort law of negligence. Then, drawing upon that analogy, it is argued that consumers' beliefs and confidence in their beliefs about a product's attributes can be applied as a screening device, to aid in determining whether a claim *should* be regulated.

INTRODUCTION

The Federal Trade Commission (FTC), even at its apex of regulatory activity, has always operated on a budget that forced its staff to be extremely selective in choosing which advertising claims it would prosecute. For example, in 1970 Eckhardt recognized:

The Federal Trade Commission currently receives about 9,000 complaints a year. It is able to investigate only one out of eight or nine of those, and of the small fraction investigated only one in ten results in a cease and desist order. (Eckhardt 1970, p. 670)

Although precise figures are unavailable, it is likely that in the recent atmosphere of deregulation (Preston and Richards 1986, p. 613-15) those percentages currently are far smaller. The simple reality is that this agency has very limited resources, and its staff must marshal those resources, arguably, to serve the best interests of the public-at-large. An ad, e.g., that deceives only the most careless consumers cannot justifiably burden those resources so long as other, more egregious, deceptive ads remain unregulated.

A few techniques have been proffered by researchers for "screening" ads or whole classes of ads to help with this resource allocation, by evaluating whether the FTC should dedicate greater attention to these ads. Most notable of these is Gardner (1975), who proposed three separate screening devices: the Normative Belief Technique, the Consumer Impression Technique, and the Expectation Screening Procedure. Each of these is designed to identify ads or types of ads which *may* be deceptive, so the FTC can concentrate its efforts on ads with the highest probability of deceptiveness rather than potentially wasting resources on ads with lower probabilities of legal violation (Gardner 1976).

Several other authors have developed typologies of deceptive ad claims (Preston 1989; Rosch 1975; Aaker 1974; Armstrong and McLennon

1973), and Grunert and Dedler (1985) developed a method for building such a typology. Typologies offer the possibility of identifying certain commonalities in deceptive claims, enabling the FTC to target types of claims with greater probability of deceptiveness.

The method suggested below takes a different approach, intended to augment rather than supplant those techniques. After an ad is identified as having a high probability of deceptiveness, this method is designed to assess whether the risk to the consumer, resulting from the potential deceptiveness, is one the consumer is willing to assume. If consumers are willing to accept the risk of loss, I suggest, there is no need to allocate further FTC resources to adjudicating the claim. In the present political atmosphere regulatory resources are much too scarce to engage in such paternalism, no matter how socially advantageous it may be.

THE NEGLIGENCE ANALOGY

Prior to creation of the FTC (FTC Act of 1914), laws regulating selling claims closely paralleled the tort law of negligence. Both bodies of law reflected changing societal views toward the individual's role in a free-market political and economic system.

Until the 1800s English and American common law affecting selling claims tightly embraced the concept of *caveat emptor*, providing consumers little or no protection from inaccurate sales promises. During the 1800s, however, significant inroads were made toward greater consumer protection (Preston 1975).

In like fashion, the concept of negligence, as an independent ground for legal liability, first began to take shape in the eighteenth and early nineteenth centuries (Baker 1979, Ch. 19). This new legal action held parties responsible for damages or injuries caused by their carelessness (James 1951). And like the laws concerning selling claims, the doctrine of negligence flourished in the 1800s as a response, in large part, to societal and judicial concerns for victims' welfare, during the rise of business enterprise through the industrial revolution (Schwartz 1981).

Both bodies of law were directly affected by economic developments of the time and concurrent reinterpretations of classical liberal political and economic philosophies regarding individual freedom of action, which were slowly recognizing the benefit of some governmental intervention as a means of promoting consumer sovereignty (Swagler 1975, Chap. 8). There came a recognized advantage to shifting some of the burden for individual welfare, from victim to purveyor, as economic power became concentrated in business entities. Within the marketplace, this meant the growth of "consumerism" (Preston 1975).

As the FTC's influence took hold in the 1900s, these two areas of law diverged from their parallel course. Under the FTC Act (1914), and later the Wheeler-Lea Amendment (1938), the Commission's authority to regulate industry was immense (Welti 1983). The eventual consequence of this vast authority was that individual protections from advertising claims far outpaced individual protections under negligence law. Where negligence standards required only that parties act *reasonably* to avoid injury to others (James 1951), the FTC held sellers responsible for the mere capacity to mislead even the "foolish or feeble-minded" (Heinz W. Kirchner 1963). Unlike negligence, advertising law permitted consumers to take virtually no responsibility for their own transactions in the marketplace, resulting in a new maxim of "caveat venditor" (Rotzoll, Haefner, and Sandage 1986, p. 123).

THE COMMISSION UNDER REAGAN

The deregulatory philosophy that characterized the Reagan administration was clearly manifest in the FTC's approach to advertising deception during the 1980s. The Commission, apparently attempting to implement administration policy, took this opportunity to completely re-define its deceptiveness standard, shifting part of the responsibility back onto consumers. Where the former standard protected essentially all consumers, even the "foolish and feeble-minded," the new standard protects only consumers acting "reasonably under the circumstances" (Cliffdale 1984). Once again we can see a parallel to negligence, which is defined as a failure to do what the reasonable person would do under the same or similar circumstances (Restatement of Torts 1986, section 283).

The analogy is not yet complete, however. Where negligence holds parties responsible when *they* act unreasonably, the FTC holds sellers responsible unless *buyers* act unreasonably. The latter is more like the standard for a legal "defense." A closer parallel, therefore, arises between the FTC standard and a defense to negligence known as "contributory negligence." With this defense a negligent defendant is liable unless the *plaintiff* was also negligent, i.e., failed to act reasonably under the circumstances (Restatement of Torts 1986, section 464). The current deceptiveness standard, consequently, is analogous to the contributory negligence defense because both require the "victims" to act reasonably, placing on those victims part of the responsibility for resulting injuries. The philosophy behind both the new deceptiveness standard and contributory negligence is that individuals should take some responsibility for themselves before the law will intercede.

ASSUMPTION OF RISK

Drawing upon that philosophy of requiring individual self-responsibility, it is an easy matter to further extend the analogy between advertising regulation and negligence. There is another defense to negligence, conceptually similar to contributory

negligence (James 1952), known as "assumption of risk." In simple terms, this defense states that when faced with a known risk a person may voluntarily proceed in a course of action, and by doing so assume the consequences of that risk, thereby releasing the creator of that risk from any potential liability. The keys to this defense are that 1) the risk must be known and understood, and 2) the party must accept that risk voluntarily (James 1952). If, for instance, you know your friend has had too many drinks, yet agree to let him drive you home, you may be said to have assumed the risk of being involved in an accident. You could be barred from suing your friend for injuries you receive. This principle is often stated by the legal maxim "volenti non fit injuria," which roughly translates as, "that to which a person assents is not esteemed in law an injury" (Edwards v. Kirk 1939).

Again, the emphasis is on requiring individuals to assume some self-responsibility. James reveals insight that supports the analogy proposed here, with the following remark about assumption of risk:

It will be apparent at once that the whole spirit of the defense and of the reasoning it employs, bears the strong imprint of *laissez faire* and its concomitant philosophy of individualism which has passed its prime. For the most part it is a product of the same climate of opinion that gave vitality, for example, to *caveat emptor* (James 1952)

I should note, however, that it is not my purpose here to pass judgment on the wisdom of current FTC policies, but merely to show that the risk assumption concept is compatible with those policies.

Applying this concept to advertising regulation, it is arguable the FTC should not expend its limited resources to protect consumers who know they may be deceived yet voluntarily purchase a product in spite of that risk. This comports with the negligence-like approach presently adopted by the FTC, as well as the philosophy of individual self-responsibility underpinning that approach. The practical difficulty, however, is identifying which claims present a risk that consumers are willing to assume.

IDENTIFYING ASSUMED-RISK CLAIMS

Negligence law offers some guidance in this determination. As mentioned earlier, the elements of assumed risk are *knowledge* and *voluntary assumption*. If we find that consumers have knowledge of the potential risk, we can safely assume any subsequent purchase of the product is voluntary, since purchase is rarely forced upon a consumer. One might argue this is controverted in the case of addictive products, but where there is addiction the consumer is intimately familiar with the product, making deception a virtual impossibility. To identify claims where risk is

voluntarily assumed, therefore, only requires evidence that the risk is known. This knowledge can be inferred by measuring both consumer beliefs about product attributes and the confidence with which they hold those beliefs.

Deceptive claims cause false beliefs.

However, there is a qualitative difference between a claim which causes consumers to hold false beliefs with confidence that they are true and one which causes uncertainty or suspicion. Where suspicion exists, consumers are aware there is an element of risk involved in purchasing the advertised product. A *reasonable* consumer faced with such suspicion will either seek out additional sources of information to confirm/disconfirm those beliefs, or will assume the risk that the belief is false (irrespective of individual factors such as category expertise or brand loyalty). Where the potential loss is substantial they might be expected to seek other information, but where the product cost is small it might be quite reasonable to assume the risk of loss. This, essentially, is the premise of the common distinction between high and low product involvement (Smith and Swinyard 1982).

Consequently, knowledge of risk can be inferred where consumers hold false beliefs but have relatively little confidence in those beliefs. By screening ad claims for resultant beliefs and belief confidence, it should be possible for the FTC to avoid prosecuting claims where consumers are willing to assume the risks.

This argument, however, is pointless if consumers never hold low levels of confidence in their beliefs, or if the FTC never prosecutes such claims. Consequently, a simple study was conducted to determine whether there are significant differences in belief confidence for claims found deceptive by the FTC. Additionally, the method used in the study is offered as an operational example of how confidence-based screening might be achieved.

METHOD

Subjects

90 undergraduate students were recruited from introductory advertising classes. Prior to participation in the study, subjects were screened to ensure they had normal or corrected-to-normal vision at typical reading distances. Because these students were in their first advertising class, and had not yet discussed regulation, there was no reason to expect their course of study to unduly bias the experiment.

Stimuli

The purpose of this study was to determine whether claims actually found deceptive by the FTC varied significantly in the confidence with which consumers held their false beliefs. A search was conducted to identify all FTC cases, in a 10-year period from 1977 to mid-1986, which ended in a Commission finding of deceptiveness. Of 23 cases identified, six were chosen that involved print ads and provided sufficient information to locate or reproduce the challenged advertisements. Those

cases were Sterling Drug (1983), Sears (1980), Kroger (1981), Thompson Medical (1984), Litton (1981), and Cliffdale (1984). Copies of the actual ads challenged by the FTC were found for two of the cases, and the remaining four were reconstructed with a computer, to as nearly resemble the original ads as possible. Each ad was used in its entirety, rather than reproducing only a single claim, because it is the impression created by the ad as a whole that is important under the law (Thompson Medical 1984, p. 790).

Questionnaires

A one page questionnaire was prepared for each ad. The cases varied in the number of claims found deceptive by the Commission, and a few claims were not tested because of their similarity to other claims being tested or because of legal technicalities involved in finding them deceptive. Consequently, the number of deceptive claims tested varied from one to four per case, for a total of 14 claims (Figure 1). To mask the purpose of the study, nondeceptive claims from each ad were also tested on the questionnaires.

Claims were evaluated on separate 13-point scales that tested first the *belief* that the claimed attribute was associated with the product or service, then the subject's *confidence* in that belief. The "materiality" (Cliffdale 1984) of each claim was also tested, but is not of concern to the present discussion.

The belief scale for each claim stated the alleged falsity on one end, and the truth about the concerned attribute at the other end. For each, subjects were asked what they believed to be true about the product. An example is depicted in Figure 2. The truth-falsity polarity of the scales was randomly assigned, to avoid demand effects.

The confidence scale immediately followed, and simply asked subjects, "How confident are you?" Their response was marked on a scale ranging from "Very Unconfident" to "Very Confident" (Figure 3).

Procedure

A total of 30 subjects participated in each of three treatment groups. In each group subjects viewed both advertisements and memoranda about ten different products/services, including two of the six advertisements which are subject of the present investigation. Each condition, therefore, saw ads for only two of the products involved in this study. Presentation sequence was randomized, so that each condition saw the ads of interest at different times during the experiment, to avoid order effects.

Subjects were each given a questionnaire booklet, consisting of a cover-sheet with instructions, followed by stimuli and questionnaires. Subjects were instructed to turn each page of the booklet only upon direction of the experimenter. They would view a stimulus on one page of the booklet, and after all in the group had completed viewing it to their satisfaction, they were permitted to turn the page and answer the corresponding

FIGURE 1

Case	Claim	Alleged Falsity
Cliffdale	a	The Ball-Matic is an important, significant and unique new invention.
	b	Under normal driving conditions, a typical driver can usually obtain a fuel economy improvement of 20% (or more) or an improvement that will approximate or equal four miles per gallon when the Ball-Matic is installed in his/her automobile
	c	Results of consumer usage, as evidenced by consumer endorsements, prove that the Ball-Matic significantly improves fuel economy.
	d	The Ball-Matic when installed in a typical automobile and used under normal driving conditions will significantly improve fuel economy.
Litton	a	A survey proves Litton microwaves are recommended, used, chosen, or otherwise preferred by independent microwave oven service technicians.
	b	A survey proves that Litton microwaves are superior to competitors' products.
Kroger	a	The results of the Price Patrol Survey prove that shopping at Kroger, rather than at competitors' stores, will result in lower overall expenditures.
	b	The Price Patrol Survey is a methodologically sound survey.
Sears	a	The Lady Kenmore dishwasher would completely remove, without prior rinsing or scraping, all residue and film from dishes, pots and pans in cooking and baking according to normal consumer recipes and under other circumstances normally and expectably encountered by consumers.
	b	Dishes in the top rack of the Lady Kenmore dishwashers would get as clean as those in the bottom rack without prior rinsing or scraping.
Sterling	a	Bayer Aspirin has been tested against 200 other brands of aspirin for quality, purity, freshness, stability, and speed of disintegration, and that the results of the tests demonstrated that Bayer Aspirin is qualitatively superior to all other brands tested in all respects, and therapeutically superior to all of the other brands tested.
Thompson	a	Aspercreme contains aspirin.
	b	Aspercreme is a recently discovered or developed drug product.
	c	Valid studies have scientifically proven that Aspercreme is more effective than orally-ingested aspirin for the relief of arthritis, rheumatic conditions, and their symptoms.

FIGURE 2

What do you believe to be true about the product?

Prior Scrubbing,
Scraping or Rinsing
is Necessary to Clean
Heavily Soiled Dishes



No Prior Scrubbing,
Scraping or Rinsing
is Necessary to Clean
Heavily Soiled Dishes

FIGURE 3

How confident are you?

Very Unconfident



Very Confident

questionnaire. This was repeated until all stimuli had been viewed and evaluated

Results

The mean evaluation of each claim, for both belief and confidence, is shown in Table 1. It should be noted that this was a between-subjects design, intended only to measure the difference in belief confidence among the 14 claims. Analysis of Variance was used to test the differences between confidence levels for the claims. The difference was found to be significant ($F(13,406) = 3.215, p < 0.01$).

Mean belief for 11 of the claims (78.6%) scored above 7.0, the scale centerpoint, placing them toward the scale end labelled with the false claim. The remaining 3 claims (21.4%) fell toward the end labelled with the truth about the product attribute. Mean confidence scores for 12 claims (85.7%) fell on the "confident" side of the scale, and two (14.3%) fell on the "unconfident" side.

DISCUSSION

The results suggest not only that there is a significant difference in the confidence with which consumers hold beliefs about advertising claims, but that this difference holds true of even those claims found deceptive by the FTC. From this it is apparent that for some claims being regulated in the public interest consumers are significantly more suspicious of their own beliefs, than for other claims demanding regulatory resources. By extension we can infer that consumers are relatively more willing to assume the risk of loss in those instances, if they proceed to purchase the products in spite of those suspicions without seeking further information.

Mean confidence scores varied from 5.93 to 10.20, representing a continuum within which

consumers appear to have varying levels of suspicion about the reliability of their beliefs. From a policy standpoint, the difficulty is applying this information to determining which claims merit regulation and which do not. There is no natural dividing line, where we can confidently conclude consumers on one side will voluntarily assume the risk of loss while those on the other side will not.

It would be possible, of course, to rank-order confidence scores, and to devote regulatory attention to ad claims in order of their scores, starting with the highest score. This, however, would be unsatisfactory because the levels of belief also vary, with some claims conveying greater falsity than others. It is certainly arguable that claims conveying the greatest falsity deserve high priority by regulators.

It would also be possible to rank-order priority of the claims based on a combination of belief and confidence scores. This would account for both degree of falsity conveyed and degree of suspicion held by consumers. This approach, too, is imperfect, because it assumes the belief measure used is an accurate assessment of the claim's deceptiveness, contrary to the criticisms made by Richards (1990) of various deceptiveness measures. This belief measure is no more than a rough indicator of deceptiveness, inasmuch as this procedure was designed as a simple screening procedure and not to determine a claim's deceptiveness. It is not intended to identify which claims deserve first attention by regulators, but rather to eliminate a few claims before undue expense is incurred.

I propose, therefore, that the centerpoint of the scale be used as a cut-off point for confidence. Where a mean evaluation falls below 7.0 on the present scale, subjects on average are indicating they are "unconfident" in their beliefs, suggesting

TABLE 1

Case	Claim	\bar{X} Belief	\bar{X} Confidence
1. Cliffdale	a	11.20	5.93
	b	9.23	6.57
	c	9.93	7.93
	d	9.20	9.17
2. Litton	a	10.13	9.23
	b	7.67	9.13
3. Kroger	a	10.50	8.93
	b	5.43	8.10
4. Sears	a	11.07	10.20
	b	12.17	9.47
5. Sterling	a	9.90	10.00
6. Thompson	a	6.83	7.30
	b	5.80	7.83
	c	10.60	10.00

that most are suspicious that their knowledge may be in error.

Though the belief measure is not a wholly accurate indicator of deceptiveness, it is arguable this is a rough indicator, not unlike Gardner's (1975, 1976) methods, which could also be used to eliminate claims with low probability of being deceptive. Where the average subject evaluates the product to fall toward the true end of the scale, the majority of them are unlikely to be deceived. And, while the claim *might* actually prove deceptive with a more rigorous test, the low probability serves as some indicator that the FTC may be wasting its money to pursue the claim further. In fact, the belief measure used here is quite similar to empirical measures frequently used by the FTC to actually determine deceptiveness, except that the typical dependent variable used in regulation is *comprehension* rather than *belief* (see discussion in Richards 1990). Arguably, belief is the superior indicator of deceptiveness (Richards 1990).

The mean evaluation for each claim used in this study is plotted in Figure 4. If the FTC staff were to adopt this simple test, using the mid-point of both scales to screen out claims unworthy of the agency's financial resources, only those claims falling in the upper right quadrant of this figure would qualify for further expenditures. Thus, 5 of the 14 claims would be excluded from consideration. Where other claims for the same product fall within the upper right quadrant there would probably be little or no savings by excluding those claims falling outside, but where the challenged claims all fall outside, substantial savings could be realized by not pursuing that case.

SUMMARY

The policy foundation for the law of negligence is functionally equivalent to that on which the present FTC deceptiveness standard is

erected. While legal decisions regarding negligence span nearly two centuries, the recent re-definition of deceptiveness raises significant questions about the utility of many decisions in the FTC's 75 year history. It is reasonable, therefore, to look to the law of negligence for help interpreting the new deceptiveness standard.

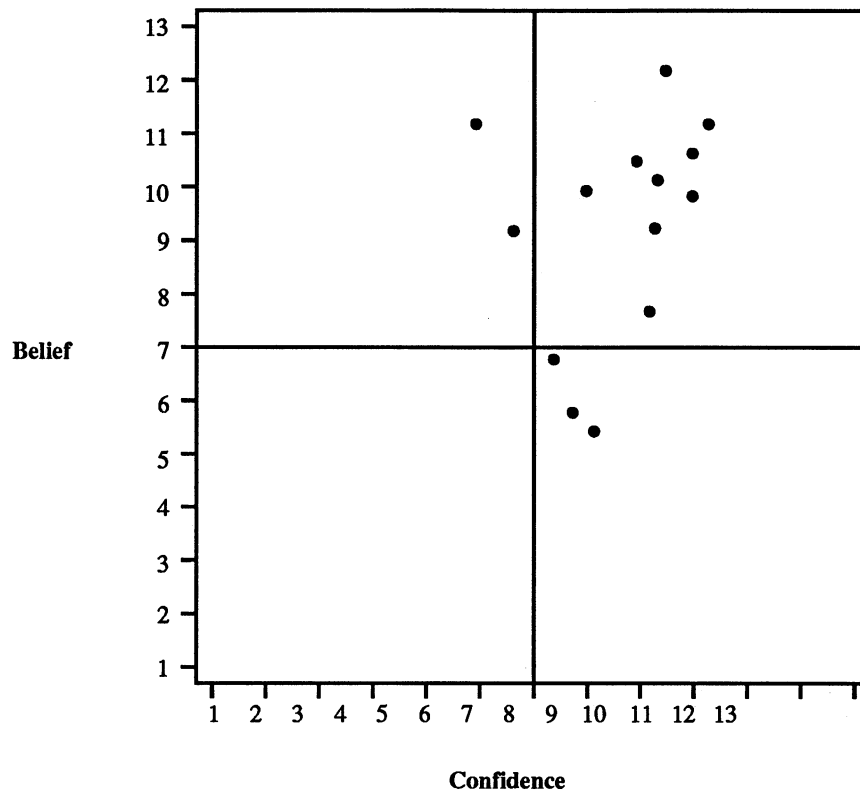
Many critics of present FTC policies may disagree with the idea of implementing a screening method which screens out not only nondeceptive claims (ala Gardner), but deceptive ones. Unfortunately, where congressional funding for the agency is insufficient to prosecute all deceptive claims, some form of regulatory triage is inevitable, with the *only* question being how it will be achieved. While the elimination process could be done on an ad hoc basis, or based on factors like the political visibility of certain advertising practices, an approach premised on theory promises much greater equity. The method presented above is such a theory-based approach.

This procedure is a simple one, because the objective was to save money, not to find new ways to spend it. It requires a very small number of subjects, though ideally they should be chosen randomly from the target market, and it takes only a few moments per ad. Because it is simple, however, it is a less-than-perfect screening tool. It would be possible to unintentionally screen out a claim that deserves regulatory attention. But, this approach is likely superior to one with no theoretical focus, and might be further improved by scholars with expertise in consumer decision-making.

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FIGURE 4



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Conceptualizing Argument Quality via Argument Structure

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ABSTRACT

This paper discusses the construct of argument quality. It discusses the Areni and Lutz (1988) approach of using a Fishbein model of belief strength and belief valence as dimensions of the argument quality construct. This paper argues for a more specific use of the term argument, and reviews the Toulmin (1958) model of argument structure. We suggest that Toulmin's concepts of evidence, authority, and probability are important structural elements that need to be considered to better understand the concept of argument quality. Also, implications for conceptualizing argument elaboration in terms of the Toulmin structure are noted.

INTRODUCTION

The concept of argument quality is important although it has not been the direct focus of much interest by consumer researchers. Perhaps this is because the simple issue of whether strong messages are more persuasive than weak is not interesting. Nevertheless, argument quality plays an important role in research involving the Elaboration Likelihood Model (see Petty and Cacioppo 1986 for a description and review of ELM). Operationally, "argument quality" provides a reference point for assessing how other communication factors affect persuasion. For example, the persuasive effects of rhetorical questions have been inferred from the fact that in low involvement conditions, rhetorical questions enhance differences in the persuasiveness of strong and weak message versions. Under low involvement conditions, rhetorical questions encourage receivers to diligently consider the true merits of the message arguments (Petty, Cacioppo and Heesacker 1981). Integration of the logic and compellingness of the message along with activated and generated beliefs underlie acceptance of the message conclusion.

However, Areni and Lutz (1988) point out that many researchers have not been clear or consistent regarding the conceptual meaning of argument quality. Definitions of argument quality typically rely on ideosyncratic manipulations of message content that ultimately affect message valence. For example, Hunt, Smith and Kernan (1984) manipulated argument quality by defining strong arguments as statements of tangible product features and weak arguments as statements of intangible features.

The thrust of the Areni and Lutz (1988) paper centered on showing that the argument strength

manipulation employed in the often cited Petty, Cacioppo and Schuman (1983) study was confounded with manipulations of the desirability of product attributes/benefits used in the message. The weak message focused on less desirable attributes/benefits (e.g., "floats in water," and "designed for the bathroom") whereas strong messages involved more desirable product features/benefits (e.g., "blade sharpness," and "smooth shave"). In terms of the Fishbein and Ajzen (1975) model of belief structure, the valence (e_i) of the attributes/benefits presented in the strong message was more positive than that of the weak. It is clear that the distinguishing difference between the strong and weak messages was not simply their logical compellingness.

The results of the Areni and Lutz (1988) study suggest that the conceptual meaning of argument quality mostly rests in the argumentative structure contained in the persuasive message. The purpose of this paper is to continue Areni and Lutz's discussion of the argument quality construct by (1) extending their conceptualization of argument structure, and (2) considering the potential relationship between argument structure and argument elaboration.

DEFINING ARGUMENT QUALITY IN TERMS OF ARGUMENT STRUCTURE

Following the Fishbein and Ajzen perspective, Areni and Lutz (1988, p. 198) define a persuasive message as "a set of arguments concerning beliefs that link the object with positive and negative consequences and evidence in support of those arguments." They go on to say,

Of particular importance in the present situation is that each target belief has associated with it a belief strength (b_i) and a valence (e_i). That leads to the characterization of argument quality as comprised of two separate components, argument strength and argument valence. Argument strength is defined as the audience's subjective probability that the attitude object is associated with some outcome or consequence.

In their view, argument strength is defined in terms of a syllogism (McGuire 1960) created by the supporting beliefs (beliefs formed by the presentation of evidence). Areni and Lutz (1988, p. 199) write,

...Argument strength may be defined in terms of the likelihood that the conclusion of a logical syllogism is accepted. If the

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conclusion is ascribed the role of target belief in Fishbein and Ajzen's model, then Fishbein and Ajzen's support beliefs can be viewed as the premises in a syllogistic structure underlying the target belief.

In principle, we agree that the conceptual meaning of argument quality primarily resides in the structure of the argument. And in general, the syllogism provides a good starting point for examining the essence of argument structure. However, we believe that the usefulness of the syllogistic model is limited. Specifically, the syllogistic model does not provide clear distinctions between various components of a message, cannot adequately represent the complex structures found in most marketing messages, and does not provide much direction for examining potential relationships between argument structure and argument elaboration.

As an alternative, we present a different conceptualization of argument structure that overcomes the limitations associated with the syllogistic model. And as an introduction to this model, we find it instructive to first consider the intended function of argument.

The Intended Function of Argument

Willard (1979; 1981) writes that the function of argument is to provide reasons for the assertion of particular claims, positions or beliefs. Kneupper (1979) and Burleson (1979) maintain that the function of argument is to establish a relationship between an asserted claim and its supporting reasons or evidence. In other words, argument serves to support the assertion of a particular claim.

In terminology more appropriate for marketing applications, Brockriede (1975) writes that the function of argument is to provide rationale for a leap from existing beliefs to the adoption of new ones. That is, arguments give people objective and rational reasons to create a particular set of beliefs.

According to Burleson (1979), arguers first "lay claim" on existing beliefs of those toward whom the argument is directed. That is, arguers make assertions of the nature, "here is something you don't know," or "here is something that is contrary to what you already know." Next, arguers attempt to validate these asserted claims by providing a carefully structured presentation of assertions in support of those claims (Toulmin 1958; Toulmin, Reike and Janik 1984). Generally speaking then, arguments are linguistic procedures which are intended to establish the validity of an asserted claim through the presentation of a highly structured set of reasons in support of that claim.

It is important to recognize that arguments are not simple claim assertions (e.g., Petty, et al. 1983), nor are arguments statements of evidence. An argument is a type of message presentation in which one class of assertions are used *with intent to support* assertions of another class. Certain assertions are ascribed the status of "evidence"

when, and only when, they are used to support other assertions of a more general nature. Assertions which require logical support in order to be believed are ascribed the status of "claims." Specifically then, argument can ultimately be both defined and revealed by the logical relationships amongst message assertions (i.e., structure).

The Toulmin Model of Argument Structure

Instead of describing argument structure in terms of the syllogistic model (e.g., Areni and Lutz 1988; McGuire 1960), we use Toulmin's (1958) jurisprudence model. This model of argument structure is widely accepted by many argument theorists and forensic specialists, relatively simple to understand, and very applicable to marketing contexts (see Deighton 1985). Moreover, the Toulmin model offers a distinct advantage over syllogistic models of structure in that it allows one to examine the specific *types* of assertions used in an argumentative message.

Toulmin (1958) and Toulmin, Reike and Janik (1984) state that there are six crucial elements in an argument--claim assertions, grounds, warrants, backing, qualifiers, and rebuttals. For ease of discussion, we collapse these six elements into four components--*claim assertions, evidence (grounds), authority (warrants and backing), and probability (qualifiers and rebuttals).*

Claim Assertions. Perhaps the best way to understand the Toulmin model, is to work through an example. Assume that we wish to construct an argument to support the claim, "Eating Kellogg's All Bran cereal may reduce your risk of rectal cancer." This claim is an assertion about benefits of this brand that we put forth for public acceptance. Specifically, we want our target audience to *believe* this benefit claim. But suppose we simply made this assertion, and then left it at that? Although some people might believe this claim, most probably would not.

To support and validate our claim, we need to construct an argument. We need to offer *reasons why* people should believe that eating Kellogg's All Bran cereal may reduce their risk of rectal cancer. Specifically, we need to logically present evidence in support of our claim.

Evidence (grounds). In the Toulmin model, grounds are the specific facts that a communicator produces to support a claim. Stated differently, grounds are pieces of evidence which a communicator relies upon to "clarify and make good" an asserted claim (Reinard 1984). In advertisements, we often find that brand benefit claims are supported by statements about product characteristics (e.g., product attributes).

To keep our example simple, consider only one piece of evidence. For the grounding, we state that, "All Bran is made of 100% natural fiber." Thus, our argument reads: "Eating Kellogg's All Bran cereal may reduce your risk of rectal cancer because All Bran is made of 100% natural fiber."

However, this one piece of evidence may not be sufficient to validate our asserted claim. Some

people reading our argument might ask, "What does natural fiber have to do with rectal cancer?" In argument theory terms, they are asking, "On what authority are you presenting this particular piece of evidence as support for your claim?" Now we need a warrant.

Authority (warrants and backing). Warrants are statements which serve as the "rational authority" needed to logically connect the evidence with the asserted claim (Toulmin, Reike and Janik 1984). They are statements which serve as the "justification...employed by a communicator to demonstrate that the claim legitimately can be inferred from the grounds" (Reinard 1984, p. 207).

Warrants are not intended to strengthen the grounds. That is, they are not meant to change a receiver's belief that the evidence is indeed factual. Instead, they are designed to show that using particular evidence to support a specific claim is appropriate and legitimate (Toulmin 1958). In essence, warrants *specify a particular domain* of evidence that can be legitimately used to support a claim. In order for a claim to be judged as valid, the evidence presented as support must be viewed as legitimate evidence. Or, in jurisprudence terms, the evidence presented in support of a claim must be "admissible evidence."

Returning to our example, we use the following statement as our warrant. "Diets rich in fiber can help reduce the risk of rectal cancer." Logically now, our argument reads: "Diets rich in fiber can help reduce the risk of rectal cancer. Eating Kellogg's All-Bran cereal may reduce your risk of rectal cancer because All-Bran is made of 100% natural fiber." Alternatively, we might order the argument, "All-Bran is made of 100% natural fiber, and since diets rich in fiber can help reduce the risk of rectal cancer, eating Kellogg's All-Bran cereal may reduce your risk of rectal cancer."

Now, is the argument strong enough to establish the validity of our claim? Someone reading our argument could ask, "How do we know that diets rich in fiber can help reduce the risk of rectal cancer?" That is, some people may perceive our warrant to be a relatively weak "rational authority." So, to further strengthen our warrant, and consequently enhance the validity of our claim, we can provide factual evidence called *backing* that *supports the warrant*. For instance, we might use the statement: "Medical studies have proven that people who eat fiber rich foods are 60% less likely to develop rectal cancer than those people who don't."

Now, our more complex argument reads: "Medical studies have proven that people who eat fiber rich foods are 60% less likely to develop rectal cancer than those people who don't. And since diets rich in fiber can help reduce the risk of rectal cancer, eating Kellogg's All-Bran cereal may reduce your risk of rectal cancer because All-Bran is made of 100% natural fiber."

Our argument regarding the Kellogg's All-Bran claim is nearly complete at this point. We have provided reasonably strong support to

establish the validity of our claim. But there still may be some people who do not accept our claim. These people might recognize circumstances that would render our claim invalid. If we do not acknowledge, at least in part, the existence of these circumstances, some people may reject our claim because they perceive us to be untruthful by reason of omission.

Probability (qualifiers and rebuttals). The probability component of argument is not necessary to validate a claim. This component is used by communicators when they want to acknowledge that their claim assertions are not "absolute" (cf. Burleson 1979; Habermas 1979; Jaccard 1981). In essence, this third component allows a communicator to tell an audience that he/she is being "truthful." And given that most consumers view advertising as extremely partisan, the use of qualifiers and rebuttals is often recommended to enhance credibility (cf. Deighton 1985).

You may have noticed the qualification we included in the latest version of our claim. We asserted that "eating Kellogg's All-Bran cereal *may* reduce your risk of rectal cancer." By using words such as "may" and "probably," we communicate the existence of circumstances that will render our claim invalid. We could take an additional step by providing the audience with one or more of these particular circumstances. That is, we could provide a rebuttal. For instance, we might say, "Genetic tendencies, however, sometimes outweigh factors such as diet." With respect to advertisements, rebuttals are generally included at the end of the ad, or in a nonprominent place as in a footnote.

Our completed argument can now be read as follows: "Medical studies have proven that people who eat fiber rich foods are 60% less likely to develop rectal cancer than those people who don't. And since diets rich in fiber can help reduce the risk of rectal cancer, eating Kellogg's All-Bran cereal may reduce your risk of rectal cancer because All-Bran is made of 100% natural fiber. Genetic tendencies, however, sometimes outweigh factors such as diet."

To recap our example, we first asserted a claim, "Eating Kellogg's All Bran cereal may reduce your risk of rectal cancer." Recognizing that many people would not believe this claim, as it stands, we constructed an argument to support our assertion. We used evidence (one specific grounding), authority (a warrant with backing), and probability (a qualifier and a rebuttal). We used these three components of argument to support and validate our brand benefit claim.

Building arguments according to the guidelines of the Toulmin model is a relatively easy task. In fact, the model might well be used by advertising copywriters as a tool for constructing argumentative ads. However, the Toulmin model is also useful as a diagnostic device. In particular, this model of argument structure can be used to examine the nature of strong versus weak manipulations of "argument quality."

REEXAMINING MANIPULATIONS OF ARGUMENT QUALITY

Areni and Lutz (1988) convincingly argue that many manipulations of argument quality are really manipulations of claim valence. That is, many researchers who purport to manipulate argument quality actually end up manipulating the inherent desirability of brand benefit claims. For example, Petty et al. (1983) used claim assertions such as "unsurpassed sharpness" and "eliminates nicks and cuts" for their "strong arguments." In contrast, they used assertions such as "floats in water" and "designed with the bathroom in mind" for their "weak arguments." Interested viewers will most likely see these latter assertions as weak since they are not usually sought-after benefits of razors. Areni and Lutz point out that while valence manipulations produce interesting effects, manipulations of argumentative logic (i.e., structure, in our framework) are more useful within the pragmatic contexts of marketing communications. As such, Areni and Lutz present possible manipulations of argument strength, while holding claim valence both constant and positive. Their argument versions can be seen in Figures 1 and 2.

It is important to note that while Areni and Lutz primarily define argument quality in terms of the subjective probability receivers attach to a target belief, recognize that this probability is really an *outcome* of processing a particular argumentative structure. Using the Toulmin model allows us to examine the particular argumentative structures created by Areni and Lutz. The structural analysis of the arguments used to support the "unsurpassed sharpness" brand claim is pictured in Figure 1. The structural analysis of the arguments used to support the brand claims "prevents rusting" and "eliminates nicks and cuts" is pictured in Figure 2.

Diagramming these arguments with the Toulmin model reveals some interesting observations about the nature of strong versus weak arguments, as formulated by Areni and Lutz. First, Areni and Lutz used "authority assertions" to legitimize the relationship between the primary claims and the evidence, and changed the specificity of these assertions as one method of manipulating argument strength. Second, Areni and Lutz introduced additional evidence in support of their primary claims, and changed the valence of this additional evidence as a second way to manipulate argument strength. These will be explained in more detail below.

Manipulating Authority

Turning first to Figure 1, we find that the "advanced honing method"-to-"unsurpassed sharpness" relationship is authorized by several assertions. In the strong version (Panel A), the assertion "...honed more cleanly and smoothly..." serves as a warrant, while the assertion "...recent scientific breakthrough" serves as backing for the warrant. In other words, a description regarding the nature and the effects of the honing method serves to make the "advanced honing method" assertion

stand as compelling evidence in support of a sharpness claim.

Turning to the weak version (Panel B), we find that Areni and Lutz changed their authority assertions. Specifically, the assertion "...better than the others" now serves as the warrant, while the assertion "new production process..." now serves as backing for the warrant. In essence, Areni and Lutz manipulated the specificity of their "authority assertions." In the first case, their warrant and backing were detailed, and specifically related to the concept "honing method." In the latter case, the warrant and backing were vague, general and not clearly related with the concept "honing method." Examining the structural diagrams in Figure 2, the reader should note that a similar situation exists with the second set of strong and weak arguments. There is one exception however. The weak argument diagrammed in Figure 2 possesses a warrant without backing.

In general, Areni and Lutz's manipulation of "authority assertions" is consistent with Toulmin's (1958) ideas regarding argument strength. By manipulating warrants within the argument, Areni and Lutz have effectively altered the structural logic (i.e., the logical relationship between the evidence and the claim).

Manipulating Evidence

In addition to manipulating the specificity of authority assertions, Areni and Lutz also manipulated the nature of evidence offered in support of their primary claims. In Figure 1, note that Areni and Lutz introduced a second set of evidence which consists of assertions regarding Edge's sharpness in comparison to other razors, as rated by two prominent athletes. In the strong version (Panel A), the athletes rated Edge superior to Schick, Personna, Bic and Gillette. In the weak version (Panel B), the athletes rated Edge superior only to Personna. Examining the structural diagrams in Figure 2, the reader should again note that a similar situation exists with the second set of strong and weak arguments.

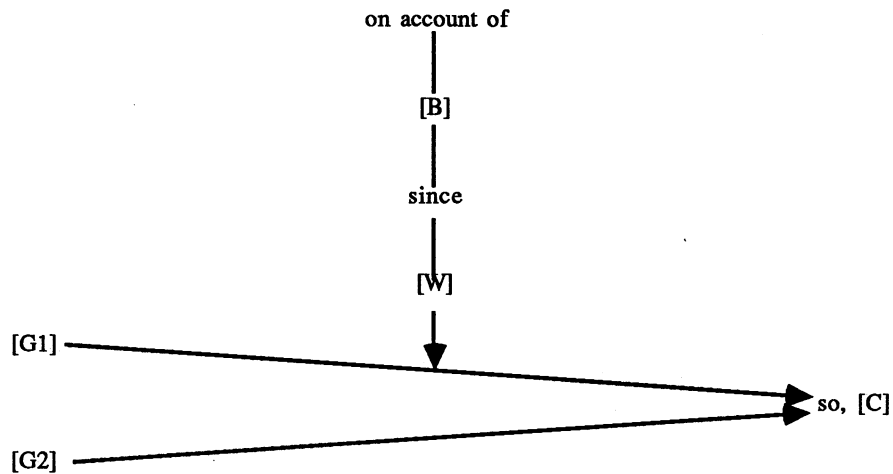
The Areni and Lutz manipulation of evidence is essentially the same type of argument strength manipulation used by Petty et al. (1983). That is, instead of manipulating claim valence, Areni and Lutz manipulate evidence valence. Because Areni and Lutz did not provide warranting assertions for the second evidence-to-primary claim relationship, their manipulation reduces to a "*positive*" versus a "*less positive* statement of fact about the brand."

Summary Contention

Based upon our structural analysis of the Areni and Lutz arguments, we offer this summary thought: Perhaps argument quality is a term better used to describe the structural integrity of an argumentative message. With this conceptualization, we can now distinguish between the outcome of argument processing (e.g., strength) from the characteristics of the argument. Defining argument quality in terms of structural integrity

FIGURE 1
Structural Analysis of the Areni and Lutz (1988) Arguments for the Brand Claim of "Unsurpassed Sharpness:" Strong and Weak Versions

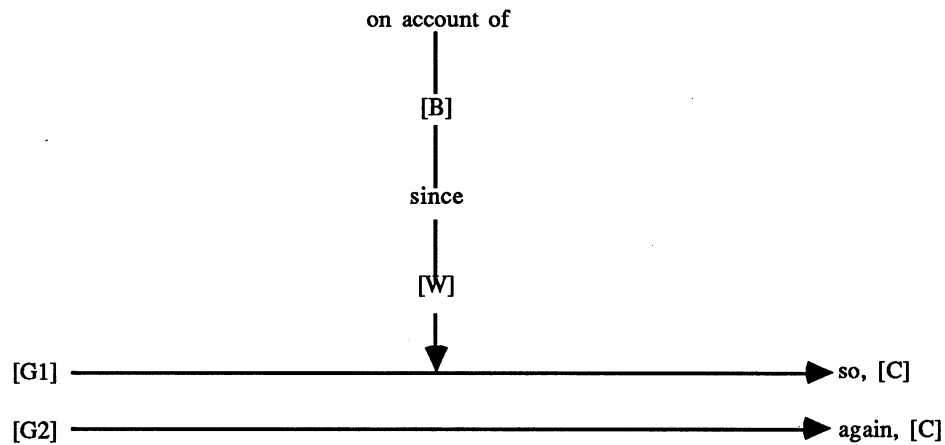
(A) Strong



{ADVANCED HONING METHOD [G1]} CREATES {UNSURPASSED SHARPNESS [C]}

A {recent scientific breakthrough [B]} allows the Edge blade to be {honed more cleanly and smoothly [W]} than ever before. {In fact, athletes such as Greg Norman and Chris Evert-Lloyd rated the Edge blade superior in sharpness to the Schick disposable, the Personna disposable, the Bic disposable and the Gillete Good News [G2]}.

(B) Weak



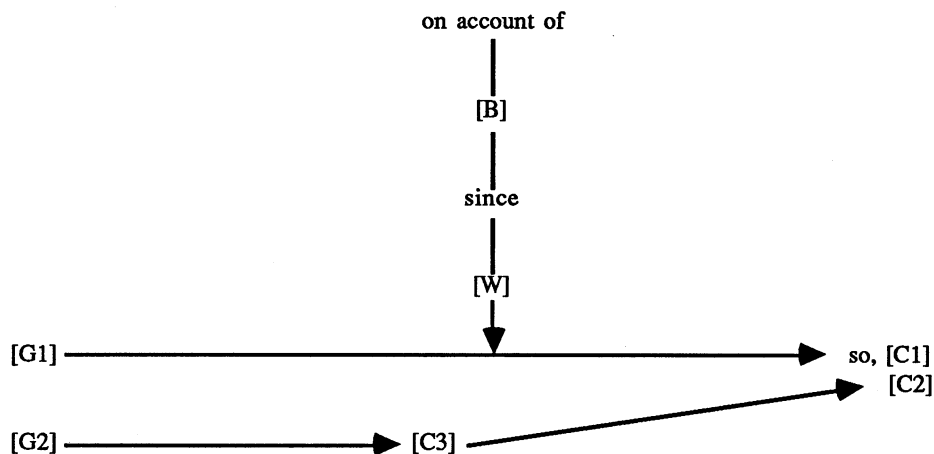
{ADVANCED HONING METHOD [G1]} CREATES {UNSURPASSED SHARPNESS [C]}

A {new production process [B]} makes the Edge blade {better than the others [W]}. {In fact, athletes such as Greg Norman and Chris Evert-Lloyd rated the Edge blade superior in sharpness to the Personna disposable [G2]}--proof of its {unsurpassed sharpness [C]}.

FIGURE 2

Structural Analysis of the Areni and Lutz (1988) Arguments for the Brand Claims of "Prevents Rusting," and "Eliminates Nicks and Cuts:" Strong and Weak Versions

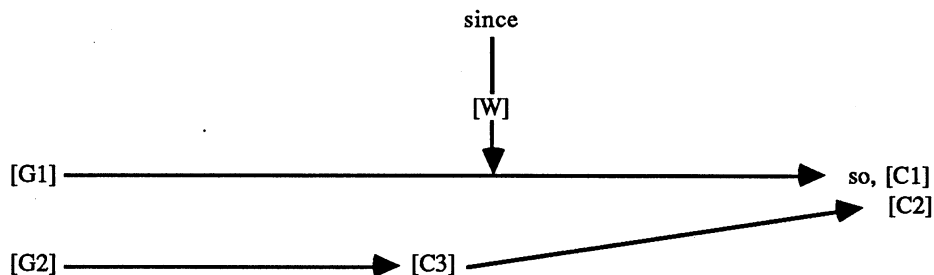
(A) Strong



{SPECIAL CHEMICALLY FORMULATED COATING [G1]} {ELIMINATES NICKS AND CUTS [C2]} AND {PREVENTS RUSTING [C1]}

This coating {forms a chemical seal which actually bonds with the metal [B]} and {protects it from elements which can ruin a blade's sharpness and finish [W]}. This {coating is so effective [C3]} that the Edge blade gave {fewer nicks and cuts than all four of the leading competitors [G2]}.

(B) Weak



{SPECIAL CHEMICALLY FORMULATED COATING [G1]} {ELIMINATES NICKS AND CUTS [C2]} AND {PREVENTS RUSTING [C1]}

This {coating protects the blade from harmful elements--elements which can ruin a good blade [W]}. This {coating is so effective [C3]} that the Edge blade gave {fewer nicks and cuts than two of the four leading competitors [G2]}.

allows us to avoid circular confusions such as "strength-as-believable" and "quality-as-valence." That is, we can avoid tautological definitions such as "strong arguments are anything that elicit a positive response." But more importantly, defining argument quality in terms of structural integrity forces us to consider the necessary relationships between argument structure and argument elaboration.

IMPLICATIONS FOR UNDERSTANDING ARGUMENT ELABORATION

To date, the most influential approach to understanding argument elaboration is the Elaboration Likelihood Model (Petty and Cacioppo 1981). ELM distinguishes between central and peripheral routes to attitude change. The critical feature defining the two routes is that central processing is inferred when attitude change appears to be based upon the receivers' diligent consideration of information he/she feels is central to the true merits of the message. By examining argument elaboration within the framework of argument structure, the meaning of central versus peripheral becomes clearer. For example, Bitner and Obermiller (1985) explain that when a message does not provide central cues, or the highly motivated individual does not have experience, he or she may elaborate in a "central" manner cues that would otherwise be peripheral. While there is little research describing the "central" processing of peripheral cues, Bitner and Obermiller may be suggesting that the receiver extracts his or her own "evidence" to support asserted claims (cf. Kardes 1988). As such, understanding the nature ("central" versus "peripheral") of message processing may be a matter of first describing the argumentative structure provided for the receiver, and then, that generated by the receiver.

Given the examples discussed in this paper, it is evident that structural manipulations of argument quality can take many possible forms. And a critical question that should be asked is, "Which component parts of an argument structure manipulation will influence the nature of receivers' elaboration?" It is important that any changes in structure be fully understood in terms of their relationship to elaboration measures of interest. For example, Eagly (1974) criticizes the use of broad recall indexes as measures of persuasion (i.e., elaboration) because they do not reflect what aspects of the message are actually encoded and elaborated upon. Thus if a researcher, for example, uses evidence (or lack thereof) to manipulate argument quality, then measures of evidence recalled may be more indicative of "central" argument elaboration than a more general measure of number of claims recalled (see Munch and Swasy 1988).

It is important to recognize that viewers exposed to argumentative messages must, themselves, construct a representation of the argumentative structure (Brockriede 1975, Hample

1980; 1981). That is, they must identify the evidence-via-authority and probability-to-claim relationships throughout the course of message exposure. Once these logical relationships have been identified, viewers may offer their own *qualifications*, discount the presented evidence with examples of *counter evidence*, or challenge the logical relationships between evidence and claims with their *own warrants*. If we are to better understand persuasion and argument elaboration, we need to begin to see the necessary relationships between the logical structure of the argument and the argumentative structure of receivers' processing.

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Mediators of Message Sidedness Effects on Cognitive Structure for Involved and Uninvolved Audiences

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ABSTRACT

Persuasive effects due to one versus two-sided messages were examined within the framework of the Elaboration Likelihood Model (Petty and Cacioppo 1986). It was proposed that message sidedness effects on brand attitude are mediated by brand-related cognitive responses for involved audiences, and by perceptions of message/source believability for uninvolved audiences. These propositions were tested in a laboratory experiment involving a 3 (high involvement, low involvement, control) by 2 (one versus two-sided message) design. Results suggest, as expected, that involved subjects are more sensitive to manipulation of message structure. However, no effects due to message sidedness on brand beliefs or attitude were obtained for either involved or uninvolved subjects. The paper concludes with a discussion of the implications of these results for future research on message sidedness effects, and on involvement.

INTRODUCTION

Consumer and advertising researchers have for long been interested in the attitudinal effects of one versus two-sided ad message appeals. A one-sided appeal is characterized by favorable claims on all brand attributes mentioned in the message, whereas a two-sided appeal contains disclaimers or admissions of inferior performance on one or more relatively unimportant attributes. Empirical research in this area has been driven by two theoretical frameworks that focus on different mediating mechanisms in predicting more favorable attitudinal effects due to a two-sided message. Inoculation theory (McGuire 1961) suggests that two-sided appeals are likely to be more effective because presenting negative information about a brand serves to inhibit counterargumentation. Attribution theory (e.g., Jones and Davis 1965) suggests that disclaimers used in a two-sided message serve to enhance the credibility of the message and/or of the message endorser, and thus induce a more favorable attitude. Detailed reviews of these frameworks, and their implications for the study of message sidedness effects are available elsewhere (see Kamins and Assael 1987 for a recent review).

In this paper, we focus on the role of perceived message/source believability, and spontaneous cognitive responses generated in response to the ad message as alternative mediators of message sidedness effects on attitude. Although several empirical studies in the consumer behavior literature have examined message sidedness effects (Belch 1981; Settle and Golden 1974; Golden and Alpert 1978; Hunt, Domzal, and Kernan 1982; Swinyard 1981; Smith and Hunt 1978; Edgar and Goodwin 1982; Kamins and Assael 1987), evidence for mediation due to either cognitive responses or

message/source believability is very limited. For instance, two studies have shown that two-sided appeals inhibit counterargumentation and/or enhance support argumentation (Kamins and Assael 1987; Swinyard 1981). Unfortunately, measures of brand attitude were not obtained in these studies, so no tests of mediation could be conducted. Similarly, three of five studies that obtained significant effects due to message sidedness on source/message believability did not measure brand attitude (Kamins and Assael 1987; Swinyard 1981; Smith and Hunt 1978), while the two remaining studies obtained no effects on attitude (Golden and Alpert 1978; Kamins and Marks 1988).

One goal of the present study was simply to create the conditions under which mediation effects due to both mediators (cognitive responses and message/source believability) on attitude could be examined. A second, more important goal, was to investigate the conditions under which one of these mediators would likely dominate the other. The extant literature on message sidedness provides virtually no guidelines for understanding this issue. We believe that the Elaboration Likelihood Model of persuasion processes proposed by Petty and Cacioppo (1979, 1986) provides a suitable conceptual framework within which multiple mediators of message sidedness effects (such as perceived message believability, and message induced cognitive responses) can be examined. In the following sections, we first present a brief overview of the ELM model. We then derive testable implications of the model for mediation processes for message sidedness effects for involved and uninvolved audiences. Finally, we report on a laboratory experiment designed to test these implications.

THEORETICAL FRAMEWORK

The Elaboration Likelihood Model

Extensive reviews of the ELM are available elsewhere (Petty and Cacioppo 1986). Briefly, this framework suggests that the way in which recipients process a persuasive message depends on their motivation and ability to process the informational claims in the message. Individuals who are high on motivation and ability (e.g., involved and knowledgeable subjects) adopt a "central" route to persuasion. Specifically, they engage in detailed, elaborate processing of message claims en route to forming a carefully reasoned opinion about the advocacy issue. By contrast, unmotivated or unable individuals follow a "peripheral" route to persuasion. These individuals judge the advocacy issue based on a superficial assessment of readily available cues in the message. Attitudes may be formed or changed via peripheral processing either because the

communication object is associated with positive or negative cues (e.g., an attractive source), or because the individual can rely on a simple heuristic to make a quick evaluative inference about the object based on cues in the persuasive message (e.g., a product endorsed by an expert must be good). These ELM predictions have been tested in several psychology and marketing studies, and have received good empirical support (Petty and Cacioppo 1979; Petty, Cacioppo, and Goldman 1981; Petty Cacioppo and Schumann 1983). Also, several recently proposed models of advertising effects have suggested processing differences between high and low involvement audiences similar to the ELM (Batra and Ray 1985; Burnkrant and Sawyer 1983; Greenwald and Leavitt 1984; Mitchell 1986).

Message sidedness effects on involved audiences.

ELM implicates processing of message arguments, and hence the cognitive responses generated during such processing as the key mediators of message effects on attitude for involved audiences. Thus, a two-sided appeal will induce more favorable attitudinal effects to the extent it is successful in biasing the evaluative tone of message processing by either suppressing counterarguments and/or enhancing support arguments.

It is important to note here that the ELM does not predict that two-sided ad messages will result in a more favorable brand attitude than one-sided messages. All that this model asserts is that attitudinal advantage for a two-sided message (if any) will be mediated by message-related cognitive responses. However, there are several reasons why two-sided messages may produce favorable effects on attitude and cognitive responses. First, since a two-sided message explicitly admits to inferior performance on disclaimed attributes, it is likely to inhibit the recipient from generating counterarguments on those attributes. Also, these disclaimers may enhance the believability of other claims made in the message, and hence suppress counterargumentation and enhance support argumentation targeted at these claims. This logic suggests that effects of message sidedness on attitude and on beliefs for attributes not disclaimed in the message will be mediated by parallel effects on the evaluative focus of message processing as indicated by degree of counter and/or support argumentation.

Message sidedness effects on uninvolved audiences

For uninvolved audiences to be influenced by a two-sided message, they must first recognize the "two-sided" nature of the message, and then perceive this cue as being relevant to generating an overall evaluation of the advertised brand.

Since the disclaimed attributes are embedded in the verbal message of a two-sided communication, a distinct possibility is that uninvolved audiences may not even recognize the two-sided nature of the communication. This suggests that a two-sided

message may frequently have no advantage over a one-sided message in influencing brand attitude. If the two-sided nature of the message is recognized, then a two-sided message will induce a more favorable attitude to the extent that subjects rely on message sidedness as a cue to inferring source/message believability.

Note, again, that the ELM does not directly predict an attitudinal advantage for two-sided messages. It simply suggests that attitudinal effects due to message sidedness (if any) for uninvolved audiences will be mediated by a peripheral cue such as perceived message/source believability. The logic for expecting sidedness effects on believability has been clearly explicated in the attribution theory literature as applied to message sidedness effects. (see Kamins and Assael 1987 for a review). This reasoning suggests that effects of message sidedness on attitude will be mediated by perceptions of source credibility (if a source is explicitly identified) and/or message believability. Importantly, ELM predicts no effects due to message sidedness on cognitive responses (counter and support arguments). Also effects on beliefs about attributes not disclaimed (if any) should be due to halo effects, and should not be mediated by cognitive responses.

Summary

The ELM framework suggests that audience involvement with the advertised brand should influence the degree to which they recognize the message sidedness manipulation as well as the mediators of sidedness effects on attitude. Since involved audiences are expected to carefully process brand message claims in the ad, they should clearly recognize that some attributes are disclaimed in the two-sided message, and hence form distinctly inferior beliefs about these attributes. By contrast, uninvolved audiences should show much weaker effects of message sidedness on beliefs about disclaimed attributes since they are expected to process the ad in a cursory and superficial manner. Also, significant effects due to message sidedness on attitude (if any) should be mediated by brand-related cognitive responses (counter and/or support arguments) for involved audiences, and by perceptions of message/source believability for uninvolved audiences. Finally, message sidedness should produce no effects on brand-related cognitive responses for uninvolved audiences.

METHOD

Subjects and Design

130 undergraduate student subjects participated in the study in exchange for course credit. Of these, 124 provided usable responses. The design was a 3 (high involvement, low involvement, control) by 2 (one vs. two sided message) between subjects factorial. Subjects were run in groups of 12 to 15. Each session contained subjects from all six treatment conditions.

Procedure

Upon arrival, subjects were asked to read a one page description of the study. Subjects were told that they would be asked to look through a booklet containing black and white copies of several print ads. Subjects were also told that other participants would be exposed to full color versions of these ads, and that the purpose of the study was to examine the effects of color on consumer reactions to ads. This statement purpose was given for two reasons. First, it was necessary to give subjects some justification for why they were being shown black and white copies of ads. Second, we wanted to hold constant subjects' processing objectives so that natural variations in these would not weaken our involvement manipulation or mediation tests (see Hastak and Olson 1989; Wright 1980).

All subjects were exposed to a booklet containing seven black and white ads. The fifth ad in the booklet was the target ad (for a fictitious brand of ball point pen). Each ad in the booklet was preceded by a brief written description, which subjects were instructed to read carefully. After all subjects had finished examining the booklet, they were given a series of questionnaires to complete. Finally, subjects were debriefed and thanked for their participation.

Independent Variables

Involvement. Our manipulation of brand involvement closely paralleled the manipulation used by Petty, Cacioppo, and Schumann (1983). This manipulation was embedded in two places in the ad booklet. First, the one page study description for high (low) involvement subjects stated that at the end of the study they would be given an opportunity to choose one among several brands of ball point pen (pain reliever). A real ad for an unfamiliar pain reliever brand that was not locally available was included in the third position in the ad booklet. Subjects in the control condition were told nothing.

Second, the brief description that preceded the ball point pen ad for high involvement subjects stated that the pen was to be test marketed in the Champaign-Urbana area, and hence would soon be locally available for purchase. Subjects assigned to the low involvement condition were told that the pen was to be test marketed exclusively on the west coast. Also, the description for the pain reliever for low involvement subjects stated that the pain reliever brand would soon be locally introduced, while high involvement subject were told that there were no plans to introduce this brand in the local area. Control subjects were told nothing about the availability of either the pen or the pain reliever brands.

Message sidedness. The pen ad showed a picture of the pen, a photograph of a male college student, and a message that was attributed to the student. In the two-sided version, two relatively unimportant attribute (styling and color variety)

were disclaimed in the opening paragraph of the message:

Quite frankly, the Spree pen doesn't make a particularly good first impression--a rather ordinary plastic barrel that is not uniquely styled, and a limited assortment of colors to choose from. This impression changes, however, when one starts writing with the Spree.

In contrast, the one-sided message opened with the following paragraph:

The Spree pen makes a great impression right from the start--a distinctive metal barrel that reflects a unique styling in its timeless simplicity of line, and a wide assortment of colors to choose from. And this impression is further strengthened when one starts writing with the Spree.

Both messages then presented the following positive information about the pen:

This is truly one of the most consistent, smooth writing pens I have experienced in its price class. They tell me it is the tough tungsten carbide ball and the patented free flowing ink that does the trick. Whatever the reasons, the results are truly remarkable. And virtually smudge proof.

If smooth, skip free, virtually effortless writing is what you are looking for, you owe it to yourself to try the new Spree pen. You will be glad you did. I certainly am.

Dependent Measures

Cognitive responses. After subjects had viewed the ad booklet, they were asked to proceed through a series of booklets which contained the dependent measures. The first booklet asked subjects to list all the thoughts, reactions, and feelings they had while looking at the pen ad. Subjects were given three minutes to list their thoughts, but were told to stop writing whenever they had no more thoughts to report. These thoughts were subsequently classified in terms of their target (brand message, source, ad execution, other) and polarity (favorable, unfavorable, neutral).

Brand, ad, and source evaluation. These variables were all measured on 9 point rating scales. Brand attitude was measured on three scales (bad-good, unsatisfactory-satisfactory, dislike-like), purchase intention on a single scale (definitely not-definitely yes) attitude towards the ad on three scales (bad-good, dislike-like, unattractive-attractive), message believability on a single scale (unbelievable-believable), message quality on two scales (unpersuasive-persuasive, weak-strong), source credibility on three scales (unbelievable-believable, untrustworthy-trustworthy, unconvincing-convincing), and source attractiveness on two scales

(unlikable-likable, unattractive-attractive). Constructs that were measured on multiple scales were operationalized as the average of those scales.

Attribute beliefs. Beliefs about 12 attributes of the Spree pen were measured on 9 point rating scales (strongly disagree- strongly agree). Six of these attributes were claimed in the ad (variety of colors, unique styled barrel, writes smoothly, smudge proof, comfortable grip, skip free), while the other six were not (even thickness in writing, does not blotch, inexpensive, durable, does not dry out, leak proof). These latter belief measures were included to explore differences (if any) between involved and uninvolved subjects in terms of the effects of message sidedness on inferential belief formation.

RESULTS

Manipulation Checks

Involvement. Three measures intended to assess the success of this manipulation were obtained at the end of the study. Two of these paralleled measures used in the ELM literature to measure brand involvement, or personal relevance of the advertised brand (Petty, Cacioppo, and Goldman 1981; Petty, Cacioppo, and Schumann 1983). First, subjects were asked to recall the product category in which they were to be asked to choose one of several brands. As expected, 40 of 44 subjects in the high involvement condition correctly identified the ball point pen category, while 34 of 42 subjects in the low involvement condition correctly identified the pain reliever category. Importantly, only one subject in the low involvement condition incorrectly identified the pen category.

Second, subjects were asked to indicate how likely they personally thought it was that the Spree pen would be locally available in the next few months on a 9 point (very unlikely- very likely) scale. An involvement (3) by message sidedness (2) ANOVA revealed a significant main effect on this measure ($F(2,119)=10.2, p<.01$). As expected, an a priori contrast revealed that involved subjects believed that it was much more likely that the pen would be available locally (mean=5.82) than did uninvolved subjects (mean=3.62, $F(1,82)=17.15, p<.01$). The belief for control subjects on this measure (5.26) was marginally below the mean for involved subjects.

These results suggest that our manipulation successfully influenced perceived personal relevance of the pen brand. However, it could be argued that these results simply represent instructional checks (i.e., checks to confirm that subjects remembered orienting instructions) rather than evidence for successful manipulation of brand involvement. Furthermore, since the intent of the brand involvement manipulation in the ELM framework is to create differences in message response involvement (i.e., degree of brand message elaboration, see Batra and Ray 1985), we also examined the effects of this manipulation on reported levels of message response involvement, or

MRI. Message response involvement (MRI) was operationalized as the average of three 9 point scales designed to indicate how carefully subjects actually examined and processed the pen message (very uninvolved- very involved, concentrating very little- very hard, paying little- a lot of attention). A 3 by 2 (involvement by message sidedness) ANOVA on this measure revealed no main effect due to the involvement factor. The mean MRI levels for the high and low involvement groups were virtually identical (mean MRI=5.32 for high involvement, 5.34 for low involvement, 4.80 for control subjects).

In sum, these results suggest that variations in perceived personal relevance induced by our manipulation did not produce the anticipated parallel effects on brand message processing. To deal with this problem, the analyses were conducted in three ways. First, the manipulated levels of involvement (high, low, and control) were maintained in all analyses. Next, a median split on the MRI measure was used to create two groups that differed significantly on stated levels of MRI, and all analyses were repeated using this blocking factor. Finally, a median split on the number of reported brand-related thoughts (i.e., counter + support arguments) was used to create two groups of subjects that differed significantly on amount of processing related to the brand message. This final approach is discussed in Batra and Ray (1985) and has been employed in past research (e.g., see Muehling and Laczniak 1988).

The three sets of analyses produced similar results and identical conclusions. To conserve space, we report only the analyses involving the MRI blocking variable. As a result of the median split, 64 subjects were assigned to the high MRI condition (mean MRI=6.50) and 60 subjects were assigned to the low MRI condition (mean MRI=3.74). These groups differed significantly on reported MRI ($F(1, 123)=204.73, p<.01$).

Message sidedness. Effectiveness of this manipulation was checked by examining beliefs on the two attributes (variety of colors, and uniquely styled barrel) that were disclaimed in the two-sided message. Means for these beliefs are displayed in Table 1. As expected, subjects exposed to the two-sided message reported a significantly weaker belief in these attributes than did subjects exposed to the one-sided message. Thus, the message sidedness manipulation was successful. Also, the MRI by message sidedness interaction was significant or marginally significant for both beliefs. A-priori contrasts revealed that message sidedness had stronger effects on both beliefs for involved subjects ($F(1, 62)= 37.1$ for variety of colors, 11.59 for uniquely styled barrel, both $p's <.01$) compared to uninvolved subjects ($F(1, 58)= 6.69, p<.05$ for variety of colors, 0.53, $p>.4$ for uniquely styled barrel). This indicates, as expected, that high MRI subjects processed the ad message more carefully and deeply, and hence were more sensitive to a manipulation embedded in the message claims. Also note that the interaction obtained here parallels the

TABLE 1
CELL MEANS AND F-RATIOS FOR KEY MEASURES

<u>Measures</u>	INV ¹ : MS ² :	<u>Conditions</u>				<u>F-Ratio</u>		
		<u>High</u>		<u>Low</u>		<u>INV</u>	<u>MS</u>	<u>INV</u> <u>*MS</u>
		<u>One</u>	<u>Two</u>	<u>One</u>	<u>Two</u>			
<i>Beliefs on Attributes Disclaimed:</i>								
Comes in a variety of colors	6.63	2.47	6.45	4.72	3.58 ^a	41.66 ^c	5.29 ^b	
Has a unique styled barrel	5.83	3.76	4.84	4.14	0.51	11.25 ^c	2.66 ^a	
<i>Mediating Variables:</i>								
Message Quality	7.04	6.47	6.22	6.11	4.76 ^b	1.63	0.77	
Source Credibility	6.18	5.65	5.23	5.03	4.93 ^b	1.09	0.23	
Believability of Message	6.57	6.53	5.39	5.52	7.45 ^c	0.01	0.04	
Support Arguments	1.40	1.00	0.87	0.79	1.91	0.85	0.35	
Counter Arguments	0.67	0.76	0.80	0.71	0.05	0.00	0.23	
<i>Beliefs on Attributes Not Disclaimed:</i>								
Writes smoothly	7.27	7.53	6.94	6.66	5.11 ^b	0.00	1.03	
Smudge proof writing	6.80	6.71	5.52	5.59	11.41 ^c	0.00	0.05	
Comfortable grip	6.77	6.50	6.10	5.69	5.84 ^b	1.19	0.05	
Skip free writing	6.53	7.03	5.77	6.10	7.24 ^c	1.78	0.07	
<i>Brand Attitude</i>	7.04	6.47	6.22	6.11	4.76 ^b	1.63	0.77	
1. Involvement (High/Low)								
2. Message Sidedness (One/Two)								
a: p < .10								
b: p < .05								
c: p < .01								

(message quality by involvement) interaction obtained in past ELM research (e.g., Petty, Cacioppo and Goldman 1981; Petty, Cacioppo, and Schumann 1983). Thus The median split on MRI used in this study likely created differences in brand message involvement similar to those obtained in past research.

Effects on Mediators

The ELM suggests that effects due to message sidedness on attitude are mediated by counter and support arguments for involved subjects, and by message/source believability for uninvolved subjects. Table 1 presents results of 2 (high versus low MRI) by 2 (one versus two-sided message) ANOVAs on measures of counter and support argumentation, and message quality, message believability, and source credibility. As is evident, message sidedness had no effects on any of these variables, and the two-way (MRI by message

sidedness) interaction was also not significant in each case. Also, no effects were found on measures of the proportion of counter and support arguments, or on the number/proportion of positive and negative ad and source-related thoughts produced by subjects -- these are not reported to conserve space. MRI did produce a main effect on perceptions of message quality and source credibility suggesting that involved subjects judged the ad message to be stronger, and the endorser to be more credible than uninvolved subjects. These results suggest that the message sidedness manipulation had no effects on any of the potential mediators of effects on attitude.

Effects on Belief and Attitude Measures

Results for these measures paralleled the results obtained for the mediators (see Table 1). The MRI variable produced main effects on the belief and attitude measures such that these were more positive for involved subjects. Message sidedness produced

no significant (main or interactive) effects on any of the belief measures or on brand attitude. A similar pattern of results was obtained for the six beliefs on attributes not claimed in the message (i.e., inferential beliefs) -- these are not reported to conserve space.

DISCUSSION

Summary of Results

Our results suggest that a two sided message does not produce more favorable effects on brand-related cognitive structure than does a one sided message. Although all subjects clearly recognized the message sidedness cue, and formed distinctly inferior beliefs on attributes disclaimed in the two-sided message, message sidedness had no effects on any of the brand belief and attitude measures, nor did it influence measures of message processing and message/source believability. Note that this failure to find significant effects cannot be attributed to potential problems with our manipulation of involvement, since control subjects showed an identical pattern of results.

Although disappointing, these results are not surprising in light of past research in this area. In the recent marketing literature, only one study showed clear effects due to message sidedness on brand evaluation (Etgar and Goodwin 1982), while several studies failed to show a significant attitudinal advantage due to a two-sided message (Belch 1981; Golden and Alpert 1978; Kamins and Marks 1988). These results (in conjunction with ours) seem to suggest that predicted advantages for a two-sided message are relatively weak and practically inconsequential. This conclusion seems particularly robust in light of the fact that studies in this area differ quite a bit in terms of contexts in which subjects are exposed to the ad messages, nature of the two-sided message, message modality, etc.

Our results also suggest that variations in involvement with the brand or the brand message do not alter the effects due to message sidedness. Clearly, no analyses for differential mediators of message sidedness effects under high versus low involvement could be conducted because there were no effects to be mediated. It is conceivable that weak recognition of the message sidedness cue among uninvolved subjects produced the pattern of results obtained for this group. What is surprising is that involved subjects, who strongly responded to the message sidedness manipulation, showed no effects on cognitive response or attitude measures. A possible explanation for this result may reside in the mix of counter and support arguments produced by our subjects in response to the pen ad. Past marketing research indicates that significant effects due to message sidedness on cognitive responses are usually obtained when counterargumentation is the dominant mode of message processing (e.g., Kamins and Assael 1987). Also, Inoculation theory (McGuire 1961) suggests that two-sided messages are most effective when audiences are initially negatively predisposed towards the advocacy issue, and hence

likely to predominantly counterargue with the message. Our subjects generated more support than counter arguments in response to the ad, and reported very favorable brand attitudes. Thus, a two-sided message could not have influenced attitudes through suppression of counterargumentation. Note, however, that message sidedness could still have produced attitudinal effects through enhancement of support argumentation, although this did not happen in the present study.

Manipulation and Measurement of Involvement

We manipulated brand involvement using procedures similar to those that have been successfully used in past ELM research. Also, two of the manipulation check measures we employed were identical to measures used by Petty, Cacioppo, and Goldman (1981; Petty, Cacioppo, and Schumann 1983) in their research. Interestingly, the manipulation produced significant effects on these measures, but not on a different measure of MRI. Also, attempts to examine involvement effect by using different theoretically justifiable blocking variables yielded similar results. Finally, the significant interaction effect due to MRI and message sidedness on beliefs about disclaimed attributes seems to suggest that The MRI blocking variable adjusted levels of involvement in a manner similar to past ELM studies. Nevertheless, the failure to unambiguously validate the involvement manipulation suggests that our results concerning involvement effects should be cautiously interpreted.

Although not specifically designed to do so, we believe the present study provides some interesting data on the manipulation and measurement of involvement. For instance, three sets of measures obtained in this study can be justified as measuring or partly measuring brand and/or brand message involvement. First, subject perceptions of the likelihood that the advertised brand would be locally available have been used in past ELM research as a measure of personal relevance of the brand. Second, self report measures similar to the ones we used have been used by other researchers (e.g., Laczniak, Muehling and Grossbart 1989) to measure MRI, or degree of brand message elaboration. Finally, the number of message CRs (i.e., CA + SA) has been suggested as an alternative measure of MRI (Batra and Ray 1985; Muehling and Laczniak 1988).

Table 2 shows the intercorrelations we obtained among these three sets of "involvement" measures. We find the lack of association between these measures surprising. The lack of association between the self report and cognitive response measures of message response involvement is particularly difficult to explain. Overall, our results suggest that a manipulation of involvement based on personal relevance may not produce parallel effects on self report measures of MRI, or that blocking on MRI may not create differences in degree of brand message processing as indicated by cognitive responses. Thus, future researchers should

TABLE 2
CORRELATIONS AMONG VARIOUS INVOLVEMENT MEASURES¹

	MRI ²	Availability ³	CRs ⁴
MRI	1.00	0.05	0.11
Availability		1.00	0.04
CRs			1.00

1. None of the correlations significant at $p=.05$.
2. MRI: Average of three measures of message response involvement.
3. Availability: A measure of the perceived likelihood that the pen will be available in the local market.
4. CRs: Total number of message-related thoughts.

consider employing multiple maximally different measures of "involvement" (as we did) in order to provide compelling support for the successful manipulation of this variable. This approach seems particularly useful given the fuzzy distinctions between concepts such as product class involvement, brand involvement, personal relevance of brand, and brand message response involvement.

Finally, we believe that implications derived from the ELM for message sidedness effects are useful because they reconcile the role of two competing mediators that have heretofore been independently theorized about and examined in the literature. Future research incorporating a stronger and more convincing manipulation of involvement should prove useful in developing more unambiguous tests of ELM based predictions than were achieved in the present study.

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How Do Consumer Inferences Moderate the Effectiveness of Two-Sided Messages?

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ABSTRACT

This paper attempts to identify the key dimensions along which two-sided nonrefutational messages differ, and then to review empirical findings regarding how each of these dimensions moderates the effectiveness of two-sided messages. The thesis of this paper is that messages which differ on certain key dimensions elicit different consumer inferences or attributions. Consequently, these messages differ in terms of how credible they are perceived to be, and in terms of how much they enhance brand attitudes, beliefs, and purchase intentions relative to a one-sided messages. Hence, by distinguishing among different types of two-sided messages, at least some of the apparent discrepancies in the literature can be resolved.

This paper provides an organizing framework for summarizing the results of previous studies on nonrefutational two-sided messages, i.e., messages which describe potentially undesirable attributes or shortcomings of the promoted brands and yet make no attempt to refute this potentially negative information (Kamins and Assael 1987). The results of such studies seemingly are contradictory. Some studies have found that two-sided messages are more effective than one-sided messages (Goodwin and Etgar 1982; Smith and Hunt 1978), whereas other studies have found that two-sided messages are no more effective (Belch 1981; Settle and Golden 1974) or even less effective (Stayman, Hoyer and Leon 1987; Swinyard 1981) than one-sided messages.

This paper will attempt to show that two-sided messages differ on a number of key dimensions, and that messages which differ on these dimensions vary in their effectiveness because they elicit different types of consumer inferences or attributions. Therefore, by distinguishing among different types of two-sided messages, at least some of the apparent discrepancies in the literature can be resolved. Hence, this paper hopes to accomplish the following two objectives: (1) to clarify what we already know about two-sided messages, and (2) to clarify what we do not yet know, so as to stimulate and guide future research. The next section of this paper will discuss the key dimensions of two-sided messages.

THE KEY DIMENSIONS OF TWO-SIDED MESSAGES

Based on a careful review of the literature, it appears that two-sided messages differ on the following four key dimensions:

1. *How important the potentially unfavorable disclosure is perceived to be* (Stayman, Hoyer and Leon 1987). A brand can be described as having one or more undesirable attributes or shortcomings that

are either relatively unimportant or relatively important, either as perceived by all potential consumers or by a particular subgroup of consumers.

2. *The motivation underlying the potentially unfavorable disclosure.* For example, consumers might assume that a marketer is required by federal and/or state regulations to reveal its brand's potentially undesirable attributes or shortcomings. On the other hand, consumers might assume that a marketer is revealing this information voluntarily.

3. *How counter-attitudinal or pro-attitudinal the message is overall.* For example, a message might attempt to persuade consumers that a very low share brand is superior to a high share brand, in which case it would be counter-attitudinal to most consumers.

Alternatively, a message might attempt to reinforce existing favorable attitudes towards a very high share brand, in which case it would be pro-attitudinal to most consumers.

4. *How highly correlated the potentially undesirable attribute is to another potentially desirable brand attribute featured in the message.* For example, the fact that a brand has more of a potentially undesirable attribute might cause consumers to infer that it has more of a desirable attribute as well. In contrast, a brand's rating on the potentially undesirable attribute might be perceived to be unrelated to its rating on another, more desirable attribute.

The next section of this paper will discuss empirical findings regarding how these four dimensions moderate the effectiveness of two-sided messages.

A REVIEW OF FINDINGS REGARDING TWO-SIDED MESSAGES

Based on a careful scrutiny of empirical findings on two-sided messages, the following propositions have been formulated:

Proposition 1. The effectiveness of a two-sided message is moderated by the perceived importance of the potentially unfavorable disclosure. If a two-sided message discloses that the promoted brand has a potentially undesirable attribute or shortcoming that is perceived to be important by consumers, the message and message source are perceived to be more truthful or credible (Settle and Golden 1974; Smith and Hunt 1978) for the following reason. Marketers who voluntarily disclose unfavorable information about their brands do not appear to be motivated by external pressures to sell their brands. Hence, consumers apparently infer that there is a relatively high degree of

correspondence between the statements made in these two-sided messages and the brands' actual merits (Smith and Hunt 1978; Stayman, Hoyer and Leon 1987; also see Correspondence Theory e.g. Jones and Davis 1965; and Attribution Theory e.g. Kelley 1973). In contrast, marketers who use one-sided messages appear to be motivated by external pressures to sell their brands. Hence, consumers apparently infer that there is less of a correspondence between the statements made in these one-sided messages and the brands' actual merits.

Nevertheless, a two-sided message which discloses that a brand has important shortcomings does not appear to be any more effective than a one-sided message at promoting favorable brand beliefs, attitudes, or purchase intentions (Belch 1981; Settle and Golden 1974; Stayman, Hoyer and Leon 1987). Rather, it appears that the benefits gained from using this type of two-sided message (namely, the enhanced credibility) are either *equal to* or *less than* the costs incurred (namely, that unfavorable information is promulgated about the promoted brand). For example, Stayman et al. (1987) determined that a two-sided message stating that an alarm clock scored poorly on styling--a *moderately important* attribute--was perceived to be significantly more trustworthy than a one-sided message. However, consumers exposed to this two-sided message were *no more* favorably disposed towards purchasing the alarm clock than consumers exposed to the one-sided message. Apparently, the gain in credibility was offset by the costs incurred. Correspondingly, Stayman et al. determined that a two-sided message stating that an alarm clock scored poorly on accuracy--a *very important* attribute--was perceived to be significantly more trustworthy than a one-sided message. However, consumers exposed to this two-sided message were *less* favorably disposed towards purchasing the alarm clock than consumers exposed to the one-sided message. Apparently, the costs incurred were greater than the benefits gained.

There is as yet no evidence that it is possible to reduce the costs of using a two-sided message (i.e., by reducing the importance of the disclaimer made) without simultaneously reducing the benefits gained (i.e., without simultaneously reducing the credibility of the overall message). For example, Stayman et al. (1987) determined that a two-sided message stating that a record store did not sell concert tickets--an *unimportant* attribute--was *not* perceived to be any more trustworthy than a one-sided message. As a result, consumers exposed to this two-sided message were no more favorably disposed towards shopping at the record store than consumers exposed to the one-sided message.

Nevertheless, it might be advantageous to make a disclosure which is perceived by the *target* consumers to be important to *some* consumers and yet not to *them*. Such a two-sided ad might be perceived as more credible, and yet not tarnish the brand's image in the eyes of the target consumers for whom the disclosure is relatively unimportant.

Hence, it might be fruitful for researchers to explore this issue in the future.

Proposition 2. The effectiveness of a two-sided message is moderated by the perceived motivation underlying the potentially unfavorable disclosure. A marketer's perceived motivation for using a two-sided message has never been explicitly identified as being an important moderating variable, but it would also appear to moderate the effectiveness of two-sided messages. If consumers perceive that a marketer is *required* to make a potentially unfavorable disclosure, or has some other ulterior motive for doing so, they are not likely to infer that the two-sided message is any more credible than a one-sided message. For example, since most consumers realize that the health warnings on cigarette ads are required, they do not infer that cigarette advertisers are more trustworthy or truthful than other advertisers. Hence, required disclosures of any type--to the extent that they are important--almost undoubtedly are detrimental to brand attitudes and sales, which is why such disclosures are vehemently opposed by most marketers.

Proposition 3. The effectiveness of a two-sided message is moderated by how counter-attitudinal or pro-attitudinal the message is overall. This particular proposition comes from the comparative advertising literature (e.g., Swinyard 1981). Comparative ads typically claim that very low share brands are superior to very high share brands. Since such comparative ads are highly counter-attitudinal (particularly to users of the very high share brands), they are perceived to be less credible and they elicit more counterarguing than noncomparative ads (e.g., Belch 1981). Hence, it has been suggested that comparative ads be worded as two-sided messages in order to enhance their perceived credibility and to reduce counterarguing.

Based on this same logic, it would appear that the more counter-attitudinal a message, the more likely it is to benefit from a two-sided format. However, as stated previously, there is as yet no evidence that a two-sided message can enhance the credibility of a message without simultaneously reducing its overall persuasiveness because of the negative disclosures that are made. Hence, it is unclear whether counter-attitudinal messages (including comparative ads) can benefit from being two-sided. Once again, further research is sorely needed.

Proposition 4. The effectiveness of a two-sided message is moderated by how highly correlated the potentially undesirable attribute is to another potentially desirable attribute featured in the message. The correlation between the attributes featured in two-sided messages never before has been identified as being important in moderating the effectiveness of two-sided messages. However, related empirical findings on consumer inferences suggest that the relative effectiveness of a two-sided message will be contingent on the inferences consumers make when a potentially undesirable attribute is highly correlated with another desirable

attribute featured in the message (e.g., Ford and Smith 1987). Consumers can make at least two types of relevant inferences, each of which will be discussed below.

First, consider a situation in which the promoted brand's *rating* on a *desirable* attribute featured in a two-sided message is *ambiguous*. When the brand is described in a two-sided message as having an *unfavorable rating on an attribute that is highly correlated with this desirable attribute*, consumers may infer that the brand has a *more favorable rating on this desirable attribute*. Hence, a two-sided message may promote more favorable brand beliefs, attitudes, and purchase intentions than a one-sided message. However, the two-sided message probably will not be perceived as any more trustworthy or credible than the one-sided message, particularly if consumers realize that the marketer had an ulterior motive for disclosing the potentially unfavorable information. Consumers are quite accustomed to marketers discounting their brands on relatively unimportant attributes so as to more effectively position their brands as being superior on more important, highly correlated attributes.

For example, most consumers have been exposed to two-sided ads acknowledging that Loreal hair color is more expensive than other competing brands. Furthermore, consumers probably realize that the marketer of Loreal has an ulterior motive for acknowledging that Loreal is more expensive--to more effectively position it as being a superior quality hair color. Hence, consumers probably do not infer that the two-sided Loreal ad is any more trustworthy or credible than the one-sided ads for competing brands of hair color.

Prior studies of two-sided messages often used messages in which the discounted attributes were highly correlated with the other featured attributes, although probably only inadvertently. For example, Etgar and Goodwin (1982) copytested a two-sided ad stating that the advertised brand of beer was a premium beer with a full bodied taste, but was more expensive and higher in calories. The one-sided ad portrayed the advertised brand favorably on all four dimensions. It was found that the two-sided ad was not perceived to be any more believable than the one-sided ad. However, the two-sided ad was more effective at persuading respondents that the advertised beer was of higher quality, and at enhancing purchase intentions of this beer. It appears that by describing the advertised beer as being inferior on two dimensions (that is, as being higher in calories and more expensive), the two-sided ad more effectively positioned it as being superior on other, highly correlated dimensions (that is, as being a premium beer with a full bodied taste). Since respondents in the study preferred a premium beer with a full bodied taste over a less expensive or lower calorie beer (according to pretest data), the two-sided ad thereby promoted more favorable brand beliefs and purchase intentions.

Similarly, Swinyard (1981) copytested a two-sided ad stating that the advertised grocery store charged lower prices but had fewer amenities, e.g.,

consumers had to bag their own groceries. The one-sided ad simply stated that the advertised grocery store charged lower prices. It was found that the two-sided ad was more effective at persuading respondents that the advertised store actually charged lower prices. It appears that by describing the advertised store as being inferior on one dimension (that is, as having fewer amenities), the two-sided ad more effectively positioned it as being superior on another, highly correlated dimension (that is, as having low prices). However, it appears that *in the aggregate*, the respondents in the study preferred a store with amenities and somewhat higher prices over a store without amenities albeit lower prices. Hence, the two-sided ad actually was *less* effective than the one-sided ad at persuading respondents *in the aggregate* to shop at the advertised store and redeem the store coupon they had been given. However, it is possible that the two-sided ad was *more* effective than the one-sided ad at persuading respondents in the store's *target market* (i.e. respondents who considered low prices to be more important than amenities) to shop at the advertised store. Unfortunately, the data only were analyzed at the aggregate level.

Many studies also have been conducted to determine what inferences consumers make when information about a brand is missing, and in several of these studies the missing attributes were highly correlated with the known attributes. Furthermore, these "missing information" studies are related to studies of two-sided messages, although they generally have not been perceived as such. The reason why these "missing information" studies are related is that *one-sided messages essentially are messages in which the (unfavorable) information provided in two-sided messages is "missing"*.

In one such "missing information" study, Meyer (1981) exposed respondents to a two-sided message stating that a pizza parlor charged low prices but had a plain decor. The one-sided message simply stated that the pizza parlor charged lower prices. Meyer essentially replicated Swinyard's key result: it was found that the two-sided message was more effective than the one-sided message at persuading respondents that the pizza parlor actually charged low prices. Furthermore, Meyer replicated these results using a non-price attribute. He also exposed respondents to a two-sided message stating that a pizza parlor had excellent (tasting) pizza but a plain decor. The one-sided message simply stated that the pizza parlor had excellent pizza. It was found that the two-sided message was more effective than the one-sided message at persuading respondents that the pizza parlor actually had excellent pizza.

Since the two-sided messages promoted more favorable brand attitudes than the one-sided messages, Meyer concluded that consumers replace missing information with discounted average values. However, an alternative or rival explanation for why the two-sided messages promoted more favorable brand attitudes is that respondents inferred that a pizza parlor with a plain decor was more likely to

charge lower prices and to have excellent pizza, i.e., respondents perceived these attributes to be highly correlated. Hence, research should be conducted to examine the validity of this rival explanation.

There is yet another reason why the correlation between the attributes featured in two-sided messages might moderate the effectiveness of two-sided messages. Consider a second type of situation in which the promoted brand's *rating* on a *desirable* attribute featured in a two-sided message is *known with some degree of certainty*. When the brand is described as having a favorable rating on this desirable attribute, *if this desirable attribute is highly correlated with another attribute*, consumers may infer that the brand has a *less favorable rating on the other attribute if exposed to a one-sided message than if exposed to a two-sided message*. Hence, once again, a two-sided message may promote more favorable brand beliefs, attitudes, and purchase intentions than a one-sided message. However, the two-sided message probably will not be perceived as any more trustworthy or credible than the one-sided message, particularly if consumers realize that the marketer had an ulterior motive for disclosing the potentially unfavorable information. Consumers are quite accustomed to marketers reassuring them that although their brands may have shortcomings, these shortcomings are lesser in magnitude than might be expected.

For example, most consumers have been exposed to two-sided ads for certain brands of luxury cars acknowledging that such cars are quite expensive, albeit less expensive than might be expected. Furthermore, consumers probably realize that the marketers of these cars have an ulterior motive for acknowledging how expensive their cars are--to insure that consumers will not infer that these luxury cars are even more expensive than they actually are. Hence, consumers probably do not infer that these two-sided car ads are any more trustworthy or credible than one-sided car ads.

As stated earlier, many studies have been conducted to determine what inferences consumers make when information about a brand is missing, and in many of these studies the missing attributes were highly correlated with the known attributes. Furthermore, these "missing information" studies are related to studies of two-sided messages, since one-sided messages essentially are messages in which the (unfavorable) information provided in two-sided messages is "missing".

In one such "missing information" study, Huber and McCann (1982) exposed respondents to a two-sided message stating that a beer was low in price but only of average quality. The one-sided message simply stated that the beer was low in price. It was found that the two-sided message was more effective at enhancing purchase intentions for the beer than the one-sided message. A post-hoc interpretation of Huber and McCann's results is that the two-sided message was more effective than the one-sided message for following reason. Since the one-sided message described the beer as having a favorable rating on price (e.g., as being low in

price), and since price generally is perceived to be highly correlated with quality, respondents exposed to the *one-sided* message may have inferred that the beer had an *unfavorable* rating on the *missing* attribute (e.g., that it was low in quality). Hence, respondents exposed to the *two-sided* message actually may have been *reassured* by it. Even though the two-sided message acknowledged that the beer was only of average quality, at least it reassured respondents that the beer was not of even lesser quality. If so, this may explain why respondents exposed to the two-sided message evaluated the beer more favorably than respondents exposed to the one-sided message. Hence, research also should be conducted to examine the validity of this post hoc explanation of Huber and McCann's results.

It should be noted that Huber and McCann's results appear to be quite robust. For example, a study by Johnson and Levin (1985) essentially replicated Huber and McCann's (1982) results using television sets rather than beer. In addition, a follow-up study by Lim, Olshavsky and Kim (1988) was able to replicate Huber and McCann's results using non-price attributes of cars, although only when respondents' inferences were prompted. Apparently, it was necessary for Lim et al. to prompt respondents to make inferences since the correlation between the attributes Lim et al. used (i.e., comfort and gas mileage) was lower and/or less salient than the correlations between the attributes used in the earlier two studies (i.e., price and quality).

IMPLICATIONS OF THIS REVIEW

Empirical and theoretical work on two-sided messages has focused almost exclusively on one key dimension along which two-sided messages differ: the relative importance of the shortcomings or unfavorable attributes that are disclosed. Based on the review presented in this paper, this variable does appear to moderate the effectiveness of two-sided messages. The more important the shortcoming that is disclosed, the *more trustworthy or credible the message and message's source are perceived to be--* assuming that the disclosure is perceived to be made voluntarily rather than solely to comply with regulatory statutes or for some other ulterior motive. However, the more important the shortcoming that is disclosed, the *less effective the message is at enhancing favorable brand attitudes, beliefs, and purchase intentions* precisely because increasingly unfavorable information is promulgated about the brand.

What this suggests is that two-sided messages are of limited value to marketers, even for enhancing the credibility of highly counter-attitudinal messages (such a comparative ads claiming that very low share brands are superior to leading brands). One possible way to use a two-sided message effectively is to disclose a shortcoming that consumers will perceive to be important to *some consumers* and yet not important to *them personally*, and to insure that consumers will perceive that this disclosure is being made voluntarily and with no ulterior motive.

However, the relative effectiveness of this type of two-sided message must still be empirically studied.

Furthermore, much more attention probably should be focused on yet another key dimension on which two-sided messages differ: the extent to which the unfavorable and favorable attributes are perceived to be correlated. Based on the review presented in this paper, this variable also appears to moderate the effectiveness of two-sided messages. In fact, based on a post-hoc analysis of prior studies pertaining to two-sided messages, it appears that the only types of two-sided messages that appear to be effective at enhancing brand beliefs, attitudes, and purchase intentions are those in which the potentially undesirable attributes are highly correlated with other desirable brand attributes featured in these messages.

Not surprisingly, these are the only types of two-sided messages that advertisers appear to be using at the present time. One two-sided message of this type that has recently been used in Southern California is an ad for a fast food restaurant chain called Carl's Junior. The ad acknowledges that Carl's Junior is not as fast as other fast food restaurants in order to persuade consumers that its food is fresher (because it is prepared when ordered rather than in advance). Yet another recent example is the ad for Frusen Gladje ice cream which acknowledges that Frusen Gladje is fattening in order to persuade consumers that it is very rich and delicious. Other recent examples of two-sided messages are the ads for luxury cars which acknowledge the cars' high prices in order to preclude consumers from inferring that the cars are even more expensive than they really are. Given that this particular type of two-sided message appears to be the most prevalent, it is somewhat surprising that this type of two-sided message never has been explicitly studied.

Unfortunately, the conclusions made in this paper regarding the relative effectiveness of two-sided messages with correlated attributes are tentative at best. These conclusions were based primarily on post hoc analyses of empirical studies of two-sided messages as well as somewhat related "missing information" studies. Hence, these tentative conclusions must be verified by conducting additional research. It is hoped that this review will stimulate additional research on the relative effectiveness of two-sided messages, particularly those in which the desirable and undesirable attributes featured in the messages are highly correlated.

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The Impact of Product-Related Announcements on Consumer Purchase Intentions

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ABSTRACT

This paper investigates the impact of brand, product, and industry announcements on consumers' intentions to purchase alternative brands of microcomputers. Results suggest that (1) negative announcements, in general, have a greater effect than positive announcements, (2) announcements regarding the entire industry tend to have a greater impact than announcements about a specific brand or set of brands, and (3) announcements are more likely to affect the evaluations of brands in the choice set than those of brands not in the choice set. Managerial implications of these results are discussed.

Product-related announcements are formal communications that provide new information to consumers about a product's availability, features, applications, defects, or its discontinuation. Such announcements may be created by design or accident, and are originated by competitors, regulatory agencies, consumer and environmental groups, and many times by manufacturers themselves. Both favorable and unfavorable in nature, product announcements may consist of (Mahajan, Muller and Kerin 1984):

- * Brand related information--such as the unintended acceleration problem with the Audi 5000 S (Manning 1987);
- * Product category related information--such as the finding that aspirin can reduce the risk of heart attack (Dallas Morning News 1988a);
- * Industry related information--such as the health and environmental effects of fluorocarbons in aerosol cans (Margolies 1976).

In many instances, product-related announcements are made or encouraged by a manufacturer as part of a marketing strategy to create a more conducive environment for the acceptance of its product in the marketplace (Wind and Mahajan 1987). For example, a manufacturer may announce a new product well before it is ready for sale, hoping to get customers to wait for this product rather than buy a competitor's product in the interim (Porter 1980, p.77; Brock 1975). On the other hand, a

competitor may announce a new technology-based product hoping to redefine the attributes that customers use to evaluate the various brands that are currently available (e.g., IBM's announcement of its Personal System 2 computers, Mitchell 1987, or NutraSweet's announcement of a new low-calorie, low-cholesterol substitute for cooking oil, Dallas Morning News 1988b). In that context, such announcements can serve as market signals to preempt other competitors from the marketplace (Porter 1980, p.76).

Little effort has been made to systematically examine the effects of product-related announcements on consumer purchase intentions. Through an understanding of this relationship, marketers can evaluate the usefulness of announcements as a strategic tool to influence consumer decisions. Eliashberg and Robertson (1988) report that a firm's expectations about consumer response to announcements are the main determinant of whether the firm will pre-announce new products. Furthermore, this information can be incorporated in consumer adoption and diffusion models to improve the prediction of consumer behavior (Midgley 1976; Mahajan, Muller, and Kerin 1984).

This paper attempts to empirically address a few basic questions about consumer response to product-related announcements. Do product-related announcements have an effect on consumers' brand purchase intentions? Does the size of this effect depend on the direction or breadth of the message? Do product-related announcements affect the evaluations of all available brands or just a select few? Are consumers more likely to change their evaluations of brands in their choice sets than those of brands that are not? The next section of the paper details the propositions associated with these questions. The study design and empirical results are then presented. The paper concludes with a discussion of the implications, limitations, and future directions of this research.

ANNOUNCEMENT CHARACTERISTICS AND CONSUMER RESPONSE

Marketing researchers have had a long tradition of examining the impact of information on consumer decision-making. Considerable research suggests that additional product information can change consumers' perceptions and evaluations of brands (e.g., Lutz 1975). By providing new information about one or a set of brands, product-related announcements would likewise be expected to affect consumers' brand perceptions and purchase intentions. Research by Farquhar and Pratkanis (1987) provides some support for this hypothesis,

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indicating that one type of announcement, the new product pre-announcement, can influence consumer choice behavior. It is therefore proposed that:

P1: Product-related announcements affect consumers' intentions to purchase the various brands of a product.

One dimension on which announcements differ is the favorability of the message with respect to the brand. Unfavorable product-related information appears to have a much stronger influence than favorable product-related information on consumer decision-making (Arndt 1967; Burzynski and Baker 1977; Lutz 1975; Mizerski 1982; Richins 1983; Weinberger 1986; Weinberger, Allen, and Dillon 1981; Wright 1974). Individuals pay more attention to negative information (Fiske 1980), find it less ambiguous (Wyer 1973), and are more likely to recall it (Carlston 1980). Weinberger, Allen, and Dillon (1981) demonstrated that the impact of negative information persists even after the information has been refuted.

Various explanations of this "negativity bias" have been offered (see discussions by Kanouse 1984, and Kanouse and Hanson 1972). Negative information may attract more attention and be processed more extensively because it is more novel and distinctive than positive information (Fiske 1980, Kanouse 1984). In addition, since most brands are described in positive terms, negative information may be more useful for discriminating between brands at the time of choice (Kanouse and Hanson 1972). This leads to the expectation that:

P2: Negative announcements have a greater effect than positive announcements on consumers' purchase intentions.

As noted earlier, announcements also differ in terms of the breadth of the communication. Announcements about individual brands (if believed) would be expected to change consumers' brand perceptions, whereas industry announcements are more likely to change consumers' perceptions of the product category, redefining the criteria used to evaluate an entire set of brands. If industry announcements affect how consumers frame the choice decision then one would predict:

P3: Industry-level announcements have a greater effect than brand or product category announcements on consumers' intentions to purchase various brands.

Research by Biehal and Chakravarti (1982), Johnson and Russo (1978), and Tversky (1972) indicates that information is processed more extensively for chosen than for unchosen alternatives. Raj (1982) reports that increased brand advertising has a greater impact on brand loyal consumers than brand switching customers. Similarly, Petty and Cacioppo (1979) report that individuals who are highly involved in a decision

are more likely to process relevant message arguments. This suggests that consumers will be most likely to consider the implications of product-related announcements for brands that they are actively considering purchasing. It is therefore proposed that:

P4: Product-related announcements have a greater effect on the purchase intentions of brands in the choice set than on the purchase intentions of brands not in the choice set.

Finally, one would expect that when the focus of an announcement is selective, so would be its effects on purchase intentions. An announcement is expected to have the greatest impact on consumers' evaluation of its referent, although it may have a residual influence on the evaluations of other brands in the product class.

P5: Announcements have a greater effect on consumers' intentions to purchase brands and products directly referenced in the communication.

METHODOLOGY

A study was conducted to examine the effects of various types of product-related announcements on consumer purchase intentions for microcomputers. Given the competition for technological advancements and the fight for market share, manufacturers of microcomputers have been known to make announcements in order to influence consumer purchase decisions (see, e.g., Brock 1975; Mitchell 1987).

First-year MBA students enrolled in a core marketing management course at a major business school participated in the study. Before entering the MBA program, these students were required by the school to either purchase or lease an IBM-compatible computer system. Students also received computer literature from school administrators concerning various equipment options.

The volunteers from the course were asked to complete a questionnaire, requiring 30-45 minutes of their time, concerning their buying preferences for microcomputers. The questionnaire consisted of four major sections. The first section sought information on their current microcomputer equipment and usage. The second section asked for their assessment of the relative importance of the various microcomputer features. The third section was a conjoint task where they were asked to provide intention-to-buy ratings for eighteen hypothetical microcomputers in view of six different announcements. The orderings of brand profiles and announcements were randomized. The final section measured their prior familiarity with these announcements and requested some background information. Prior to its final administration, the questionnaire was given to 10 first-year MBA students to evaluate levels of comprehension and fatigue.

Respondents were screened in terms of having some familiarity with microcomputers. Students who completed the questionnaires were entered into a lottery for \$400 worth of computer software. Thirty students provided completed questionnaires. All of the students reported having used a microcomputer for job-, home-, or school-related activities within the past year. Twenty-three individuals (77% of the sample) reported that they currently owned microcomputers. The remaining 7 subjects stated that they planned to purchase or lease a computer during the academic year. Those persons who currently owned computers reported spending an average of 7.8 hours per week using this equipment.

The eighteen hypothetical brand profiles included in the third section of the questionnaire were based on seven major factors (product features) and their associated levels (listed in Table 3). The selection of these factors was done after consulting several knowledgeable MBA students and the school administrators who were directly responsible for recommending the various equipment configurations to the students. The selected levels for the various factors and their combinations were also checked with suppliers for their feasibility. The seven factors were combined into a 3^7 fractional factorial design (cf. Addelman 1962), resulting in 18 brand profiles. A fractional factorial design was used in order to reduce the number of profiles presented to a single respondent. As is common in most conjoint studies (see Cattin and Wittink 1986), interactions between brand attributes were assumed to be nonsignificant. However, the design does allow the estimation of interactions between the announcement manipulation and brand attribute factors.

Respondents were initially asked to report their likelihood of purchasing each of 18 microcomputers on a 5-point rating scale, with 1 indicating "definitely would not purchase" and 5 indicating "definitely would purchase." After completing this task, they were given six randomly-ordered product-related announcements, one at a time, and asked to provide new ratings of the same 18 profiles in view of the information conveyed by each announcement (see Table 1). While evaluating the 18 profiles for each announcement, subjects were asked to ignore any previous announcement(s) given to them. They were told that university officials were the source of these announcements.

The six announcements used in the study were taken from the actual evolution of the microcomputer industry. At the time of the study (Fall 1986), this information was relatively new and unfamiliar. The announcements were planned according to a 2×3 design where announcements were developed to convey positive or negative information about a specific brand, the product category, or the entire industry. In order to establish the perceived direction (positive or negative) and referent (brand, product, or industry) of the six announcements and to assess the announcements' effects on purchase intentions, the announcements were pretested with a group of MBA

students and industry experts. Students' prior awareness of each announcement was also measured. The pretest results confirmed the intended perception of the six announcements.

RESULTS

Overall Announcement Effects

Table 2 presents (a) means and standard deviations of subjects' purchase intentions across all brand profiles for the various types of announcements and (b) ANOVA results testing the overall effect of announcements on subjects' purchase intentions for the 18 brand profiles. The main effect of product announcement was highly significant, $p < 0.0001$. Mean purchase intentions ranged from 1.94 in the negative industry announcement condition to 2.35 in the positive product announcement condition (Table 2a). These results suggest that consumers' intentions to purchase any of the available brands of a product can be influenced by product-related announcements, supporting Proposition 1.

Direction of the Announcement

As summarized in Table 2a, relative to the no-announcement control condition, the negative announcements produced an overall downward change in evaluations of 0.21 while the positive announcements produced an upward change of only 0.06. The difference in the size of these effects is significant, $F(1,29) = 4.54$, $p < 0.05$. Individually and as a group, the brand profiles in the negative announcement conditions were rated significantly lower ($\bar{x} = 2.12$, 2.10, and 1.94, for the negative brand, product, and industry announcements, respectively) than those in the no-announcement control condition ($\bar{x} = 2.26$), $F(1,174) = 19.62$, $p < 0.0001$. On the other hand, although the mean purchase intentions in the three positive announcement conditions were higher ($\bar{x} = 2.32$, 2.35, and 2.30 for the positive brand, product, and industry announcements, respectively) than the no-announcement control condition, these differences were not significant, $F(1,174) = 1.77$, $p > 0.10$.

These results indicate that the negative product-related announcements have a greater effect than positive announcements on overall brand evaluations. This finding supports Proposition 2, and is consistent with past research showing that negative information has a greater impact on judgment than positive information.

Breadth of the Announcement

Table 2a reports the overall mean change from the no-announcement condition for the brand, product and industry announcements. The size of the announcement effect did not differ significantly across the three announcement types ($\Delta\bar{x} = 0.10$, 0.12, and 0.18, for the brand, product, and industry announcements, respectively), $F(2,58) = 1.81$, $p > 0.10$. However, there was a significant interaction between the type of announcement and its direction, $F(2,58) = 4.76$, $p < 0.02$. In the negative

TABLE 1
MICROCOMPUTER ANNOUNCEMENTS

Announcement	Referent	Direction
1. None	-	-
2. The IBM AT 20 MB hard disk is prone to "head crashes" resulting in the loss of all data and requiring the replacement of the hard disk drive. This is due to a problem with the design of the IBM hard disk controller card.	brand	negative
3. Compaq's 80286-based AT computer with 20 MB hard disk runs at least 2 MHZ (approximately 25 percent) faster than any other competitive brand.	brand	positive
4. The basic PC (base model of <i>all</i> brands) is being discontinued by suppliers. This model will continue to be sold until existing supplies are exhausted.	product	negative
5. Accelerator cards using the 80286 processor are now available for most brands of PC's and XT's. This accessory increases the speed of the computer to the performance of an AT.	product	positive
6. Intel's 80386 micro-processor will be available in the fourth quarter of 1986. This new CPU will allow multitasking in a new generation of microcomputers likely to run 2-3 times faster than the present AT's. New software developed for this environment is unlikely to run on existing 8088, 8086, and 80286 based computers such as various brands of PC's, XT's, and AT's.	industry	negative
7. The three major producers of statistical software for main-frame computers have announced microcomputer versions of their products, including advanced graphics capability and LOTUS 1-2-3 interfacing.	industry	positive

announcement conditions, the effect size depended on the focus of the announcement ($p < 0.03$), with the industry-level announcement producing greater change ($\Delta\bar{x} = 0.32$) than either the brand or product-level announcements ($\Delta\bar{x} = 0.14$ and 0.16 , respectively; $p < 0.05$). This was not the case in the positive announcement conditions ($p > 0.10$).

When compared to the no-announcement control condition, the product and industry announcement effects were both significant ($p < 0.05$). The brand announcement had only a marginally significant overall effect ($p < 0.10$). These results are consistent with Proposition 3, and suggest that product-related announcements that

TABLE 2
EFFECTS OF PRODUCT-RELATED ANNOUNCEMENTS ON CONSUMERS' BRAND
PURCHASE INTENTIONS

(a) Means and standard deviations (in parentheses) of purchase intentions.

Direction of announcement	Referent of announcement				Mean change from no-announcement conditions
	brand	product	industry	overall	
negative	2.12* (1.23)	2.10* (1.29)	1.94* (1.22)	2.05*	0.21*
positive	2.32 (1.32)	2.35 (1.32)	2.30 (1.29)	2.32	0.06
no-announcement				2.26 (1.29)	
Mean change from no-announcement conditions**	0.10	0.12*	0.18*		

(b) ANOVA results.

Source	df	SS	MS	F	p
Announcement (A)	6	74.01	12.34	13.57	0.0001
Error w1	174	158.22	0.91		
Profile (P)	17	2199.71	129.39	27.62	0.0001
Error w2	493	2309.68	4.68		
A x P	102	217.74	2.13	10.35	0.0001
Error w3	2958	610.31	0.21		
Error b	29	677.12	23.34		

*Indicates values that are significantly different from the no-announcement condition at $p < 0.05$.

**The change scores in the negative announcement conditions are reverse-scored to indicate the size rather than the direction of effects.

relate to the entire industry tend to impact consumer purchase intentions more than the announcements that relate to a specific brand or a set of brands.

Announcement Effects On Choice-Set Brands

Given the 5-point rating scale, brand profiles rated as 4 or 5 in the no-announcement condition were considered to define the relevant choice set for each respondent (see Urban and Hauser 1980, Chapter 11). The overall mean change in brand

purchase intentions was modeled as a function of announcement type and profile grouping using ANOVA. The interaction between the type of announcement and profile grouping was highly significant, $F(6,174) = 6.05$, $p < 0.0001$. While the simple main effects of announcement were significant for both the choice-set and non-choice-set profile evaluations ($p < 0.01$), the pattern of effects for each group was different.

Profiles in the choice set were significantly affected by each of the three negative

TABLE 3
EFFECTS OF PRODUCT-RELATED ANNOUNCEMENTS ON BRAND ATTRIBUTE EVALUATIONS

	Announcement					
	Brand negative	Brand positive	Product negative	Product positive	Industry negative	Industry positive
Manufacturer:						
IBM	-0.59		-0.25		-0.42	
Compaq		+0.22	-0.23		-0.28	
AT&T					-0.28	
Model:						
PC			-0.51	+0.26	-0.30	
XT					-0.30	
AT	-0.42				-0.38	
RAM-memory:						
256 KB				+0.17	-0.27	
512 KB	-0.50		-0.26		-0.41	
1024 KB					-0.29	
Hard-disk:						
0 MB					-0.20	
10 MB			-0.33		-0.37	
20 MB	-0.46				-0.41	
Monitor:						
Monochrome					-0.34	
Color			-0.23		-0.29	
Enhanced	-0.38				-0.34	
Warranty:						
3 month	-0.35				-0.31	
6 month					-0.28	
12 month			-0.33		-0.39	
Price:						
\$3,000	-0.34		-0.36		-0.50	
\$4,500			-0.17		-0.29	
\$6,000					-0.19	

NOTE: Reported values are those differences that are significant at $p < 0.05$.

announcements ($\Delta\bar{x} = -0.80, -0.58, \text{ and } -0.82$ for the negative brand, product, and industry announcements, respectively), while the remaining profiles were only affected by the negative industry announcement ($\Delta\bar{x} = -0.20$). The announcements produced considerably more absolute change in the evaluations for profiles in the choice set ($|\Delta\bar{x}| = 0.50$) than for those that were not ($|\Delta\bar{x}| = 0.17$), $F(1,29) = 24.68, p < 0.0001$. These results indicate that product-related announcements are more likely to affect consumer purchase intentions for the brands that are included in the choice set than for brands

that are not included in the choice set, as predicted by Proposition 4.

Selective Effects on Brand-Attribute Evaluations

Although the negative announcements generally tended to decrease ratings and the positive announcements generally tended to increase ratings, the effect of these announcements was very selective. The industry negative announcement (availability of Intel's 80386 micro-processor) influenced most of the brand profiles, but the effect of other announcements varied from two brand

profiles (brand positive) to four brand profiles (product negative). The selective nature of the announcement effect is supported by a significant interaction between the type of announcement and brand profile, $F(102,2958) = 10.35, p < 0.0001$. When the ratings of the brand profiles were decomposed into the evaluations of the seven brand attributes, each attribute entered into a significant interaction with the product-related announcement variable ($p < 0.0001$). The significant differences in the purchase intentions between the no-announcement control condition and the six other announcement conditions are reported in Table 3. For all of the reported pairwise contrasts, significance tests are adjusted to maintain the overall Type I error rate (Dunn 1961).

The brand-negative announcement (IBM PC/AT 20 MB hard disk crash) led respondents to decrease their evaluations of the IBM brand, the AT model, and the 20 MB hard disk. Subjects also negatively evaluated the short (3 month) warranty, the 512 KB RAM-memory, the enhanced color monitor, and the \$3,000 price. While the latter effects were not expected, they are not surprising since this particular combination of attributes was associated with the profile describing the IBM PC/AT with the 20 MB hard disk.

The product-negative announcement (PC model discontinued) caused subjects to lower their evaluations of the PC model, as well as their ratings of the IBM and Compaq brands. As with the brand-negative announcement, the product-negative announcement had a number of additional, unexpected effects on subjects' evaluations of product attributes. Once again, the combination of attributes was associated with a single brand profile which was strongly negatively evaluated.

The industry-negative announcement (Intel 80386 processor forthcoming) had a widespread negative effect on subjects' interest in purchasing any of the described brands. Consequently, each level of each attribute was rated significantly lower than in the no-announcement control condition.

As noted earlier, the positive announcements had much less of an impact on rated purchase likelihood than did the negative announcements, although a number of the effects on individual attributes were significant. The brand-positive announcement (Compaq speed enhancement) had the expected positive effect on the evaluation of the Compaq brand. The product-positive announcement (80286 accelerator board) increased the evaluation of the PC model, as expected, and also raised the evaluation of the 256 RAM-memory attribute. The industry-positive announcement (statistical package availability) had no effect on the evaluations of any of the microcomputer attributes. In general, these results support the prediction that announcements have the greatest effect on brands and products directly referenced in the communication (Proposition 5).

DISCUSSION

This research examined the impact of product-related announcements on consumers' purchase intentions for the various brands of a product. In the battle for market share, the key question is, "Can product-related announcements shift the balance of market share equilibrium? Can product-related announcements be used as a strategic tool to influence consumers' purchase intentions for the brands of a product?"

The reported results indicate that product-related announcements can be used to influence consumer behavior. The analyses further suggest that, by means of an announcement, a competitor can affect intentions to purchase a brand or a set of brands if that brand or brands are included in the consumer's choice set. Furthermore, since product-related announcements can influence certain brands more than others, they can be designed to woo customers from competitors in order to command a competitive advantage in the marketplace.

The results are also consistent with the considerable literature indicating that people tend to weight negative information more heavily than positive information in product judgments. Consumers may find negative announcements to be more novel, distinctive, and interesting than the positive information (cf. Fiske 1980, Kanouse 1984). As a result, they may pay more attention to negative announcements, using them to screen out undesirable alternatives.

Limitations

The six announcements used in this study reflect actual developments in the microcomputer industry. While this increased the external validity of the study, it may have reduced the study's internal validity. As noted earlier, a pretest was conducted with both MBA students and industry experts to establish the perceived direction and referent of the announcements. However, the announcements may have differed in strength. As a consequence, the negative and industry announcements may have produced greater effects than the positive and brand announcements because they represented more significant developments in the microcomputer industry. The present findings should therefore be replicated with a broader range of announcements, pretested and selected to be of equivalent strength. Another valuable extension would be to independently manipulate the reference object and content of the announcement, so that the separate effects of these factors can be estimated. To avoid possible carryover effects across announcements, future research should insert a distractor task between the sequence of announcements/ratings, or use a between-subjects design.

A second limitation regards the short time interval between consumers' exposure to announcements and their brand judgments. Although the results suggest that purchase intentions can be influenced by means of product-related announcements, from the competitive strategy point of view, the question is can this influence be

sustained? How does the length of effect vary by the nature of the product-related announcement defined both in terms of its direction and its referent?

A third consideration is the study's sample of MBA students. Considerable effort was made to ensure that the selected product was relevant for the sample and that the sample size was sufficient to detect the effects of the within-subject manipulations (Ferber 1977). A controlled laboratory experiment with a relatively homogeneous sample is appropriate for the evaluation of the five theoretical propositions (Calder, Phillips, and Tybout 1981). However, a field experiment with a larger, representative sample would be necessary to generalize the descriptive results on brand purchase intentions, attribute importance, and the absolute size of the announcement effects.

Future Directions

The reported study presents several opportunities for future research. This paper has examined the effects of various types of product-related announcements on consumer behavior. The source of the announcements, company reactions, and audience characteristics were not manipulated. Yet, prior research indicates that these factors may moderate the announcement effects.

The communication literature suggests that the message source will interact with message content to determine the overall impact of an announcement (cf. Eagly, Wood, and Chaiken 1978, Mizerski 1982). Spence (1974) contends that large selling organizations will acquire and maintain reputations for the accuracy of their product-related announcements. By correctly signaling forthcoming events, firms can establish high signaling credibility and thereby enhance their future abilities to communicate to and influence consumers and competitors. Conversely, manufacturers can hurt their reputations by communicating false signals. For example, some software manufacturers are noted for missing deadlines and have developed reputations for marketing "vaporware." Signaling reputations are less likely to be a factor when there are a large number of signalers and any one will not be on the market for a long period (Spence 1974, p.107).

The receiver's interpretation of and response to the announcement may also depend on the accounts or explanations offered by the firm. Some announcements put the firm in a predicament because they are embarrassing, undesirable, illegal, antisocial, or disruptive. Accounting is the firm's attempt to describe or interpret the product announcement and its consequences in desirable terms (cf. Schlenker 1978). Schlenker (1978) discusses two types of accounts: excuses and justifications. "Successful excuses allow one to escape from the predicament by minimizing personal responsibility, while successful justifications allow one to escape by minimizing the aversive consequences" (Schlenker 1978).

Likewise, if the announcement reflects positively on a firm, the firm may attempt to

increase its association with or responsibility for the announcement through acclaiming (cf. Schlenker and Schlenker 1975). Two common acclaiming tactics are "entitling," where the company attempts to increase consumers' perceptions of its responsibility for the desirable action or its consequences, and "enhancements," which involve attempts to increase the apparent positivity of the action's consequences (Schlenker 1978). These responses may increase consumers' favorability towards the firm's brands.

Finally, consumer response to product-related announcements is likely to depend on consumers' past experiences and beliefs. The higher the discrepancy between the product announcement and the receiver's prior beliefs and the higher the level of product involvement, the greater the likelihood of message rejection (Sherif and Sherif 1967). As noted earlier, consumers learn and revise their beliefs through feedback on the accuracy of market signals (Spence 1974). This will affect their future responses to product announcements.

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Consumer Expertise and the Feature-Positive Effect: Implications for Judgment and Inference

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ABSTRACT

Several recent experiments have shown that people tend to overlook nonoccurrences and missing information ("out of sight, out of mind") even when such nonevents have important implications for judgment and choice. This phenomenon is known as the feature-positive effect. The present experiment indicates that consumers are more likely to overlook missing attribute information as expertise decreases. Implications of the results for consumer judgment and inference are discussed.

THE FEATURE-POSITIVE EFFECT

Time constraints and limited resources often force consumers to make product-related judgments and decisions on the basis of incomplete information. Moreover, advertisements, package labels, consumer magazines, and other sources of information typically focus on only a few product attributes. How do consumers deal with partial information? Some studies suggest that consumers form inferences about unmentioned attributes and that these inferences are integrated with judgments of known attributes to arrive at an overall evaluation (Ford and Smith, 1987; Huber and McCann 1982; Johnson and Levin 1985; Meyer 1981), whereas other studies imply that consumers fail to form inferences about unmentioned attributes (Lim, Olshavsky, and Kim 1988). The present experiment focuses on the ability of consumers to detect the absence of information about product attributes. Logically, consumers must first realize that information about an important attribute is missing before they can infer a value for that attribute.

When is missing information overlooked? Jenkins and Sainsbury (1969, 1970) found that discrimination learning in pigeons occurs much faster in the presence than in the absence of a predictive cue, even when the absence of the cue is as informative as its presence. They labeled this phenomenon the *feature-positive effect*. Newman, Wolff, and Hearst (1980) demonstrated that this effect generalizes to people. In this study subjects were shown a series of cards containing two three-letter strings, a target string and a distractor. In feature-negative conditions, the critical feature was the absence of the letter "T." Performance feedback was presented after each trial, and, as anticipated, the problem was solved in fewer trials in feature-positive than in feature-negative conditions.

Research in areas other than discrimination learning also suggests that people experience difficulty in processing nonoccurrences. For example, when attitudes are weak or nonexistent, people use their own overt behaviors to draw inferences about their attitudes (Bem 1972).

However, nonbehaviors (e.g., not laughing at a cartoon) tend to be overlooked (Fazio, Sherman, and Herr 1982; Allison and Messick 1988). Furthermore, in hypothesis testing, people tend to test cases that are expected to possess the property of interest (the *positive test strategy*) rather than on cases that are expected to lack the property (Klayman and Ha 1987). In covariation judgments, people focus on cases where the expected cause and the expected effect are both present (the *positive-positive cell*) rather than on cases where one or both events are absent (Bettman, John, and Scott 1986; John, Scott, and Bettman 1986). Finally, production and R&D departments often use checklists or fault trees to troubleshoot a system. Items that are not on the list, however, tend to be overlooked (Fischhoff, Slovic, and Lichtenstein 1978; Hirt and Castellan 1988).

THE ROLE OF EXPERTISE

When are consumers unlikely to overlook missing information? One factor that is likely to influence sensitivity to omissions is expertise. In their comprehensive review, Alba and Hutchinson (1987) defined expertise as "the ability to perform product-related tasks successfully" (p. 411) and they discussed how experts and novices differ on five important epistemological dimensions: cognitive effort, cognitive structure, analysis, elaboration, and memory. Analysis, or the extent to which attention is directed towards all and only important information, is particularly relevant to the present study. If sensitivity to important information increases as expertise increases (Brucks 1985; Furse, Punj, and Stewart 1984; Johnson and Russo 1984), then sensitivity to omitted important information should also increase with expertise.

THE PRESENT STUDY

Subjects received an incomplete description of a fictitious ten-speed bicycle. Information about two important attributes, the weight of the bicycle and the strength of the frame, was deliberately omitted. Following Sujan (1985), a subjective measure and a ten-item multiple-choice questionnaire was developed to assess expertise about bicycles. Subjects were divided into low, moderate, and high expertise groups on the basis of their scores on these measures. In addition, half of the subjects received a prompt to consider the weight of the bicycle and frame strength when evaluating the bicycle and half received no such prompt.

Evaluative judgments and confidence judgments served as the primary dependent measures. It was reasoned that if subjects spontaneously detected the absence of information about weight and

frame strength that the prompt manipulation would have no effect on these judgments. Thus, if experts have a greater ability to recognize the absence of important attribute information, their product evaluations and their confidence ratings should not differ as a function of the prompt manipulation. Moreover, because of the uncertainty generated by the lack of information about these important attributes, experts should exhibit less extreme evaluations and lower confidence ratings, relative to less expert subjects.

The prompt manipulation should have a strong impact on the judgments of moderately knowledgeable subjects. If these subjects are insensitive to important omissions, incomplete information would seem relatively complete. When people treat incomplete information as if it were complete, they are likely to form polarized evaluations and they are likely to hold these extreme judgments with a high degree of confidence. By contrast, when a prompt forces them to consider information that otherwise would have been overlooked, less extreme and less confidently-held judgments should be formed.

Finally, novices are less able to identify and use important information (Alba and Hutchinson 1987). Thus, even if a cue highlighting the absence of important information is presented, they are unlikely to see the evaluative implications of this cue. Hence, the prompt manipulation should not influence the judgments of novices. Relatively extreme and confidently-held judgments should be formed whether or not the prompt is presented.

METHOD

Procedure

One hundred thirty-one male undergraduates were asked to participate in a study concerning how people evaluate products. They were asked to read a description of a ten-speed bicycle (Brand A) that was based on a "study conducted by a popular magazine for bicycle enthusiasts." They were given two minutes to read the description and were instructed to form an impression of the bicycle. Afterwards, the description was taken away and a questionnaire was administered.

Stimuli and Measures

The description of the Brand A ten-speed bicycle contained information pertaining to six important product attributes: braking, shifting, cornering, wheels, styling, and comfort. Information about two important attributes, the weight of the bicycle and the strength of the frame, was omitted. The presented attributes were described very favorably and care was taken to present attributes that were subjectively unrelated to the other presented attributes and to the unmentioned attributes. All subjects received the exact same product description.

Product evaluations were measured on three nine-point semantic differential scales anchored at -4 and +4, with endpoints labeled bad/good,

unsatisfactory/satisfactory, and unfavorable/favorable. These ratings were averaged to form a single product evaluation index. Subjects indicated their confidence in their evaluations on a scale ranging from 1 (Not at all confident) to 9 (Highly confident).

RESULTS

Product Evaluations

Alerting subjects to the fact that important attribute information is missing should affect their evaluations only if they failed to detect the absence of this information spontaneously, and if they are knowledgeable enough to understand the implications of the missing attributes. Thus, prompting should influence only moderately knowledgeable subjects. As predicted, moderately expert subjects formed more favorable evaluations in no prompt than in prompt conditions. In contrast, prompting did not influence the evaluations of low or high expertise subjects.

Confidence Judgments

It was predicted that the prompt manipulation would influence confidence judgments as well as evaluations. Again, prompting should influence only moderately knowledgeable subjects. Consistent with this prediction, moderately knowledgeable subjects had greater confidence in their evaluations in no prompt than in prompt conditions. In contrast, prompting did not influence the confidence judgments of low or high expertise subjects. Hence, considered together, the product evaluation and confidence judgment data indicate that experts are sensitive to omissions, whereas less knowledgeable individuals overlook important missing information.

DISCUSSION

The ability to recognize the absence of important attribute information plays a key role in consumer judgment and inference. In the present study, novices and even moderately knowledgeable individuals consistently overlooked important omitted information. When important information is overlooked, extreme, confidently-held judgments are formed. Experts, on the other hand, spontaneously detect the absence of important information and form more moderate judgments.

Research in several paradigms has shown that people often overlook missing information. These paradigms include discrimination learning (Jenkins and Sainsbury 1969, 1970), concept identification (Newman et al. 1980), self-perception (Fazio et al. 1982), false consensus (Allison and Messick 1988), hypothesis testing (Klayman and Ha 1987), covariation assessment (Bettman et al. 1986, John et al. 1986), and problem solving (Fischhoff et al. 1978, Hirt and Castellan 1988).

The results of the present study suggest that expertise should moderate sensitivity to omissions within each of these paradigms. This proposition should be tested directly because other moderating

variables are also likely to be implicated. For example, some product attributes may be too important to be overlooked (e.g., price). Further, more extensive analytic processing is likely as time pressures decrease and as concern about the consequences of inferential errors increases (Kruglanski 1989, Kruglanski and Freund 1983).

Overconfidence

People are frequently overconfident about the validity of their judgments (Einhorn and Hogarth 1978; Fischhoff and Beyth-Marom 1983; Lichtenstein, Fischhoff, and Phillips 1982). Several explanations for overconfidence have been offered, including (a) people often receive incomplete feedback about the consequences of their decisions (e.g., after purchasing one brand from a set of alternatives, little is known about the performance of alternatives not chosen), (b) people tend to seek information that confirm their expectations, (c) confirmatory evidence is more accessible from memory, and (d) judgments influence and are influenced by outcomes (e.g., self-fulfilling prophecy). However, consumers are often unaware of the reciprocal relation between judgments and outcomes. Finally, our results suggest (e) that insensitivity to missing information leads consumers to treat incomplete information as if it were complete. When consumers believe they know more than they actually do, overconfidence results.

Inference Formation

The results of the present study also have implications for an apparent inconsistency in the consumer inference literature. Huber and McCann (1982) found that when explicitly presented attributes are subjectively related to omitted attributes, consumers spontaneously form inferences about omitted attributes. However, Lim et al. (1988) recently failed to replicate Huber and McCann's results. Lim et al. found that inferences were formed when consumers were explicitly asked to do so, but no evidence for spontaneous inference formation was found. The present results indicate that consumers are more likely to notice omissions as expertise increases. Because consumers must first detect omissions before they can draw inferences about these omissions, the likelihood of spontaneous inference formation should increase as expertise increases. If Huber and McCann's student subjects were more knowledgeable about their target product (beer) than Lim's et al. were about theirs (automobiles), spontaneous inference formation would be more likely in the Huber and McCann study.

To summarize, the results of the present study indicate that the ability to detect the absence of important information increases as expertise increases. Consumers who are sensitive to omissions form less extreme judgments and are less likely to exhibit overconfidence. Furthermore, the ability to detect and identify missing information is likely to serve as an important precondition for

spontaneous inference formation. Consumers must notice the gaps before they can fill them.

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The Effects of Expertise on Preference and Typicality in Investment Decision Making

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ABSTRACT

Preference is positively correlated with typicality in many product categories. As expertise increases, however, preference and typicality may change as well as the relationship between them. In this study of investment decision making, the strength of the correlation between preference and typicality decreased as subjects' expertise increased. In addition their ratings of preference and typicality differed by level of expertise. Two approaches were used to measure expertise--one cognitive measure and one experiential. This article presents an explanation of the results and a discussion of their implications.

INTRODUCTION

Alba and Hutchinson (1987) have hypothesized that, "Brand choices are less influenced by prototypicality for experts than for novices, except when prototypicality or atypicality is valued for its own sake (p. 418, hypothesis 2.9)." They suggest that as consumers gain experience the relationship between product preferences and product typicality changes. Novices' choices may be based upon whether a product is a good example of its product category while experts discriminate between products on more functional attributes.

This research builds upon two major areas in cognitive psychology that relate to decision making. The first pertains to typicality--how well an object represents its cognitive category (Rosch 1975, 1983). The second area concerns the effects of expertise. Experts think differently not only because they know more, but also because they organize and use their knowledge better (Chi 1983).

After reviewing the relevant literature, three hypotheses are proposed. An exploratory study is used to examine these hypotheses. The remainder of this article describes its results and discusses the implications, limitations, and goals for future research.

Typicality and Preference

Categorization is the process of forming classifications by which nonidentical stimuli can be treated as equivalent (Rosch and Mervis 1975). According to Rosch, objects in the same cognitive category may differ in terms of typicality (or prototypicality), meaning that some objects represent the grouping better than others. Objects in a category lie on a gradient of typicality, ranging from extremely good examples to very poor examples of the category (Barsalou 1985). Prototypical members of a category serve as reference points to which other category members can be compared (Rosch 1975, 1983) and prototypes are usually learned first (Mervis and Rosch 1981). Differences in typicality have been noted in both

natural object categories, such as fruit (Rosch and Mervis 1975), and product categories, such as snack food (Ward and Loken 1986). A competing but similar theory of categorization argues that category membership is based upon comparison to specific, retrieved instances, or exemplars, rather than abstracted prototypes (Medin 1983).

Typicality can be an important factor in product preference and choice. Nedungadi and Hutchinson (1985) asked students to rate the prototypicality of several magazines and beverages, then rate how much they liked each product. After aggregating the responses across all subjects, they found a strong positive relationship ($r > .60$) between liking and prototypicality. Loken and Ward (1987) also obtained a high positive correlation ($r = .88$) between typicality ratings and attitudes toward brands of shampoo. These results are in contrast to Rosch (1973) who found a weak relationship in natural object categories. One explanation for these differences could be that consumers construct product categories "ad hoc" in order to satisfy the goal of evaluating and purchasing a product (Barsalou 1983). Thus, affect may play a much more important role in structuring functional, product categories than natural object categories used in much of the original categorization research (Cohen 1982). Natural categories structure our perceptual experience without regard to preferences.

Effects of Expertise on Preference and Typicality

The second theoretical underpinning for this research concerns expertise. After extensive research (see Alba and Hutchinson 1987), it appears that experts organize their knowledge hierarchically by purpose as compared to novices who organize data linearly in discrete bits by attributes. Expert and novices appear to use the same types of problem solving heuristics and search methods (Chi 1983). Instead, expert performance is due to organizing their knowledge on the basis of domain relevant functionality. Novices, on the other hand, tend to organize their knowledge about a domain at a perceptual level.

As the organization of knowledge changes with increasing expertise, the relative typicality of products as well as the use of typicality in decision making may also change. Prototypical objects are learned first, but the level of perceived prototypicality for an object differs by an individual's level of familiarity with the domain (Hermann and Kay 1977). One experiment (Murphy and Wright 1984) found that as people know more about an area (in this case psychiatric diagnosis), the simple, black and white distinctions and definitions blur into fuzzier, generalities. Framed in terms of typicality, the experts based their decisions

upon factors other than stereotyped, prototypical knowledge.

Also as expertise increases, experts not only know more products they know more about efficiently and effectively choosing products. Bettman and Park (1980), for example, found that novice microwave buyers based their decisions on a brand they "had heard of," rather than evaluating brands on their attributes. Preference depended solely upon availability in memory. Novices represent objects at a superficial level as compared to a deeper structure level (Chi 1983). As noted by Alba and Hutchinson (1987), mere familiarity, the number of experiences accumulated by a consumer, is not the same as expertise, the successful performance of tasks. Expertise requires familiarity, but familiarity does not guarantee expertise.

In summary, the objects in cognitive categories differ in terms of typicality. Preference correlates positively with typicality in many product categories. As expertise increases, the organization of knowledge in memory becomes more functional, and processing becomes less superficial. Also as experience increases, atypical examples and instances are encountered and stored in memory. Thus, the influence of typicality diminishes in decision making and choice, resulting in a weaker link between preference and typicality.

THE STUDY

As expertise increases, consumer preferences are less influenced by product typicality (Alba and Hutchinson 1987). The objective of this research is to examine three aspects of that statement. Specifically, it is hypothesized that:

- H1: Product preference will differ by level of expertise.
- H2: Product typicality will differ by level of expertise.
- H3: Preference and typicality will be positively related, but the strength of the relationship will decrease with expertise.

To test these hypotheses, data were gathered from a domain in which subjects could be expected to differ in knowledge and experience: personal investments. A category such as investments is actively, even voluntarily learned, as compared to natural object categories or even common product categories. Most previous empirical research on investment decision making (Cooley 1977; Soutar and Ascui 1980) has not specifically considered the effects of expertise, though Slovic (1972) compared the decision strategies of one novice and one expert stock broker.

An overview of the tasks and derived measures follows:

Task:

1. Unaided recall of investments
2. Sort 18 investments

3. Rate 18 investments
4. Check off ones owned

Measure:

1. # recalled
2. typicality
3. preference
4. # owned

The first task asked subjects to write down all the personal investments they could recall. The remaining tasks involved a set of 18 investments given to the subject. They sorted the investments into groups of similar items, then rated their preference for each and noted whether they had ever owned each one. These 18 investments were selected based upon a previous experiment in which 60 MBA students listed all the investments they could recall. The 18 most frequent examples were used in the present experiment.

Subjects and Administration

A total of 40 people completed usable questionnaires. One half were undergraduate students, mostly seniors, in an upper division math class. They were expected to be relatively naive about investments. The other respondents had completed at least a bachelor's degree. This second group included both part-time MBA students and other non-students, many of whom worked on a day to day basis in the investment field. These financial employees included a commodities broker, international money trader, vice president of finance and others considered experienced in investments. The questionnaire was administered individually, or in small groups, to these subjects because of the difficulty of gaining access to them. Although the administration of the questionnaire varied somewhat across the groups, the study required gathering data from "real world" experts as well as novices.

Measures and Procedure

On the first page of an eight page questionnaire, subjects wrote down all the personal investments they could recall in a 2 minute time period. Subjects had no previous exposure to the stimuli and no warning as to the task, thus it required them to search their knowledge base to recall examples. This page was then returned to the experimenter. For the first measure of expertise, the total number of investments recalled was calculated, regardless of whether the example recalled was included in the target list of 18 investments. The average subject recalled 10.5 investments, with a range from 4 to 21. In previous research, the total number of factors recalled by a subject has been employed as a measure of expertise, under the assumption that it corresponds to the "richness of the cognitive process undertaken by the individual in this specific problem area (Larache and Moinpour 1983)." Also the examples recalled were later matched with the 18 investments used in the latter part of the study to ensure that the stimuli covered the majority of the investments recalled by

subjects. The 18 prespecified investments captured almost 75% of the investments mentioned during free recall. Of the 25% mentioned but not subsequently encountered in other tasks, many were redundant or unusual items.

The remaining pages of the questionnaire were then completed at each subject's own pace with most finishing in less than 15 minutes. The second page of the questionnaire gave an overview and instructions for the remaining tasks. For the second task, subjects received an envelope containing 18 pieces of paper with the name of an investment on each one. Subjects were told to sort them into separate piles based upon what they considered similar types of investments. Then within each sort group, they arranged them from the best example of that type of investment to the poorest example. Subjects recorded their sorting results on another page. The measure of typicality derived from the sorting results considered the relative position of an investment in its sort group, specifically:

$$\text{Typicality} = \frac{\text{total \# of items in the sort group} - \text{order in the group}}{\text{total \# of items in the sort group} - 1}$$

With this formula, typicality is scaled so that the first investment in a group equals 1 and the last equals 0. For example, in a group of four items the typicality scores would be 1, .66, .33, and 0. If a sort group consisted of only one investment, it was given a typicality score of 1. Sorting provides a less direct, but possibly more valid, approach to measuring typicality than the rating methods used in previous work. Subjects may find it difficult to separate product preference and typicality when asked to rate both on the same type of scale (e.g., Loken and Ward 1987; Nedungadi and Hutchinson 1985).

In the third task, subjects rated their preference for each of the same 18 investments on a scale from 0 (not preferred at all, would not invest in it) to 10 (totally preferred, my ideal investment). The question sought to measure their likelihood of investing rather than the amount of money they would invest. Ratings were later converted into z scores by individual in order to make them more comparable across subjects.

For the last task, respondents checked off which of the 18 investments they had owned or anyone in their household had owned. For the second measure of expertise, the total number of investments owned was calculated. The average subject owned (or their household owned) 7.8 of the investments with a range from 0 to 16. This measure of expertise was based on the same assumption used in previous research that expertise increases with greater frequency of purchase and use (e.g., Bettman and Park 1980).

Finally, subjects answered several demographic questions concerning their age, number of children, and annual household income. Two additional questions asked for their self-rated level of knowledge about investments and the amount of

time they spend working on investments. These two questions used a 5 point scale increasing from very little (1) to a great deal (5).

RESULTS

The four major measures are summarized in Table 1: the mean preference rating and typicality score for each investment, and the percentage recalling and owning each investment. Considering "shares of stock," for example, 88% of the subjects recalled it and 70% owned it, while it received an above average (positive) preference rating and a relatively high typicality score. "Oil and gas partnership," for instance, was much lower on every measure. At this aggregated level, mean preference and mean typicality correlated positively ($r=.57$, $p=.01$) as expected.

The first two hypotheses state that preference and typicality will differ by level of expertise. Using the total number recalled and the total number owned as measures of expertise, a multiple analysis of variance (MANOVA) was performed over the 18 preference ratings and over the 18 typicality scores. Table 1 indicates that both did differ by the number of investments recalled by a subject, typicality differing to a somewhat greater extent ($p<.01$) than preference ($p<.04$). The number of investments owned by a subject also significantly differentiated between typicality scores ($p<.04$) but not preferences ($p<.22$). Both H1 and H2 are confirmed, though the number of investments recalled was a more fruitful measure of expertise than the number owned. Because the questionnaire was administered differently to undergrads and others, the same MANOVA analyses were performed using method of administration as the explanatory variable. As expected, neither preferences ($F = 0.85$, $p<.63$) nor typicality ($F = 1.23$, $p<.32$) differed by method.

The third hypothesis suggested that preference and typicality will be positively related but that the size of that correlation will decrease as expertise increases. By individual, preference and typicality were correlated, resulting in a median Pearson coefficient of .19 indicating a positive but weak relationship. A positive coefficient occurred for 75% of the subjects, but only 23% had a positive, significant coefficient ($r>.31$, $p<.05$, $n=18$). Thus, for the majority of subjects preference and typicality correlated positively, though the coefficients ranged widely from $-.49$ to $+.62$.

To detect changes in this relationship between preference and typicality with changes in expertise, the Pearson correlation was regressed on each of the measures of expertise. As shown in Table 2, the sign of the regression coefficient for both measures of expertise is negative and significant, indicating that the size of the correlation between preference and typicality decreases as expertise increases. By both measures of expertise, H3 is confirmed. (A Fisher r to z transformation was made on each Pearson correlation coefficient before regressing on expertise).

Finally, because much of this research hinges on the concept of expertise, the validity of the two

TABLE 1
Summary Data on Investments

Investment	Mean Results		Percentage Results	
	Preference	Typicality	Recalled	Owned
ART	-.69	.34	.23	.18
BUSINESS VENTURE	-.49	.66	.33	.20
C.D.	.47	.52	.63	.73
COMMODITIES	-.91	.52	.25	.20
CORPORATE BONDS	-.27	.43	.63	.23
GOLD	-.45	.59	.38	.33
HOME	.89	.81	.23	.75
I.R.A.	.71	.52	.53	.68
LIFE INSURANCE	-.21	.58	.13	.68
MONEY MARKET	.48	.61	.45	.63
MUNICIPAL BONDS	.25	.56	.43	.20
MUTUAL FUND	.23	.66	.50	.43
OIL AND GAS	-.96	.34	.15	.15
OPTIONS	-.17	.53	.23	.25
RENTAL PROPERTY	.31	.52	.83	.40
SAVINGS ACCOUNT	.38	.57	.40	.90
SHARES OF STOCK	.35	.70	.88	.70
TREASURY BILL	.09	.46	.25	.10
MANOVA on Total # Recalled				
F (18,21)	2.27	4.33		
probability	(.04)	(.01)		
MANOVA on Total # Owned				
F (18,21)	1.42	2.20		
probability	(.22)	(.04)		

TABLE 2
Regression Equations
Correlation Between Preference and Typicality Regressed on Expertise

$R^2 = .15$	$F (1,38) = 6.695$	$(p < .01)$
Pearson correlation between preference and typicality = .408		- .023 (Total # Recalled)
t=4.006		t=-2.587
p<.01		p<.01
$R^2 = .18$	$F (1,38) = 8.322$	$(p < .01)$
Pearson correlation between preference and typicality = .397		- .030 (Total # Owned)
t=4.447		t=-2.885
p<.01		p<.01

TABLE 3
Spearman Correlations Between Expertise and Demographic Data

Expertise Measures	Age	Children	Income	Undergrad	Knowledge	Time
# Recalled Probability	.53 (.01)	.13 (.73)	.18 (.12)	-.25 (.06)	.25 (.06)	.10 (.27)
# Owned Probability	.51 (.01)	.31 (.03)	.39 (.01)	-.30 (.03)	.37 (.01)	.36 (.01)

1 tail, n=40

measures of expertise should be considered. The number of investments recalled and the number owned correlated .57, signifying that the two are relatively similar. In addition, each can be correlated with the demographic and self-rating data from the end of the questionnaire as shown in Table 3. (These data were considered ordinal, necessitating a Spearman correlation.) The results have strong face validity, especially for the number of investments owned. As the number owned increased, subjects were older, had more children, had a higher income, were less likely to be undergraduates, rated themselves as more knowledgeable, and spent more time on investments. Of course, many of these factors are highly related themselves. The number recalled differentiates less well, though the results were in the same direction.

CONCLUSIONS AND IMPLICATIONS

Based upon this research in the domain of investments, it appears that both preference and typicality do change with expertise. In addition, preference and typicality were found to be positively related in the majority of subjects. This is in accord with previous research which has found a positive relationship between preference and typicality (Nedungadi and Hutchinson 1985). One aspect this current research contributes is the finding that the strength of this relationship decreases with expertise. Thus, it seems that novices' preferences are tied more closely to judgments of typicality (and/or vice versa), while experts' preferences are based upon other factors, possibly risk and return.

Limitations to this research should be addressed. First, the method for measuring typicality assumes a linear, equal-interval relationship between the objects in a sort group. Instead, the graded category structure might be non-linear, with objects clustered together according to their similarity (Barsalou 1983). The measure employed in this paper should also be compared with the results derived from a more direct rating of typicality. Second, the measures of expertise, though employed in previous research, did not perform consistently across the analyses. For example, the number of investments owned by the subject or their household did not differentiate

between preference ratings but it did correlate as expected with the demographic data. The number of investments originally recalled measures the individual's level of cognitive complexity and thus probably more closely approximates expertise. Third, though the primary purpose of the research was to investigate the changing relationship between typicality and preference, measures of investment risk propensity would also have been an interesting parallel question. Risk influences preferences for different investments, but also may influence or even be a part of typicality.

The research has implications for both marketing and decision making. Very typical objects in a category may serve as cognitive reference points in decision making. Rosch (1983) argues that judgment can be based on formal logical reasoning or on reference point reasoning. The latter type of reasoning, though relatively primitive, occurs quite often and can be valid. In a risky class of decisions, such as investments, logical thinking may play a more important role, especially for experts. In many product classes the difference between a novice and an expert is inconsequential. But in a complex product class the degree of familiarity can greatly influence an individual's ability to make reasonable decisions. First time buyers of cars, computers, and homes face an enormous amount of information. With little cognitive structure developed to hold the new information, they may rely on intuitive heuristics such as reference points in making decisions.

Future research could investigate methods for improving decision making and the resulting effects on the relationship between preference and typicality. Can we teach novices to make decisions like experts? Most research to date has concentrated on judgmental mistakes (Kahneman, Slovic, and Tversky 1982) with little said about training decision makers. The next phase of research on expertise should explore the means to improve decision making abilities.

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Information Examination as a Function of Information Type and Dimension of Consumer Expertise: Some Exploratory Findings

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ABSTRACT

This paper reports on a study designed to examine information search patterns of differentially familiar subjects. The theoretical rationale predicts different patterns of search depending on whether subject familiarity is measured on terminology, attribute, or marketplace related factors and whether subjects have the option of searching for either intrinsic or extrinsic information. Using an electronic environment in which student subjects responded to personal computer based stimuli, it was found that terminology and attribute based familiarity generated "U-shaped" information search patterns for extrinsic information, while marketplace based familiarity generated a hyperbolic search pattern for intrinsic information.

INTRODUCTION

Existing theories of buyer behavior (Bettman 1979, Howard and Sheth 1969) have proposed that the degree of prior knowledge (or expertise) a consumer has about a product, product class, the marketplace and a variety of other facets of the purchasing process is likely to influence information search, examination, evaluation, and eventually, choice. This issue of consumer expertise or familiarity has recently received considerable scrutiny in the consumer behavior literature (Alba and Hutchinson 1987, Brucks 1985, Johnson and Russo 1984, Park and Lessig 1981, Punj and Staelin 1983, Rao and Monroe 1988, Sujan 1985). The principal issues of interest are a) the dimensions of consumer expertise and b) the influence of differential levels of expertise on behavior.

This paper will describe findings from an exploratory study that examines the relationship between various dimensions of expertise and consumers' information examination patterns. As the study was conducted in an electronic environment using personal computers, it was possible to use unobtrusive measures and disguise the purpose of the study quite effectively.

LITERATURE REVIEW

Expertise and Information Examination

Differentially knowledgeable consumers are expected to behave differently when searching for new information primarily because they have different amounts of information already available in memory. Studies that have examined this issue have essentially used single item measures of subjective

knowledge and examined the relationship between knowledge and degree of information search.

Two conflicting hypotheses inform the research stream. On the one hand, it has been argued and empirically validated that increased familiarity leads to enhanced search (Punj and Staelin 1983). This, the enrichment hypothesis, rests on the logic that existing knowledge facilitates the acquisition of new information -- a "rich get richer" argument. The second hypothesis predicts an "inverted U" effect, as increased familiarity results in an initial increase in information search; however exceedingly familiar individuals do not need to acquire new information as all relevant information is already available in memory (Bettman and Park 1980, Park and Lessig 1981). The essential difference in predictions between the two hypotheses is at the high familiarity level. While *low* and *moderately* familiar individuals are expected to search for low and moderate amounts of information according to both hypotheses, the *high* group is expected to search more than (or at least as much as) the moderate group according to one hypothesis (the enrichment hypothesis), while it is expected to search less than the moderate group according to the inverted U hypothesis.

To reconcile these seemingly conflicting perspectives, Rao and Monroe (1988) proposed information diagnosticity as a moderating variable. They argue that different items of information are differentially informative. Using the *extrinsic* versus *intrinsic* cue dichotomy (Cox 1962, Olson 1977) they hypothesize that differentially familiar individuals will rely on different types of information, depending on the degree to which the information is useful for the task at hand. Specifically, when assessing product quality, moderately and highly familiar consumers were expected to use intrinsic information (information directly related to product performance, e.g., nutritional content in cereal) to a greater degree than low-familiar consumers, because low-familiar consumers would be unable to interpret intrinsic information successfully. This prediction is analogous to the enrichment hypothesis. The degree to which low-familiar consumers would use extrinsic information (information not directly related to product performance, e.g., price or brand name) was hypothesized to be higher than the degree to which moderately familiar consumers would use extrinsic information. This was expected to occur because, while both groups could interpret extrinsic information successfully, the moderate group would prefer to use information already available in memory. However, whether highly familiar consumers would use extrinsic information to a greater or lesser degree than moderately familiar consumers was hypothesized to depend on whether

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the item of extrinsic information was *diagnostic* for the task. In other words, in an evaluative situation, brand name or price (both extrinsic cues) may or may not be accurate indicators of quality. If they are good indicators of quality, the highly familiar consumer would know so and therefore use them, not otherwise.

In a price-quality experiment using a product that displayed a positive price-quality correlation in the marketplace, Rao and Monroe (1988) showed that as familiarity increased, reliance on extrinsic cues first reduced then increased (a "U-shaped curve") while reliance on intrinsic cues increased with increased familiarity.

The principal argument seems to be that only information that is interpretable and believed to be (or known to be) useful for the task at hand, will be examined. This argument will be revisited after an examination of the construct "expertise".

Dimensions of Consumer Expertise

According to Alba and Hutchinson (1987) and Brucks (1986), consumer expertise is comprised of multiple dimensions. Brucks (1986) developed a typology of consumer knowledge consisting of eight components. Seven of these knowledge types are declarative in nature, e.g., knowledge about concepts, objects or events. The eighth is procedural in nature and refers to those rules consumers utilize when taking action. She reduced these components into three factors which can be conveniently labelled as follows: terminology related knowledge, attribute related knowledge and marketplace related knowledge. Note that the first two factors are related to knowledge of intrinsic information, while the third factor is related to knowledge of extrinsic information. *Terminology* related knowledge can be defined as knowledge of terms related to the construction of a product (e.g., overhead cams for an automobile). *Attribute* related knowledge can be defined as knowledge of the relationship between a term and another term or the relationship between a term and a benefit (e.g., 4-wheel drive in an automobile results in better traction in snow.) *Marketplace* related knowledge can be defined as knowledge of relationships that prevail between extrinsic information and other extrinsic information (e.g., BMW automobiles are above average in price).

The multi dimensional nature of the construct calls into question whether differential degrees of familiarity on each of the dimensions will result in similar information search patterns. The argument that information examination patterns are likely to be different will be developed in the next section.

CONCEPTUAL PREDICTIONS

The existing literature suggests that differences between the low, moderate and high familiarity groups are qualitative, as well as quantitative. In other words, moderately familiar consumers are more knowledgeable than low-familiar consumers about elements that low-familiar consumers are cognizant of, as well as elements

about which low-familiar consumers are unaware. Similarly, highly familiar consumers are more knowledgeable than moderately familiar consumers about elements that moderately familiar consumers are cognizant of, as well as elements about which moderately familiar consumers are unaware. Rao and Monroe 1988 argue that the qualitative difference between the low and moderate groups is knowledge of product attributes (and how they relate to performance); and the difference between the moderate and high groups is the knowledge about market related factors (and how they relate to quality). Their argument is that, to evaluate quality, consumers must first learn what attributes are good indicators of quality. Consequently, knowledge that the number of heads on a VCR implies a better VCR has to be learned first, before a surrogate (such as brand name or price) or market related piece of information can be used to assess quality. This enhanced ability (to correlate market-based information with performance) tends to occur *after* the individual has acquired knowledge as to what constitutes quality. However, the use of extrinsic (market related) information by low-familiar consumers occurs because such information is easier to interpret than intrinsic information. In sum, information that is interpretable and informative will be sought and examined.

The argument presented above rests on an intentional learning approach to familiarity. However, if familiarity or expertise can be acquired incidentally, as well as intentionally, it is conceivable that individuals can acquire covariation information such as the relationship between extrinsic information and quality, without first acquiring information about the relationship between intrinsic information and quality. In other words, it is possible to be knowledgeable about the high quality of SONY tape players, without having any knowledge of the specific chips used in the circuitry.

In the context of Brucks's (1986) typology of knowledge content, this distinction between learning paradigms becomes particularly relevant. Clearly, attribute related knowledge (i.e., the degree to which attributes relate to each other or affect performance) cannot be acquired without terminology related knowledge (i.e., the knowledge of the terminology used to describe attributes). However, it is quite conceivable that marketplace related knowledge need not result only after attribute related knowledge is acquired, as performance judgments can be formed based on word of mouth, usage and shopping experience, under the incidental learning paradigm. Consequently, enhancements in each of the three components of familiarity may result in different patterns of examination of different types of information. The specific patterns predicted are addressed below.

When differentially familiar subjects are asked to evaluate the quality of a product (for which, extrinsic information is informative about quality):

P1a: Terminology related familiarity will display a U shaped relationship with extrinsic information examination.

P1b: No relationship is predicted between terminology related familiarity and intrinsic information examination.

Here, low-familiar consumers are expected to be able to interpret extrinsic information and thus examine it. However, as familiarity on terminology increases, reliance on intrinsic information (in memory) would supersede reliance on extrinsic information, hence examination of extrinsic information would reduce. Finally, as familiarity reaches a high level, subjects are expected to be cognizant of the relationship between extrinsic cues and quality, and thus are likely to rely on extrinsic information to a greater degree than moderately familiar subjects. For intrinsic information, the low group will spend little time given their inability to interpret it, while the moderate and high groups will spend little time, as they already have the necessary information in memory.

P2a: Attribute related familiarity will display a U shaped relationship with extrinsic information examination.

P2b: No relationship is predicted between attribute related familiarity and intrinsic information examination.

The relationship predicted in P2 (a and b) is based on the same logic as that for P1. When making quality assessments increasing familiarity on the part of the consumer initially leads to a reduction in time spent on extrinsic information examination. However, subsequent increases in familiarity lead to an enhancement in time spent on extrinsic information examination. This occurs because low-familiar subjects have the ability to interpret extrinsic information and therefore will rely on it. High-familiar subjects *know* this information to be informative and will therefore utilize it. In contrast, moderately familiar subjects do not know this information is informative and will therefore rely on other (intrinsic) information in generating quality assessments. Further, there are no anticipated differences for intrinsic information examination, for the reasons mentioned in support of P1b.

P3a: Market related familiarity will display a hyperbolic relationship with intrinsic information examination.

P3b: No relationship is predicted between marketplace related familiarity and extrinsic information examination.

Here, low-familiar subjects will not be able to interpret intrinsic information. However, moderately and highly familiar subjects *do not have*

intrinsic information in memory. Consequently, given their better developed knowledge structures, they will tend to examine intrinsic information to a greater degree than low-familiar subjects (the enrichment hypothesis). However, given their marketplace related knowledge, they would tend to spend relatively little time (like low-familiar subjects) on extrinsic information.

METHOD

To select a product that would lend itself to an examination of the issues mentioned above, a review of prior literature was undertaken. Automobiles (Johnson and Russo 1984), microwave ovens (Park and Lessig 1981) and women's blazers (Rao and Monroe 1988) are some of the products that have been used in this research stream. Given the need to use a product for which there was a subject pool that ranged in familiarity, a woman's blazer was selected as the test product. This product allowed for the use of student subjects comprising males, females, and clothing and textile majors to represent the three groups of low, moderate and high familiarity (Rao and Monroe 1988, Sujan 1985).

A seventeen item familiarity scale was constructed using the typology developed by Brucks (1985) and operationalized in Rao and Monroe (1988). The multiple indicators were representative of the three components of interest: terminology, attributes, and marketplace knowledge.

Data was collected from subjects using a personal computer based methodology (Rao 1988). Subjects responded to stimuli on a computer screen by "clicking" a pointing device on appropriate menu options. Subjects first went through a series of orienting exercises to make them comfortable with the methodology. Then, a battery of items designed to assess their level of familiarity with the product was presented to them and their responses to these items were automatically recorded. Subsequently, in a product evaluation task context, they were exposed to an advertisement comprising a picture-word combination and asked to select further information if they so desired, prior to their evaluation. Unlike Johnson and Russo (1984) who used recall as their dependent measure, and Punj and Staelin (1983) who used self reports of hours spent in search, we measured the time spent in *examining* available information as the dependent variable of interest. [The stimuli, manipulations and familiarity scales are available from the authors.]

ANALYSIS AND RESULTS

Ninety participants responded to sixteen objective questions (and one subjective, self-assessment of familiarity) pertaining to different types of knowledge of women's blazers. Participants were allowed to either immediately make an evaluation of the product, or to access additional information and then subsequently make an evaluation. Half the subjects were exposed to intrinsic information, and half the subjects were exposed to extrinsic information, when they requested more information. (Because it cannot be

TABLE
Results of Regression Runs

<u>Extrinsic Format</u> (n=36)	
<u>Factor</u>	
Terminology	Time = 31.11 - 4.31 (Term) + .78 (Term) ² (.0001) (.0631) (.0841)
Attributes	Time = 38.97 - 2.06 (Att) + .09 (Att) ² (.0001) (.0977) (.1914)
Market	Time = 29.66 + 1.29 (Mkt) - .14 (Mkt) ² (.0001) (.2623) (.1138)
<u>Intrinsic Format</u> (n=42)	
<u>Factor</u>	
Terminology	1/Time = .06* + .00 (1/Term.) (.0002) (.9719)
Attribute	1/Time = .06* + .02 (1/Att.) (.0001) (.5697)
Marketplace	1/Time = .06* + .03 (1/Mkt.) (.0001) (.0811)

N.B.: Figures in parentheses are p-values

* (The intercept term is $1/\beta_0$).

determined whether those who elected not to search for more information failed to do so because of expertise and/or high self-confidence, or merely wished to conclude their obligatory time in the study as quickly as possible, their responses were treated as outliers and were not included for further analysis. This left a set of 78 usable responses.) Individual scores based on the three factors were generated and then regressed on the amount of time each individual spent examining information related to the product.

Prior to performing a regression analysis, three independent variables were created by collapsing appropriate familiarity scale items. Thus, measures for terminology related, attribute related, and marketplace related knowledge were created, based on Brucks's (1986) typology.

Regression Analysis

Our intent in this study was to identify patterns of information seeking: an exponential (the enrichment hypothesis) shape or a U-shape. Rather than set arbitrary levels of relative expertise within our study population, and then test for differences between groups, we performed a regression analysis, as our independent variable (familiarity) existed in a continuous form, not a categorical form. The dependent variable was time.

The independent variable consisted of the total value of weighted (by degree of difficulty, as determined by a Professor of Clothing and Textiles)

correct answers to questions associated with each of the three factors mentioned. A relatively high inter-item reliability ($\alpha = .7104$) was obtained.

To test for exponential and quadratic forms (U-shaped), two regression models were run on the data. For the enrichment hypothesis, the appropriate model is hyperbolic:

$$1/y = \beta_0 + \beta_1(1/x).$$

For the U-shape, the appropriate form is quadratic:

$$Y = \beta_0 - \beta_1X + \beta_2X^2 \text{ (Myers 1986).}$$

The results of the regression runs are presented in the Table.

As the results indicate, there is some marginal support for P1 (and P2), and there seems to be some support for P3. The U-shapes are evident for terminology and attribute based familiarity, when examining extrinsic information. No patterns were found for terminology and attribute based information as they related to intrinsic information examination. Similarly, a hyperbolic relationship is manifested between market based familiarity and intrinsic information examination, but no pattern was found for the relationship between this factor and extrinsic information examination. The

implications of these findings are discussed in the next section.

DISCUSSION

The results from this study are interesting, though tentative. Consumers who are differentially knowledgeable about *terminology* exhibit a "U-shaped" information search pattern for *extrinsic* information, with increasing familiarity. In other words, novices and experts tend to spend more time examining extrinsic information, than individuals who are moderately familiar. *Attribute-knowledgeable* individuals exhibit similar (though statistically weaker) results; the negative linear component of the equation suggests that increases in knowledge resulted in reduced time spent but the quadratic component of the model was not significant. *Market-knowledgeable* individuals display a hyperbolic form search pattern; an enhancement in familiarity leads to increased search and examination of *intrinsic* information (the enrichment hypothesis).

The statistical support for these findings is tenuous at best ($p < .10$). Perhaps the addition of a covariate (e.g., reading speed of subjects) would have enhanced the significance of the results. However, from a substantive, as well as methodological perspective, the results are interesting. The principal theoretical contribution of this study is that the coexistence of the inverted U and exponential hypotheses are moderated by a factor other than task (Johnson and Russo 1984) and information diagnosticity (Rao and Monroe 1988), e.g., familiarity dimension. As consumers become knowledgeable about market-based information, they tend to examine intrinsic (product related) information to an increasing degree, while consumers who become knowledgeable about product (attribute and terminology) related information tend to first reduce and then increase their examination of extrinsic information.

The rationale for the findings is theoretically defensible and has been suggested elsewhere (Johnson and Russo 1984, Rao and Monroe 1988). In essence, consumers at the low end of the familiarity continuum are unable to interpret intrinsic information, while those who are moderately and highly familiar are able to do so. Hence, information examination follows a hyperbolic function. In the context of our study, this was manifested in the market-knowledge dimension of familiarity when regressed against time spent on intrinsic information. It was not manifested in the attribute-knowledge or terminology-knowledge and intrinsic information scenarios simply because individuals possessing attribute- and terminology-knowledge would not need to spend much time on attribute- and terminology-related information (intrinsic information); hence, the absence of any trend for those two factors.

For the U-shaped trend for extrinsic information examination, the same logic prevails. Low-familiar consumers, not having much information, would tend to spend time examining

this information, given the interpretability of the information and the evaluative task being performed. However, moderately familiar consumers would tend to dismiss this information as irrelevant to the task at hand, as their better developed knowledge structure would allow for evaluation using intrinsic information in memory. However, highly familiar consumers would examine extrinsic information, if they believed it to be informative. In the case of women's blazers, extrinsic information is indeed informative (Rao and Monroe 1988). Consequently, consumers at the high end of the familiarity continuum would examine this information to a greater degree than moderately familiar consumers, who are not aware of the degree to which extrinsic information is useful in assessing quality. In other words, as consumers become increasingly familiar, they first lower their reliance on extrinsic information, and then increase their reliance on extrinsic information, if this information is useful for the task at hand (Rao and Monroe 1988). This trend would only hold if, as a consumer moves from the moderate to the high condition, his/her enhancement of knowledge results in an understanding of the existing, marketplace (or ecological) correlation between extrinsic information and quality. In other words, the distinction between low and moderate familiarity is knowledge of intrinsic attributes, while the distinction between moderate and high familiarity is knowledge of ecological correlations and marketplace phenomenon. Consequently, this trend should only be manifested for non-marketplace related dimensions of familiarity (i.e., attribute and terminology). *This trend would not be exhibited for the marketplace dimension*, because increasing knowledge on the marketplace dimension would imply increased knowledge about the relationship between extrinsic cues and quality (performance), i.e., any ecological correlations that may exist. Hence, there would be no reason for increasingly knowledgeable subjects to spend any more or less time on examination of marketplace related information.

From the methodological perspective, the use of the personal computer allowed for unobtrusive, involving and refined measurement. The presentation involved both picture and word stimuli and allowed for the development of a credible cover story regarding computerized shopping. Further, the use of a continuous variable allowed for the use of regression and trend analysis, rather than between groups analyses (e.g., Rao and Monroe 1988).

The results from this study are tentative, at best. However, this is the first attempt at testing a specific functional form that is theoretically defensible; consequently the lack of significance at the .05 level is not a source of concern. Apart from replicating this study under other scenarios using different products, it would be of interest to examine the differential reliance on the two types of information available to differentially familiar subjects. In other words, theoretically justifiable functional forms can be derived to predict changes in

relative differences of time spent on different kinds of information, as the degree of familiarity on various dimensions increase. These findings would be of considerable interest to purveyors of information (marketers, consumer advocates, public policy makers) as they attempt to determine what kinds of information their segment of interest should be provided, given their relative knowledge about various aspects of the product, product class and marketplace.

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The Meaning of Custom-Made Homes: Home As A Metaphor For Living

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ABSTRACT

Custom-made products are products that are co-created by the consumer and the producer and, thus, offer an opportunity to study the construction of product meaning. The focus of this study is on the process of creating meaning in the building of a custom-made home and the subsequent impact of consumption on this meaning. More specifically, this study examines how consumers encode cultural and personal meaning in the specification and building of a custom-made home and how this meaning changes when they live in the home. Evidence from indepth interviews suggests that both cultural and personal categories of meaning play an important role in the creation of custom-made homes. Consumers encode cultural symbols that have widely shared meaning in the construction of their home. However, symbols that have more personal meaning are also encoded into the homes. The consumer shapes the home in the process of building and living in the home and the home, concomitantly, shapes the consumer's life. In many ways, the home is a metaphor for the consumer's life. This idea of the home as a metaphor for living is developed.

INTRODUCTION

A place need not be exotic in order to serve as a spring-board for discovery...Perhaps it is best to explore the meaning of place at our doorstep (Meyers 1989).

Throughout our lives we make choices and these choices reveal much about who we are. While the choices of love, family, and career are important opportunities for self creation, so too are our consumption choices. Consumption choices pervade almost every aspect of life and impact on the creation of one's self and life. For example, one's image of oneself as a parent may be shaped by the home that one provides for one's family.

Within the marketplace, there exists a wide variety of consumption alternatives in which consumers may express themselves. Yet, in the marketplace, researchers usually study an individual's selection of products among pre-existing alternatives. In McCracken's (1986) article, he suggests that products in the marketplace are a repository for cultural meaning and consumers unlock personal meaning from the product through consumption. Thus, studying the meaning of products selected in the marketplace is the study of the decoding of meaning by the consumer.

Yet consumers are often active and creative beings who do more than merely decode meaning. For instance, custom-made products allow for the encoding of meaning and, thus, the assertion of subjectivity. Therefore, custom-made products may

offer an opportunity to study the active creation of meaning by the consumer and the extent to which cultural or personal meaning is encoded in the product. The interaction between a producer and a consumer in the specification of a custom-made product represents an opportunity to create actively one's self and life.

CUSTOM-MADE PRODUCTS

In consumer research, no work exists that focuses directly on custom-made products or the process of creating these products. Thus, at this stage of research, it is necessary to specify the domain of this topic. While services can be custom-made, the focus of this study is on products. Custom-made products are defined as products that are co-created by a producer and a consumer. The consumer communicates, either implicitly or explicitly, with the producer prior to the creation of the product and, thus, shapes the end product. Next, each part of this definition is explained in detail.

For a product to be custom-made, both the consumer and producer must participate. Thus, a cabinet built by a woodworker for retail sale would not be a custom-made product, but a cabinet built upon the request of a consumer would be. The consumer and the producer may be either an individual or a group. For instance, the town council might commission a specific work of art from an artist. Or a person might hire a group of people to build a home: a head builder, a carpenter, a stone mason, an electrician, and a plumber.

In addition, for a product to be custom-made both the consumer and the producer must shape the product, although their respective influences may vary. The producer's influence is clear, since the producer physically creates the product. But the producer's influence can range from directing the process of co-creation to merely carrying out a consumer's well articulated specifications. The consumer can influence the product by specifying the design, the size, the materials, the process, the time, the symbols, and so forth. However, the consumer's influence may range from just selecting the producer and giving the producer a "free rein" to the consumer specifying almost every aspect of the product. Thus, a consumer buying a "tract" home is *not* an example of a custom-made product because the consumer did not participate in the creation of the home. If, however, a consumer works with an architect to create the house plans and the house is built, then this is an example of a custom-made product.

Finally, some form of explicit or implicit communication between the consumer and producer must occur, although the extent and form of communication may vary. Direct explicit communication regarding the product may occur in personal meetings, phone conversations, sketches,

or letters. But implicit communication may arise, for example, when the producer notices the consumer's previous home, how the consumer lives, how the family interacts, and so on.

In summary, a custom-made product involves a consumer and a producer who together create a product. What is unclear, though, is how meaning is created in this process. McCracken's (1986, 1988b) work offers a conceptual framework for understanding the construction of meaning in a product and is discussed next.

MCCRACKEN'S CULTURE AND CONSUMPTION MODEL

McCracken (1986, 1988b) proposes that product symbolism and consumption are related through a "flow of meaning." Here, meaning is what an object signifies. He submits that meaning originates in a culture, is encoded in products through product design and promotion, and is transferred to individuals through the consumption of these products. First, culture acts as a perceptual screen to define the set of relevant symbols. Second, culture provides a history and sets a context that gives particular symbols meaning. Symbol, context, and meaning are all aspects of the same event and cannot be interpreted independently (Peirce 1960). In other words, a symbol and its meaning depend on the context. Once meaning is encoded in a product, the product symbolizes or comes to stand for that meaning (i.e., BMWs are now synonymous with "Yuppies"). Finally, consumers decode or abstract a personal meaning through the use of products.

Thus, McCracken proposes that meaning is not static but migrates from a culture to the individual by virtue of the acquisition and consumption of consumer goods. He suggests that "ideal" meanings may be displaced from everyday life to products. In other words, goods take on meanings to allow us to bridge the gap between what is "real" and what is "ideal" in social life. For instance, a modern suburban dweller, in longing for a more ideal life style, may choose a "country" interior for her home. Her ideal life style is psychologically related to a past that is perceived as less demanding than the day to day obligations of real life. Her ideal life style is symbolized, and therefore experienced, with each purchase and use of "country" furniture or accessories. This process preserves the ideal self concept through a symbolic displacement of meaning to consumer goods, and the subsequent recovery of that meaning through consumption of those goods. Since the disparity between the real life style and an ideal life style is never resolved, the symbolic displacement of meaning drives a continuous process of consumption.

McCracken offers a theory of a one-way flow of product meaning from the culture to the individual. However, the flow of meaning may be more complex than is depicted in McCracken's model. The flow may be a two-way flow or even a multi-directional flow. For instance, product

innovators or opinion leaders often establish and interpret symbolic product values. Meaning is not always a one way flow from the culture to the individual; that is, individuals may encode meaning. Custom-made products may offer a unique opportunity to study the encoding of both personal and cultural meanings by the individual.

METHODOLOGY

Overview

The purpose of this study was to understand the meaning of custom-made homes and how this meaning is created from the perspective of the owners. Therefore, an interpretive approach was used to study the social and personal meaning of these products from the participant's point of view (Hirschman 1986; Hudson and Ozanne 1988; Lincoln and Guba 1985). In interpretive inquiry, meaning is assumed to be context dependent, thus, in-depth interviews with the owners were conducted in their own custom-made homes. To avoid the researcher imposing structure and direction, these interviews were unstructured and the interviewer took the lead from the informants. Finally, the interviews were tape recorded, transcribed, and the transcriptions were analyzed for emergent themes.

Product

Among the products recognized for their symbolic nature (Belk, Bahn, and Mayer 1982), homes are the object of surprisingly few consumer behavior studies. Consumer research using homes as a product focuses primarily on the acquisition and decision making processes (Park 1982; Munsinger, Weber, and Hansen 1975). Little research exists on the symbolic meaning of home.

As a product, a house represents the single largest purchase a person is likely to make. Similarly, to consumers, the home not only represents the motive for subsequent accompanying purchases (e.g., furniture), but it is also a continuing consumption relationship with the product itself (i.e., living in the home.) Consumption of a home is a daily process that may span decades. Thus, the home is important to the consumer and is an ideal product for examining personal meaning. The dwelling as a product has a functional, tangible part--the house--and an affective, meaningful part--the home. It is the meaning of home that is culturally bound. For example, comfort and privacy, which were 17th century European discoveries (Rybczynski 1986), are not part of the concept of "home" for 20th century Kechi Mayan farmers (Wilk 1986). To the degree that comfort and privacy determine meaning, then home has a different meaning for European and Mayan cultures. Therefore, the home as a research setting provides rich possibilities for exploring cultural symbolism.

From the literature, five categories were identified, which summarize some of the current meanings of home in our culture. These categories draw heavily on the work of Rybczynski (1986) and Csikszentmihalyi and Rochberg-Halton (1981). The

purpose of presenting these concepts was not to operationalize the concepts, as is traditional in a positivist study, but to lay out the researcher's prior beliefs upon entering the study. A goal of the present study is to suggest the relevance and meaning of these concepts for the informants. In other words, the goal was to discover if and how these cultural categories are encoded into the home. The *a priori* cultural categories used were comfort--a state of well-being, privacy--freedom from unauthorized intrusion, functionality--efficiency as an overriding rule, density--the amount placed in a room, and domesticity--the home as a place for the family. While *a priori* categories were used, the definition, the boundaries, and the meaning of these concepts were not fixed and were allowed to evolve in the study.

Selection of the Informants and the Research Setting

The informants were ten upper middle to upper class families in a small college town. All of the informants had built custom-made homes within the last one to five years. This time span was important because the process needed to be recent enough so that the informants could recall the specification process and, at the same time, long enough so that patterns of living in the house were established. Informants were identified by recommendations from architects. In addition, families were identified from interviewed families and newspaper articles. The family's willingness to participate and their involvement, in the case of uninformed recommendations, was assessed in an initial phone call.

Consistent with the definition of custom-made products, consumers were identified who had shaped their homes. Informants were considered to be involved if the home design and building was important to them and they had contributed to the creation of the home in terms of time, energy, and ideas. The family dyad, the husband and the wife, was interviewed. While the creation process may be dominated by one member of the dyad, it was assumed that the process of building a custom-made home was usually a joint process and, thus, the dyad was the appropriate unit of analysis. However, in two cases, one member of the dyad played a very dominant role and served as the sole informant. Interviews were conducted until redundancy arose (Hirschman 1986; Lincoln and Guba 1985). Given the fairly homogeneous nature of the informants, redundancy in most areas of questioning arose by the tenth interview.

The Interview Process

Since meaning is assumed to be context dependent, the interviews were conducted in the informants' home; also, the researcher could see the home and use it to stimulate discussion. The interview process was divided into two stages. Stage one involved rapport building. Informants were told the purpose of the study, how the data would be used, how confidentiality would be

maintained, and a general overview of the interview. Two broad questions, which were easy to answer, were first asked to put the informants at ease. Question one asked participants to describe the initial part of the process of building the home. Question two asked participants to describe this home relative to their "dream home?" In the second stage of the interview informants were encouraged to take the lead and discuss their home, how they built it, and any issues that were important to them. At some point during stage two, the informants gave the researcher a tour of the house.

The researcher entered the study with the intent of probing three main issues, if these issues were not raised by the informants. First, in order to understand the process of constructing meaning, informants were asked how they communicated the meaning of their home to the architect? Second, current meanings were probed by asking what does the home mean to the informants now? Third, in order to understand how the current consumption behaviors influence the meaning of home, the informants were asked about what consumption behaviors are centered around the concept of home? The five categories of home meaning, which were discussed earlier, were specifically probed: comfort, domesticity, privacy, density, and functionality. It should be noted that most of these issues and concepts were brought up by the informants during the interviews.

The interviews were conducted by one interviewer. One interview lasting from about 90 minutes to three hours was conducted with each couple or single informant. This interview was preceded by one or more telephone conversations to set the background for the study, assess suitability of informants, and schedule the interview. A total of eleven interviews were conducted and ten transcripts analyzed (one tape was discarded because of mechanical problems).

Analysis

A two-stage, hermeneutical analysis was employed based on the methods of McCracken (1988a) and Spradley (1979). As opposed to the fixed categories used in content analysis, hermeneutical analysis allows categories to evolve as the data is iteratively analyzed. The first stage was an analysis *within* each interview. The five *a priori* categories of meaning of the home were used to structure the analysis. For each of these categories, the transcribed text of each interview was analyzed for any *taxonomic terms*--words that the informant used to describe these categories, *incident statements*--comments that relate to the categories, and, finally, *relationships*. As well, categories of meaning evolved from the interviews that were not previously identified. The same analysis of taxonomical terms, incident statements, and relationships was performed for all new categories.

In the second stage, the analysis was *between* interviews and themes--relationships that occur across interviews--were identified. Two researchers analyzed the text separately. The researchers then

discussed the analysis. While the two interpretations were similar, in some cases, the researchers differed in the omission and inclusion of taxonomic terms and incident statements. Any differences were discussed and preserved in an integration of the themes. Interpretive research assumes that because of researchers' different perspectives, interpretations may diverge and these divergences should be preserved (Hirschman 1986; Hudson and Ozanne 1988; Lincoln and Guba 1985).

RESULTS AND DISCUSSIONS

Themes are relationships across the informants. Two themes occurred, which related to and expanded the *a priori* cultural categories. In fact, the *a priori* categories proved *not* to be very useful by themselves for discussing the meaning of home. Rather, the themes are more appropriately discussed in terms of two dichotomies among some of the *a priori* categories and new categories that emerged: the contrasting needs of *privacy* versus *openness* and the tradeoffs among *functionality*, *aesthetics*, *value*, and *cost*. A third theme that evolved is *the home as a process*. The results are presented according to these three topics.

The Contrast between Openness and Privacy

Openness and privacy have been issues in the western home since around 1600 A.D. when the great hall ceased to be the single space in which eating, sleeping, entertaining, and work all took place (Rybczynski 1986). In this study, openness and privacy existed simultaneously in homes because these categories have several levels of meaning. Openness and privacy have meaning relative to personal space, separation within the family, separating the family from others, and separating the inside environment from the outside environment. Also, openness and privacy refer to a cultural meaning of "psychological openness." Each informant expressed usually two or more of these levels of openness and privacy.

Openness and Privacy: Personal Space. Commonly, participants articulated the *need* for personal space. The need for personal space spoke of a need to have dominion and control over the space. But personal space also defined a special relationship to that space; that is, this space is mine. For example, one informant's personal space was a locked room over the barn to which he had the only key. Women often saw the kitchen as their personal space. Yet as houses open, new relationships must be defined to the spaces that we view as personal. Open designs mean that personal spaces are not necessarily closed off from the rest of the house. One female informant articulates best this balance between openness and personal space: "I like to think of myself as a warm individual, so I like to have small intimate spaces and open spaces for entertaining [in the same room]. That's [for example] my place for eating bon bons."

Openness and Privacy: The Family. The concept of privacy changes with the family life

cycle from separating young children from the rest of the house (e.g., "needing a space for the children") to separating the parents from the rest of the house (e.g., "wanting a space for us"). The space for family togetherness is designed into the house and driven by the functions around which the family coalesces. One family divided the space between the dining room and the living room with furniture that could be removed to accommodate large gatherings. Because the family needed space for large celebrations, the two rooms were designed without a separating wall and the space became a "great room."

Family spaces have changed from the den, previously the repository of the radio and then the T.V., to the family room, which opened up to become the great room. In this study, the great room heralds a new openness *within* the family as the wall between the kitchen and family room is removed. For example, mother in the kitchen and the kids playing in the family room are all within sight of one another. This side of the house, which is open and unstructured, tends to be reserved for the family. Some participants retained more formal rooms for "entertaining." These formal rooms were more structured and closed. Thus, the house serves to structure openness and privacy within the family and between the family and outsiders.

Openness and Privacy: Bringing the Outside In. This juxtaposition of openness and privacy extends also to nature. In one sense, the house is the protection against nature. Nevertheless, people spoke of a desire to experience nature. "I really can see the seasons and nature. In years of being interested in those things, I feel now as if I really live with them in this house." One informant found that the openness of the house had changed him, "Now I see the birds and all the other wildlife... [I] watch the sun come up. I never knew when the sun came up. I'm a city boy. Now I've found the seasons... I've never appreciated all these before."

Therefore, bringing the outside in means that the boundaries between open and private space are extended to include the surrounding environment. The house and the environment fuse:

In this house there are no curtains. The overwhelming presence in the room is that view. The view is gray and tan, and green and blue, and that's what is repeated in here to draw [the room and the outside] together. That's intentional.

Thus, home extends beyond the walls to include nature. Because the surrounding natural environment is now included in the boundaries of home, building sites are chosen that allow for privacy.

Openness and Privacy: Psychological Openness. Houses also represent a new way of being open. The following quote captures this idea of "psychological openness":

The first real entertaining we did... we hired a caterer to have a stand up buffet dinner. The caterer put food everywhere. She put smoked fish on the top of the hot tub. She had desserts in the bedroom,...There were eighty people here. It didn't seem crowded.

Thus, even spaces that are traditionally viewed as personal are opened up to guests. Houses represent a new way of contrasting the needs for openness and privacy. These new relationships are evident in how personal space, family space, formal and informal space, and environmental space are approached. These relationships are synthesized in an emergent theme of psychological openness, which stresses the breakdown of formal boundaries.

This first theme suggests that the cultural category of privacy and the competing category of openness were encoded into the informants' homes. Moreover, these cultural categories were encoded with personal meanings (e.g., "my place for eating bon bons"). Therefore, both cultural and personal meanings are intertwined in the construction of open and private spaces.

The informants in this study who sought "openness" may be compared with a group in another study who sought "homeyness" in their houses (McCracken 1987a). Homeyness, in McCracken's words, "seeks to make the occupant fully occupying of homey space and so to claim his or her full attention and affect" (p. 26). This statement is similar to the kind of openness that allows the entire house to become the "set" for a party. The group in McCracken's study, however, equated openness with coldness, formality, and unrealness. It appears that opposite terms, homeyness and openness, are used by the two groups to describe the same desirable state. Again, in McCracken's terms the house is "real," "engaging," and "informal," which makes it "riskless." Psychological openness is also a kind of riskless involvement with others, the environment, and, ultimately, with oneself.

The Trade-Off Among Costs, Functionality, Aesthetics, and Values

Homes represent the balancing of costs, functionality, value, and aesthetics. Aesthetics is recognized to be dependent on more subjective inferences, however, participants used costs and functionality in a similar subjective manner to explain why a choice was made. Trade-offs among functionality, costs, and aesthetics hinge on a concept of what is of value; that is, value is what returns the greatest benefit for a given investment. One participant summarized these ideas:

Lots of people make a mistake when they exceed their budget. They start chopping off the house. It doesn't save you anything. Also, it often destroys the concept, the way spaces are related particularly. Even if we didn't finish, if we had run out of money, we

would have built [on] this scale. We would have finished it as we had the resources.

If longevity and versatility are expected, then greater "functionality" expresses greater value and justifies the greater costs. Here, costs represent an opportunity rather than a limit. Implicit in this kind of thinking is a symbolic reference to *quality*. Metaphors to quality abound in these homes: "hand made," "custom made," and "plumb and square and level." The metaphors relate higher cost with greater value and functionality. However, at times the lowest cost is of value and is considered more functional. Here, cost is viewed as a constraint. Thus, lower costs yield greater functionality and value.

Guiding this trade off among cost, value, functionality, and aesthetics were individuals' values. The home is a symbolic expression of what the individual valued. Styles of homes often speak to such a symbolic orientation:

I wanted colonial. I didn't want a contemporary at all. I wanted something more traditional. We lived close to Williamsburg. You just don't see true Williamsburg colonial...the true, real thing.

Here, the meaning of "traditional" is cultural, but it is also personal: that is, the informant's experience of living near Williamsburg creates a personal meaning of traditional that is combined with the cultural meaning. Other examples of the expression of the role of values was more explicit and were also reflective of this joining of cultural and personal meaning.

I think people that build solar houses were hippies in the 60's. They joined the peace corps or they were professors,...there were a lot of Californians...I would bet you its people's philosophy whether they build a solar house or not.

Another informant said, "Protecting the environment [and] living in harmony with nature, that influenced our choice to build a solar house." Others expressed values of not being conspicuous consumers:

Some friends of ours recently purchased a big expensive house. Every aspect of it was built to impress people...We try to think who would live in this house, what kind of people.

In summary, informants sought to balance functionality, costs, value, and aesthetics, although the meaning of these concepts changed across and within the interviews. This balance was based on individuals' values, which were a combination of cultural and personal meaning.

Home As A Process

The home represented a process as well as an entity. This process lasted years for some of the informants. It starts with the anticipation of building, moves to learning and preparation for building, enters a period of negotiation as the house is financed, designed, and built, climaxes in the building experience, and finally extends into the living experience.

Anticipation and Learning. An important part of the process of the home is the anticipation and learning that takes place as the house is planned. "This house has been my hobby. Reading building magazines, that's where I got my ideas...I've been working on things for years and years." Sometimes learning is a cumulative process: "Actually, we built a house fifteen years ago. The things in this house are things we wanted in that house." Anticipation moves next into the process of negotiation.

Negotiation. Negotiations take place with a variety of people: financiers, architects, builders, and spouses. The basis of the relationship was important for defining the negotiations. For example, one informant describes the relationship with her builder that is based on their similar view of craftsmanship:

He wasn't in a hurry. We didn't have a deadline... Good quality [takes time]. We'd come up here and think about an hour on how to do something. He's real patient and I'm patient. I want it done right.

Thus, similarities between the negotiators led to a better relationship. Negotiation also arose between spouses. One couple resolved their differences in an innovative manner:

There were certain things she wanted and we made them mix...This is what a friend suggested, its a great idea for building a house. You can have ten "might as wells" and you've got ten of them and that's all. That window was a "might as well"...The Jacuzzi was a "might as well"...It sounds stupid but it works. We would say we will go ahead and do it for a few more bucks.

Spouses learned ways of negotiating during the process of building, which extended into the living process.

The Building and Living Process. The metaphor of the house as a process extends to the building process and, ultimately, to the living process. The house *is* how we live our lives. For example, in negotiating, some couples cooperatively made decisions, other couples partitioned off areas of responsibility, while still others reported the power struggle that took place over each decision. Examples of the house being a metaphor for how we live arose in the building process, as well. The building process was approached by "experientials" by rolling up their

sleeves and being at the site every day. "Managers" approached the building process by acting as their own general contractor. "Planners" approached the process by focusing on details and getting them right.

The building process as a living process is exemplified by the owner-builder. For the owner-builder, the major living ritual is building the house, which spans years. Since the house is continually under construction, building and living become intertwined. As one owner-builder termed it, the house is "organic" architecture, and in the sense that the house also "lives" and responds to the people that inhabit and build it. The house changes continually as they change and as their needs change:

This house has so much of our love of labor in it. We are building this thing every weekend...[Building yourself] takes incredible dedication, energy, and an incredible level of cooperation in a marriage or relationship. To make it work you are under such stress. It's really stressful, [but] it's fun. It really pulls you together. But its also stressful. Just making decisions all the time...If you contract with a builder, the house just gets build. Literally everything in this house we decided on...For us, a house is a whole lot more than a structure.

The building process is a metaphor for living. This couple was literally building their relationship and their lives each weekend. The house exerts an influence on its inhabitants, just as they create the house, the house creates them. As the house develops and solidifies, the life style that the house represents develops and solidifies. One couple said that only when the living room was completed could they move out of the social tunnel imposed by living in two unfinished rooms. The structure of the house influenced the informants' life style.

The relationship between a house and its inhabitants extends well beyond the building process. Houses are designed for a particular type of life style. In a sense, the house initially structures how a family envisions living *at a particular point in time*. In terms of process, houses are snapshots made during the learning and negotiation stages. These snapshots may emphasize the past, such as a childhood home:

As a child I always had my own room, since a very young age I had a drawing board...that general feeling for a place for my books or whatever, I've had ever since I was quite small. My study is just a big version of my room since I was a kid.

Or the snapshots may emphasize the future, such as a place to retire. Nevertheless, the house does not usually accommodate the flexibility to structure both the present life style and the changes necessary to actualize future images: "[Renovations and

additions] usually occur when people are older and the kids are gone. They don't need the space, but they want a dramatic rearrangement so it will be new." Thus, change is stimulated when the house no longer fits the inhabitants' lifestyle.

In summary, the house is a process of anticipation, learning, negotiation, building, and living. As the consumer moves deeper into this process, the consumer creates the house and the house shapes the consumer. This influence of the house on the life of the consumer is most evident in the owner-builder. When the life of the consumer does not match the house, renovations can be made or the family can move.

Limitations and Extensions

As with all studies, a number of limitations exist. For example, greater depth of information might have been gained by having additional follow-up interviews with the informants. Since the goal of this study was to *understand* this process of the co-creation of meanings, insight might be gained by interviewing the architects and builders. In other words, an area of future inquiry might be to study the dyad of the producer and the consumer. In this study, only the consumer side of the dyad was explored. Also, the process of building was recreated based on the informant's memories. An interesting study would be to examine an ongoing process of creating custom-made products.

Conclusions

The meaning of home is more clearly understood by examining the creation and consumption processes. Custom-made products offer a unique opportunity to focus on the co-creation of meaning between a producer and consumer. What is significant about the customizing process is the opportunity for meaning to be encoded into the product. Consumers are not forced to accept cultural symbols encoded by a product designer. Instead, more personal meanings--meanings that come from direct or imagined personal experiences--can replace or expand cultural meanings. Custom-made products speak for us and to us. The product speaks for us in the personal and cultural meanings that we encode. But the custom-made product may also speak to us and shape our lives, as in the case of the custom-made home.

Several participants emphasized the unexpected changes in their lives that had taken place because of their new home. The shaping process represents the development of meaning in the consumption of the home. This type of meaning is personal, experiential, and symbolic. Evidence of this influence was provided by custom-homes in which houses were envisioned with changes of life in mind. These changes represent symbolic or "displaced" meanings that feedback to shape life experience. One home builder, for example, spoke of the desire for a life with fewer responsibilities and less emphasis on work. She describe her dream home as one that would be "light" and "playful." Living in such a house would

"cultivate" those meanings in the words of Csikszentmihalyi and Rochberg-Halton (1981). Living in such a house would shape the life of this home builder so that it was light and playful.

The home is a metaphor for living because we structure our homes as we wish to structure our lives. This idea is more evident in the custom-made home where fewer constraints exist on the form the home will take. Nevertheless, the idea of structuring our home environment to reflect the way we would like to live may be applicable to home purchasers, condominium owners, and apartment dwellers. These groups are faced with more constraints in the symbols available and the encoding of these symbols. Therefore, shaping one's life in these contexts may focus more on those aspects of the home that can be changed: interior color, the carpet, the furnishings, and so on.

The idea that consumers actually shape their consumption experiences through the specification and encoding of product symbols is an extension of the culture and consumption model (McCracken 1988). In the case of custom-made products, McCracken's theory of the one way flow of meaning from culture to individuals is extended, in that the individual can create meaning by creating a product. Also, the product can shape the consumer. This relationship is a reciprocal co-creation process in which the consumer creates the product in response to symbolic needs and the product creates the individual through the structuring of experiences. Reciprocal co-creation is most apparent in custom-made products but may also operate when innovators or opinion leaders extend or interpret cultural meanings. The study of these types of consumption experiences using custom-made products may yield important insights into how we use consumption to aid our life satisfaction and ultimately insights into the role of consumption in our society.

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T-Shirts as Wearable Diary: An Examination of Artifact Consumption and Garnering Related to Life Events

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ABSTRACT

This paper utilizes recently introduced perspectives of consumer theorists to examine the consumption of T-shirts. This artifact is examined with regard to cultural meaning, ritual behavior, primitive behavior, and consumption symbolism. Additionally, an inventory of five T-shirt diaries is made.

I sat quietly in the afternoon sun at Shultz's while Allyson, artfully decoded the complex of social symbols and wearable artifacts surrounding us. She continued:

"And that fellow there, the one with the T-shirt of Nixon that reads 'He's Tan, Rested and Ready for 1988.'"

I nodded.

"He is a biker, a bicycle biker not a motor biker, ready to have fun and at the same time very serious about his sport."

"And the one next to him, the one with the St. Paulie Girl T-shirt. He's into financial security -- I mean you can always plan on going Dutch."

"What about Mr. Executive that just hit the door?" Lee leaned over to question.

"Oh him, I don't know what he's up to today but he has an ultimate tanning machine and T-shirts from every Hard Rock Cafe he's ever been to."

INTRODUCTION

There is a considerable amount of scholarship devoted to the study of garments worn by individuals. Fortunately for those of us who would examine the consumption and rituals associated with clothing, Holman (1980) offers an excellent review of relevant literature. Holman reports that some researchers have focused on the theme of fashion cycle and aspects of economic or conspicuous consumption, while other sociopsychological researchers have studied the importance and function of clothing in the culture. It is this second approach to understanding clothing which this paper follows.

Sociopsychological researchers view clothing as more than utilitarian. Here are some conclusions about the cultural function of clothing:

-The function of clothing within the community is to designate the individual (as to sex, age, social status, occupation etc.) Yoder (1972).

-Clothing usage is an expression of personality, of self (Rosenfeld and Plax 1977).

-Dress provides a link with other individuals in festive, ceremonial and everyday activities (Roach and Eicher 1973).

T-shirt consumption and garnering is first examined with regard to recently introduced perspectives of consumer theorists. This artifact is uniquely qualified as a subject for study because of its tremendous meaning carrying capacity. It is acknowledged that other social objects (e.g., jackets and hats) can function in a similar capacity. The T-shirt is chosen as subject here because of its pervasiveness in the society and unisex nature.

This study then examines T-shirts as carriers of cultural meaning for five individual cases. The study is limited to T-shirts and sweatshirts with words or slogans and pictures that have some intention to communicate overtly. The interest here is in clothing that has communication as a primary function.

The Spirituality of T-shirts

Hirschman (1985) challenges both the stereotype of North Americans as possessed by a secular consumption ethic and the separate treatment of the natural and supernatural with regard to consuming behavior. In defending the spirituality of some American consumption patterns Hirschman turns to the work of Czikszentmihalyi and Rochberg-Halton (1982). These authors agree that consumers invest psychic energy in personal possessions and that the more that energy is invested in the objects over a lifetime, the more those objects come to transcend their mundane origins and embody personal meaning.

Czikszentmihalyi and Rochberg-Halton (1982) find that despite elevated standards of living, meaning, not material possessions is the ultimate goal of our lives. The T-shirt, as cultural artifact, serves as an illustrative example of our search for meaning. T-shirts have a very limited material value and rarely appreciate in economic value; however, they provide a unique symbol of self-definition.

Wicklund and Gollwitzer (1982) describe a person who strives for self-definition as a person who emanates or displays symbols of the self-definitional essences that are then potentially reacted to by the community. According to Wicklund and Gollwitzer, symbols can be blatant, such as the positive self-description: "I am fluent in Spanish" or they may be more subtle such as associating with Spanish speakers. Regardless of their character, the "purpose of the symbol as it has evolved is to stir up a readiness in the community to respond to the symbol" (Wicklund and Gollwitzer 1982, p. 5). This purpose is certainly true of the T-shirt.

T-shirts as Labels of Cultural Category

Contemporary North American culture has been described as having cultural categories which are more or less elective (McCracken 1986). This elective quality, as described by McCracken, means that the North American society "permits its members to declare, at their own discretion, the cultural categories they presently occupy" (1986, p.72). This self proclaiming is in contrast to other cultures where categories are more rigid and where belonging to a category is not a matter of choice. McCracken goes on to say: "Social groups can seek to change their place in the categorical scheme, while marketers can seek to establish or encourage a new cultural category of person (e.g., the teenager, the 'yuppie') in order to create a new market segment."

The T-shirt is unique in its ability to supply a label to a cultural category (e.g., "49er," "Native Floridian"). Even more importantly, individuals can, in a moments notice, change their proclamation of cultural category by changing their external symbols. This chameleon aspect of American culture is made possible in part by marketers who make you one of the group through promotional T-shirt deals and give-aways. Proclamations of cultural category may or may not be accepted by the society but the opportunity to wear symbols of choice exists nevertheless and just like the lizard, it may be discovered that one is not really part of the branch.

T-shirts in Rites of Passage

Rites of passage are rituals that center on the social observance of events that symbolically mark an individual's social status changes (Rook 1985). T-shirts in some instances have become widely accepted ritual artifacts. For example, the "class of" T-shirt which lists all the names of the graduating class of a particular high school is worn by those who will take part in the graduation rite of passage. In a society where formal events commemorating the adolescent initiation into adulthood are observed less and less often, the participation in and evidence of informal rites of passage take on greater importance. Rook (1985) recognizes the heavy metal concert as a cosmology-based ritual in that for its audience it may have a spiritually elevating effect.

Concert attendance whether heavy metal, punk rock or new age has certain norms associated with it that bridge the gap between childhood and adulthood. Some concerts require attendants to be of a certain age in order to better police restricted beverage consumption. Perhaps more importantly, music has the most unusual capacity to date an individual. Music (and the T-shirts representing the groups and individuals that produced it) "belongs" to those who came of age while that music was popular. This is not to say that one cannot enjoy the music of any period but rather that ownership of an original Woodstock T-shirt may reflect on perceptions of your age at social gatherings.

T-shirts as Trophies

As a species, humans throughout history have been fond of bringing home souvenirs of conquests. Savage warriors of the head-hunting type returned from the hunt with fragments of the human enemy and were proud of these trophies which represented prowess in war (Verrill 1946). Modern urban conquests do not depend on bringing back scalps, ribs or teeth. Sports are an established outlet for civil, non-warring competition. In the growing health conscious sector of U.S. demographics, extrusion-molded marble and golden human facsimiles are the pinnacle of amateur athletic success. However, most must settle for the perennial T-shirt as tangible proof of their participation and conquest, if not over others at least over the clock. T-shirt garnering is a serious aspect of participation in amateur athletics. Registration deadlines admonish late comers with those speed inspiring words: "T-shirts to the first 500 entrants." At the conclusion of the event the T-shirt artifact serves as a marker of the occasion and as wearable symbol of one's self-definition. For example, one can utilize the T-shirt in the ambiguous environment of a sporting goods store to establish oneself as a serious runner and a knowledgeable consumer of running shoes.

T-shirts as Poly-Cotton Pheromones

A potentially overlooked aspect of T-shirts is their ability to attract like-minded people and simultaneously repel social incompatibles. The words "Single head of household" are expected to describe 45% of United States by 1990 (Stern, Gould and Barak 1987). More importantly, the baby boom singles are characterized as being "social seekers." The singles have more leisure time, they socialize more and they also are more concerned with their social image than "marrieds." Igniting social dialogue may be an increasingly important function of the T-shirt in the future.

FIVE DIARIES

This study was limited to T-shirts (and sweatshirts) of any sleeve length and fabric construction. It included shirts with words or slogans and pictures that had some intention to communicate overtly. All clothing communicates, but the interest here was in clothing that had communication as a primary function. Patterns and florals or any image of a repeated and nonspecific nature and of course, shirts without distinction were excluded.

Inventories were conducted of the accumulated T-shirts of five individuals, one of which was the author. The procedure was to locate all T-shirts; record their symbols, slogans and other characteristics; and then group the shirts in meaningful categories. Additionally, the meanings of each shirt, the circumstances of its acquisition, and the grouping and labeling processes were discussed. Documentation was kept in the form of T-shirt lists, records of grouping and labeling activities, field notes and photographs. In seeking

TABLE 1
An Examination of T-shirt Diaries

	The Author's Diary		The Diaries of Others		
	Me	Dee	Kay	Que	Jay
Person					
Gender (f=female, m=male)	f	f	f	m	m
Age	29	34	39	26	45
<hr/>					
T-shirt Categories	Number of Shirts				
Affiliations and Loyalties:					
Work	1	0	1	1	3
Teams/Groups/Institutions	6	0	2	5	4
Activities:					
Sports Participation	6	18	4	6	0
Event Attendance	5	0	2	5	3
Travel/Vacation	7	6	7	2	8
Special/Other	0	6	0	0	0
Personal Meanings:					
Self Expression	1	0	1	2	7
Gifts	0	5	5	0	0
Impersonal:					
Company/Product	4	0	0	1	4
Fashion	0	2	0	0	0
<hr/>					
Totals	30	37	22	22	29

participants for the study I asked for referrals (and introductions) outside the academic community. All participants had full-time jobs outside the university.

An examination of the T-shirt diaries is presented in table format and discourse. Category labels in the table are offered as prototypes so that all diaries may be presented together. Interesting and insightful category labels supplied by participants are noted in the discussion of individual diaries. Also revealed in the discussion are calibrations of myself as researcher in the unfolding of this humanistic inquiry. The incorporation of personally experienced knowledge in the rendering of research is not a new idea (see Polanyi 1962), however, in the marketing discipline, disclosure of the process is (Hirschman 1986).

The Author's Diary

After recovering from the shock that I owned 30 T-shirts of the type under study (and another 23 that were more or less generic), I recorded their symbols and began to group the shirts into meaningful categories. Several categories were readily apparent (Table 1). Seven shirts were related to past and present academic affiliations. This was

not surprising considering my line of work and many (too many) years of academic preparation. The next meaningful group to emerge was related to activities: personal participation in amateur athletic events (6 shirts), other events (5), and places where I had traveled (7). One was unique in its message of self-expression and the remaining shirts were for products or companies.

It should be noted that many of the shirts related to sports events also had some form of product or company information from the event sponsor. This fact is evidence of the expanding role of corporate America in the support of organized sports events (Oneal and Finch 1987, Taylor and Silverman 1984).

It was interesting that those shirts found in the laundry basket, the washing machine, and gym bag could be deemed most currently self expressive. For example, the shirt in the gym bag was a product shirt for an advertising text book which is expressive of a current activity: teaching advertising and promotion. Those shirts found in the bottom drawer archives were in many ways a shell of my former self. Deep in the archives was a "Gary Hart for President" shirt which had expressed loyalty to the person and the party during his first presidential

campaign. Now, stripped of its deeper meanings (or at least irrevocably altered), this shirt was reduced to functionality (to be worn under sweaters for warmth).

In the mode of self examination I found support for several of the functions of T-shirts, most notably, T-shirts as sports trophies and T-shirts as definitions of cultural category (e.g., "Texas Longhorn"). Additionally I learned that the process of inquiry took much longer than expected (nearly two hours) and that the process could be much more personally exposing than originally expected. These and other insights were helpful in developing the instructions for study participants. For example, other diarists were cautioned to look for all T-shirts before beginning the grouping and labeling process. Following are highlights from the four other diaries.

The Diaries of Others

Dee's groupings reflected her interest in amateur sports participation. Eighteen shirts were listed under her label "exercise related" and are listed in Table 1 under "Activities: sports participation." Dee explained that wearing exercise related T-shirts made her feel active. "It says: 'Look, I did a 5-K.'" Unique to Dee's diary was the special activity group that she labelled "volunteer." In this group were six T-shirts (Table 1) that were worn when organizing or officiating at some special event such as the "Run for Cancer." Dee's volunteer T-shirts seemed to reflect her history and allow her the cultural categorization of "socially concerned," whereas the sports participation T-shirts enabled her to bask in the reflected glory of accomplishment. It is important to note that a T-shirt may have different meanings for different people. For example, a T-shirt may relate to event attendance according to one person's diary but may be more specifically related to volunteerism for another person.

Also unique to Dee's diary were two fashion T-shirts. These T-shirts had no deep personal meaning. "They are just fun to wear because of the colors, in fact I organize all my T-shirts by color," she said.

Kay likewise was interested in the colors of her T-shirts, however, particular shirts had very important meanings and functions in her life. Kay's favorite was an Arkansas shirt with a Razorback on the front and a tail down the back. She gladly modeled this shirt while explaining that "It makes me feel lively, like I'm back in college again. I wear it to be obnoxious at football games." Kay also reflected that of the five T-shirts that had been given to her as gifts (Table 1) several of them reminded her of old boyfriends.

For Que (by now you may have guessed that these are not the actual names of the diarists), six T-shirts (Table 1) related to sports event participation and were grouped under the rubric of "health consciousness." Five event attendance T-shirts were either music event attendance or attendance of events unique to a particular region. These T-shirts were considered to reflect "personal taste" and an appreciation of "local color." There were life experiences of personal importance related to the

"U2 Unforgettable Fire, 1985 Tour" T-shirt and the artifactual consumption of that T-shirt served as a marker of the occasion. Whereas the "I AM A UFO" T-shirt was not related to a particular event, it was useful in defining Que's sense of humor/bizarreness and is listed in Table 1 under "Personal-Meaning--Self Expression."

A concept of meaning construction emerged from my discussion with Que. To express his sense of irony, Que wore a jacket with his "Phil Collins--No Jacket Required, Tour 1988" T-shirt. In this way Que was able to manipulate, through other articles of clothing, the meaning communicated by this T-shirt, thus constructing his own meaning.

Neither Que, nor Jay the fourth and final diarist, expressed concern for the color of their T-shirts. However, both Que and Jay utilized the concept of meaning construction. Jay emphasized the construction of meaning through a T-shirt's interaction with himself and a particular situation, activity or environment. For example, Jay's four "Impersonal: Company/Product" T-shirts (Table 1) were from sporting goods manufacturers like Nike and Reebok. Jay enjoyed the hint of irony when he wore one of these T-shirts he labeled "I'm a jock" because he was obviously not a jock (these are his own words and not a subjective opinion of the author). This meaning construction was then augmented by wearing this "I'm a jock" type T-shirt to play bridge with his oh-so-serious partner. In this way Jay constructed a personal meaning from an impersonal T-shirt.

Jay's eight "Travel/Vacation" shirts (Table 1) were thought of as evidence of conquest. According to Jay, "T-shirts are the best souvenir because they are visible and portable--better than salt and pepper shakers that just sit on a shelf." Jay had seven T-shirts which were self expressive (Table 1). Jay explained that he picked T-shirts to wear according to his mood: "There are shirts for parties that I hope will evoke a comment and T-shirts like 'Betty Boop' to wear when I feel naughty."

CONCLUSIONS

The spirituality of T-shirts, if thought of in terms of psychic energy investment, appears to vary by person. For the diarists in this study, psychic investment ranged from organizing T-shirts by color (a low psychic investment) to T-shirt coordination and integration with specific life events for the explicit intention of evoking a response from a subset of the community (a high psychic investment). T-shirts as trophies (related to sports and travel) and T-shirts as labels of cultural category were repeated themes for all diarists. The role of T-shirts in rites of passage was not emphasized by these diarists. This may be related to the fact that participants were adults and many important developmental events had long since passed. T-shirts were not cited as useful in attracting or repelling social seekers; however, T-shirts were found to be useful in self expression which may indirectly function in the same capacity.

This paper was reviewed by a peer from the communications area of a different university. The comments of that outside auditor and the comments of the two anonymous reviewers which are not already integrated into the paper are included here in the form of questions to pique the interest of researchers:

- How do we measure the effects of T-shirts on consumers as wearers or observers?
- How are T-shirt category representations expected to vary by consumer group and what does this tell us about that group?
- What is the cultural significance of oblique versus direct meanings associated with T-shirts?
- Is the function of T-shirts, as label of cultural category or declaration of group membership, different in urban, suburban and rural settings?

This study was limited to five diaries and therefore may not capture the full range of cultural functions related to T-shirts. However, for the diarist in this inquiry, T-shirts with overt intentions to communicate were unique carriers of cultural meaning for the individual who possessed the artifact. Their uniqueness stemmed from this clothing's ability to punctuate cultural categories and modify the meaning of other cultural artifacts. Furthermore, T-shirts were useful as building blocks of personal communication. Meanings were constructed by the diarists through the interplay of T-shirts, group identifiers (such as physical appearance or other elements of clothing) and situation or environment.

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A Conception of Consumer Identity

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ABSTRACT

The development of a consumer identity is proposed to occur within the context of Erikson's life span developmental conception of the identity stage. Using Marcia's work on the development and measurement of occupational, religious, and political identity, a consumer identity interview was developed. The results of interviewing a group of undergraduates suggest that the Consumer Identity interview is measuring something distinct from occupational, religious, and political identity. The sequence of identity development suggests that a consumer identity is important for becoming an effective, productive adult.

A central issue in human development is the development of a sense of identity. The meaning and influence of one's answer to the question, "Who am I?" is sharply etched in his/her personal histories. Moreover, as a result of Erikson's (1963; 1968) descriptions of the development of identity as the primary outcome of adolescence and a significant influence on adult behavior, a wealth of research has emerged on the development and effects of identity (see Bourne 1978a; 1978b).

One of the most widely accepted operationalizations of the concept has been through a semi-structured interview developed by Marcia (Bourne 1978a, 1978b; Marcia 1976; 1980). Agreement that there is an effective measure of identity and the use of this reliable and valid interview has allowed the study of the development and effects of identity to proceed. Unfortunately, this research has been essentially limited to only those areas in which Marcia believed adolescent identity development is important. Believing that Erikson viewed occupational, political and religious identity to be the most important areas in which adolescent identity evolves, Marcia created an interview to measure identity development in those areas. Other researchers seemingly adopted those areas as the dominant areas of development, and they either studied the relationship of identity development in those areas to behavior choice in those domains or they used those areas and looked at how they relate to behavior in other domains. As in many areas of the study of human behavior, once a measuring technique is well accepted it begins to define the concept under study. Thus it appears that Marcia's interview has come to define the three areas of identity development in adolescents, as if those are the only three or most important three areas of identity development. In reality there may be other

areas of identity development of equal or greater significance to adult development and behavior than religion, politics, and occupation.

The primary purpose of this research is to develop an extension of the Marcia interview into the consumer domain. It is our contention that identity development occurs in the consumption domains as well as the occupational, religious, and political domains tapped by the Marcia technique, and may be as or more important in the development of an effective adult in a market economy and society.

Theoretical Foundations of Identity Research

Both the theoretical formulations (Erikson 1968) and reviews of empirical work (Marcia 1980) have painted identity formation as a critical building block of adulthood. According to Erikson, adolescence is a time for individuals to try out various social roles prior to making formal commitments. It is the time at which the crucial question is asked, "Who am I?"

Erikson conceptualized the adolescent conflict as one in which individuals organize and reorganize their notion of themselves. The outcome of the identity crisis is the acquisition of an ego identity. According to Erikson (1968) one's ego identity is "the awareness of the fact that there is self-sameness and continuity to the ego..." (p. 50) such that the individual forms consistent roles and beliefs. Ego identity refers to commitments to broader social goals (e.g., occupational goals, religious choice) while self-concept refers to an individual's self-perceptions and role images. According to Erikson each society provides a scheduled time for the completion of that identity.

Based on Erikson's theory, Marcia (1966) constructed a taxonomy which constitutes a four fold classification of adolescent identity development. According to this schema an adolescent forms one of four identities called identity achieved, foreclosed, moratorium, or diffuse. The following is a brief summary of the major characteristics of each identity status. Identity achieved adolescents have actively considered alternatives and have made a commitment to one of those alternatives. For example, in the case of making an occupational choice, the identity achieved individual has considered various career/job choices and has on the basis of this exploration made a firm commitment to one alternative. Identity achieved individuals have high self-acceptance, a stable self concept, and have made a commitment to a vocation, a religion, and a political ideology.

Foreclosed adolescents tend to develop identities which are isomorphic to that of one of their parents or significant other. They are happy and accepting of whatever commitments have been handed to them. Those in moratorium tend to be actively pursuing an identity. They are in the throws of the "identity crisis" and are seeking and exploring those things that may serve as their future occupation, religion, or political choice. Finally, the diffuse person has no commitment and has undergone little or no exploration. He/she lacks certainty about him/herself and has little or no commitment to occupation, religion, or political thought.

The Case for a Consumer Identity

Today's world requires a set of decisions that may go beyond occupation, religion and political identities. It is our contention that society demands that an individual address the issue of consumption. Coleman (1974; 1978) and Raphael (1979) present evidence that adolescents do not resolve identity dilemmas in occupation, politics, and religion simultaneously. They suggest that each area has meaning as a separate identity, therein opening the possibility that politics, religion, and occupational identity are three of many possible identity dimensions. Consequently, Waterman (1985) has suggested and developed an interview like Marcia's to measure sex role identity development. Learning to be an effective, productive adult consumer functioning in the marketplace is one of the social roles for which adolescents need to acquire appropriate skills, motivations, attitudes, and behaviors (Dusek 1977; Kuo 1987).

Indeed, recent research in consumer behavior has focused on the importance of and the development of adolescent consumer motivations and skills. Consumer behavior appears to undergo significant formation and change during the adolescent years, turning the child into a fairly sophisticated consumer (Moschis 1987). Unfortunately, these researchers have proceeded in a relatively atheoretical manner and either do not know of Erikson's guidance or do not think that Marcia's operationalization of Erikson into occupational, religious, and political identity is applicable or generalizable to understanding the developing consumer. It is unfortunate when such a dominant theoretical statement, such as Erikson's, has not been utilized as a guide for understanding the adolescent consumer. The objective of this research is to investigate the utility of using an Eriksonian framework to understand the adolescent consumer. The strength of this approach lies in the fact that it adopts a powerful adolescent developmental theory in studying the learning of consumer skills by adolescents with the same mechanism ("identity") by which adolescents have been said to become adults in other important developmental areas (e.g., occupational choice).

Therefore a Consumer Identity Interview was developed which patterned the interviews previously used to identify occupational, religious, political, and sex role identity areas. Identity issues have

been found to come into play and take center stage at different times in development (Coleman 1974; 1978). Research on identity has shown that individuals first assume identity development in occupational areas, next in religious areas, and last in political areas (Raphael 1979). We felt that one measure of the validity of the proposed consumer identity concept and interview was if the development of Consumer Identity would be found to occur at a different time than occupational, religious and political identities. The importance of the concept of consumer identity can be assessed from its placement/rank in the developing identities. Since occupation is an overriding concern in college, we believed like Raphael (1979) that occupational identity would be found to develop first. However, given the importance of material concerns in college, we hypothesized that consumer identity would be developed after occupational identity but before religious and political identity.

METHODOLOGY

Subjects

Forty-two freshman undergraduates volunteered for extra credit toward their final grade.

Identity Status Interview

Marcia's (1966) semi-structured interview was used to determine subjects' identity status in the areas of occupation, religion and politics. Our Consumer Identity interview was used to assess their consumer identity (see Appendix 1 - each interview lasted between 20 and 40 minutes).

The questions and procedures for administration and scoring of the Marcia interview for occupation, politics, and religion are well established and explained in manuals developed by Marcia (1966), Waterman (1982), and Grotevant et al. (1982). Since these interview schemes are well organized and tested, the translation for a consumer identity was relatively straightforward. Interviewers were trained in accordance with these procedures. Practice interviews were conducted and evaluated by a researcher experienced in the delivery and use of the Marcia interview. Each interview was coded by the interviewer and a second person other than the interviewer (each interview was recorded). The interview was coded by a person of the opposite sex to the person conducting the interview to account for possible bias identified by Matteson (1977). Agreement between judges was 87%. Any disagreement was settled by conference.

Coding procedures have become relatively objective by rating the interviewees' degree of commitment and exploration for each identity domain. A person's degree of exploration was rated on a scale of 1 to 4. A rating of 4 on exploration is given for the presence of depth and breadth. Depth of exploration involves the investigation of one option (for example, becoming a professor) by means of several different approaches (getting a PhD; attending a professional conference; reading professional journals). Breadth of exploration

APPENDIX 1
Identity Interview

Introduction:

- *What year are you in?
- *How far along did your father get in school? What does he do now?
- *How far along did your mother get in school? What does she do now?

Occupation:

- What are you going to do after college?
- Are you planning to go to college? Do you know what you will major in?*
- *What do you plan to do with it?
- *When did you come to decide on (career choice)?
- What people or experiences have been major influences on your plans for the future? (Probe re: teachers, parents, reading, etc)
- *Did you ever consider anything else? What? Anything besides that?
- *What seems attractive about _____ ?
- *Most parents have plans for their children, things they'd like them to go into or do -- do yours have any plans like that for you?
- *How do your folks feel about your plans now?
- What kinds of difficulties or problems do you see associated with your decision to _____ ? if these things were to become difficult, what would you do then?

Religion:

- *Do you have any particular religious affiliation or preference or philosophy?
- *How about your folks?
- How did you come to be a _____ ?
- What people or experiences have influenced your thinking about religion?
- *Were you ever very active in church? How about now? Do you get into many religious discussions?
- *How do your parents feel about your beliefs now?
- *Are yours any different from theirs?
- *Was there ever a time when you came to doubt any of your religious beliefs? When? How did it happen? How did you resolve your questions? How are things for you now?
- Do you anticipate that your religious beliefs will stay the same or change over the next few years?

Politics:

- *Do you have any particular political preference?
- How did you come to that decision? How long have you been a _____ ?
- *Are there any issues you feel strongly about? (Probe re: National level, state, local, or school, but DO NOT suggest specific issues to react to.)
- *Have you ever taken any kind of political action -- joined groups, signed petitions, written letters, participated in demonstrations about politics or political discussions -- anything like that?
- *How about your parents' political preferences?
- What people or experiences have influenced your thinking about politics?
- Have there been times when you have felt differently about your political affiliation (or issues)? When? What made you change?
- Do you expect your political involvement or attitudes to stay the same or change over the next few years?
- Who would you like to see elected President in 1980?

Consumer:

- How important is money to you?
- What general guidelines do you have for spending and saving your money now?
- Will your spending/savings patterns change when you get a job and make more money? Why?
- Do you plan on owning a home, a car? Why?
- Do you plan to save?
- Do you have priorities in your buying and saving? How did you arrive at these priorities?
- Do your parents have priorities in their saving and spending?
- What has influenced your thinking about your buying and saving habits?
- Do you expect these ideas to change?
- If you came into a lot of money how would your style change?
- What would you do differently/same and why?
- Just how important do you feel spending, saving, buying is for you?

TABLE 1
Proposed Scaling Sequence For Openness Across Identity Areas

Occupation	Open In			Total Open Areas
	Consumer	Religion	Politics	
+	+	+	+	4
+	+	+	-	3
+	+	-	-	2
+	-	-	-	1
-	-	-	-	0

involves the investigation of a number of different options (e.g., becoming a professor, a high school teacher, or a doctor). A rating of 3 is given if the individual has explored only 1 option in depth or a couple in very little depth. A rating of 2 is given for only superficial exploration with little depth or breadth. Finally, an individual is given a rating of 1 for exploration if he/she shows a complete absence of consideration of options in that domain. Commitment was scored on a 4 point scale, ranging from 1 (complete absence), 2 (weak or vague), 3 (moderate), to 4 (strong firm choice).

These scale ratings were used to derive identity status within each domain. In general, "identity achievers" score in the 3-4 range for both exploration and commitment, "moratoriums" score in the 3-4 range for exploration and 1-2 on commitment; "foreclosures" receive 1-2 on exploration and 3-4 on commitment; and "diffuse" score 1-2 on both exploration and commitment. For each subject, then, a set of 2 scores measuring exploration and commitment and an overall identity was derived for each content area (religion, politics, occupation, and in this study consumer identity).

RESULTS

Distribution of openness ratings. Of the 42 subjects, 37 (88.1%) were classified as "open" (having explored) in the occupation category; 17 (40.5%) in the consumerism area; 13 (31.0%) in the religion area; and 11 (26.2%) in the politics category. A McNemar Test for differences between correlated proportions indicated that differences between the number of subjects classified as open were significant ($p < .01$) between occupation and politics, consumerism and occupation, and religion and occupation. The differences between the number of open subjects were not significant between consumerism and religion, consumerism and politics, and the religion and politics categories.

Scaling of ratings. A scaling sequence was then tested for presence of open ratings. Based on Raphael (1979), the sequence predicted that an open rating in occupation was necessary before an open rating could be seen in consumerism. Likewise open ratings were necessary in both occupation and consumerism before one could be seen in religion. Finally, open ratings were required in all three of the

previous categories before one could be found in politics (see Table 1).

Analyses supported these predictions using Green's (1956) techniques for assessing the quality of Guttman scaling. Two indices of reproducibility were found. RepA = .94 and RepB = .939, both exceeding not only the traditional criterion of .85 but also the commonly used results, .89 and .91, found in other studies (Kasulis, Lusch, and Stafford 1979; Raphael 1979).

The index of reproducibility measures how successful the Guttman scale is in reproducing an individual's openness rating given only an individual's scale score. To assess the degree to which the index of reproducibility is influenced by scale item distribution, the *expected* coefficient of reproducibility is calculated. This measure calculates the coefficient that would be obtained using only item frequencies. In this study, the expected reproducibility coefficient, RepI, is .85, and is significantly different from both RepA and RepB at the $p < .05$ level.

An additional measure obtained using Green's statistical measures for Guttman analysis is the Index of Consistency. This index shows the percentage of maximum possible improvement in reproducibility that the derived scale actually obtained. As with the "Rep" measures, its range is zero to one. In this study, the indices of consistency, .42 and .43, indicate that the Guttman scale achieved 43% of the improvement in reproducibility that was theoretically possible for RepA, and 42% for RepB. Although not quite at Green's recommended measure of .5, the results account for more of the possible improvement in reproducibility than other studies that considered .30 to .40 acceptable.

Error analysis. Since both indices, reproducibility and consistency, are less than 1.0, it is obvious that the derived scale possesses some degree of error. These statistics are obtained from the number of deviations, or errors, from a perfect Guttman scale pattern.

Table 2 contains data necessary for error analysis. There are four cells containing four numbers that represent 1) rank order of category, 2) frequency, 3) number of skip errors, 4) number of category errors, and 5) error percentages.

TABLE 2
Category Rank Orders And Error Statistics By Group

	<u>Political</u>	<u>Religion</u>	<u>Consumerism</u>	<u>Occupation</u>	<u>Total Errors</u>
Rank	4	3	2	1	
Frequency	26.2%	31.0%	40.5%	88.1%	
Skip errors	0	0	7	3	10
Category errors	4	4	2	0	10
Error %	9.52%	9.52%	21.43%	7.14%	

The rank order is simply the "popularity" of each category. The skip errors occur when a respondent is not in a particular category, but was predicted to be in that category given the respondent's score. In other words, the respondent skipped a category for a higher order category. For example, an individual that was placed in both the occupation and religion categories would be given a rank of two. However, in a perfect scale, the respondent with a rank of two would have been placed in the occupation and consumerism categories, not in the religion group. When a category is "skipped," it is recorded as a skip error.

Category errors are the opposite of skip errors. A category error exists when a respondent belongs to a particular group but could not have been included in this group given a perfect scale and the score assigned to him/her. In the above example, the respondent was in the religion category when, according to his scale score, the respondent should not have belonged to this category. Therefore, a category error is assigned.

This process of skip and category error counting means that every deviation from the perfect scale is double counted. The total skip errors must equal the total category errors. As discussed by Chilton (1969), double counting is a major weakness of the Guttman techniques.

The far right numbers in the table give the total number of skip and category errors (10). This number of errors may seem to be large relative to the sample size. In error analysis of Guttman scaling, however, two points must be considered. First, errors are double counted, meaning this entire analysis has only ten errors. Additionally, the relevant error comparison is not the sample size, because any respondent can be assigned more than a single error.

The relevant comparison in a Guttman error analysis is the percentage of errors for each category in the scale. In this study there was never more than 21.43% error, meaning that only 10.71% of the respondents due to double counting of errors belonged to a category when they did not belong to all lower order groups or they did not belong to an initial category when grouped with a higher order

category. With other research claiming 12% error acceptable, a less than 11% error margin in our study would appear to be acceptable.

DISCUSSION AND IMPLICATIONS

Examination of the scaling sequence shows that an open rating in occupation was necessary before such a rating could be seen in consumer identity. An open rating in consumer identity was needed before one could be found in religion, and an open rating in religion was needed before one could be found in politics. The results suggest that society influence mandates that occupational decisions are a major concern to college age individuals. Coexisting concerns for material, and consumer issues are of less immediate priority while those of political and religious domains do exist but to a lesser degree. The present study suggests that a conceptual extension of Eriksonian ideas is warranted into consumer behavior. Instead of consumer behavior lying outside the mainstream of the human experience, consumer behavior is part of a life span developmental perspective that has been successfully used to understand and explore major areas of human development.

This study has several important implications. First, the results empirically support the existence of a consumer identity and support the validity of the interview used to assess it. The Consumer Identity Interview, modeled after Marcia's interview for identity in occupation, religion and politics, measured something distinct from the previous identity domains. The fact that the consumer identity dimension was second to occupational identity sharply etches what we think is the hypothesized importance of the consumer identity for adult functioning.

Second, while it remains to be seen whether consumer identity is related to specific forms of consumer behavior as is true with occupational identity being related to forms of occupational choice, the results of this study support its conceptual validity. The next research step is straightforward. Using what is known about identity, its development, and effects on behavior as a model, predictions between consumer identity and

consumer behavior can be made and tested. It also remains to be investigated how this approach complements the excellent work on adolescent socialization and consumer behavior by Moschis (1987).

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Symbolic Interactionism: Some Implications for Consumer Self-Concept and Product Symbolism Research

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ABSTRACT

Research on consumer self-concept has suffered from the lack of a rigorous theoretical framework which can systematically incorporate the social dimension of self. Symbolic interactionism, a research stream in sociology, is suggested as a potentially very useful theoretical basis for advancing consumer self-concept and product symbolism research. The literature on consumer self-concept and product symbolism is first reviewed. Next, conceptual and theoretical underpinnings of the contemporary symbolic interactionist perspective are presented comprehensively and then a specific orientation of symbolic interactionism is described. Finally a model of brand choice is developed based on symbolic interactionism to illustrate its potential contributions.

INTRODUCTION

Although sociology represents an area rich in its potential for contribution to the research in consumer behavior, it has been largely neglected. This paper is intended to introduce symbolic interactionism, a research stream in sociology into the areas of consumer self-concept and product symbolism. First the literature on the self-concept and product symbolism is briefly reviewed. Next, conceptual and theoretical underpinnings of the contemporary symbolic interactionist perspective are presented comprehensively and then a specific orientation of symbolic interactionism is described. Finally, a model of brand choice is developed incorporating the situational self which is based on symbolic interactionism and the implications of the model are discussed.

LITERATURE REVIEW ON SELF-CONCEPT AND PRODUCT SYMBOLISM

Earlier Personality Research

Earlier marketing literature is replete with studies which attempted to relate purchases of product types or specific brands to personality traits of the buyers. Tucker (1957) is the first who proposed that consumers' personalities can be defined through product use. Evans (1959) in his landmark study attempted to examine the differences in personality variables between the owners of different cars. Koponen (1960) reported that cigarette smoking is related to some personality variables. Westfall (1962) found that owners of different models of cars exhibited different

personality characteristics. Claycamp (1965) reported that personality variables were better than demographic variables in predicting patronage for different financial service organizations.

These studies treated the personality traits as "enduring" characteristics of people and focused on the self-expression of the inner nature of the consumer through product use. However, they neglected the influences of others with whom a consumer interacts through social process on his choice of the product or brand. Although some of these studies found relationships between consumers' personalities and the products they consume, the overall results of this line of research are inconsistent and equivocal. Thus, it is concluded that this kind of simplistic paradigm could not properly account for product choice processes (Kassarjian and Sheffet 1975).

Self-Concept and Product Symbolism *Unidimensional Self-Concept Studies*

Later, researchers advanced the notion that consumers' buying behavior is determined by the "interaction" of the consumer's self-concept and the image of the product or brand purchased. The "symbolic property" of certain products was initially suggested by Goffman (1951) and Hall and Trager (1953). In the marketing literature, Levy (1959) initially emphasized the importance of the consumer's self-concept by proposing that the act of consumption as symbolic behavior is more important to the consumer than the functional benefits of the product. Products and services are assumed to have an image determined not only by the functional attributes but also by a host of such intangible factors as brand recognition, price, advertising, country of origin, stores, packaging, etc. Following Levy's proposition, a number of self-concept studies were undertaken. Woods (1960) asserted that where ego-involvement with the product is high, product image is important to the consumer. Birdwell (1968) empirically tested the premise that one's self image would be more congruent with the image of the chosen brand than with the images of rejected brands. Grubb and Hupp (1968) and Dolich (1969) reported similar findings.

However, it is noted that in these studies the self was treated as a "unidimensional construct" and the definitions used were referring to the "actual self," i.e., one's perception of oneself. Taken as a whole, the results of a host of empirical research following the single self construct approach were ambiguous and inconsistent.

Two Dimensional Self-Concept Studies

The confusion of those studies has led marketing researchers to conceptualize the self-concept as having more than one dimension. The central theme of these new approach to self-concept research was: "If there are differences among the

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self-concepts for consumers, then which of self-concepts do they try to match with the symbolic content of available product or brand in a brand choice decision?" The "actual self" and "ideal self" were separately conceptualized and measured to match the self-concept and product image (Delozier and Tillman 1972; Dolich 1969; Gibbins 1969; Green et al. 1969). Dolich (1969) first distinguished between "actual self" and "ideal self." "Actual self" was defined as an individual's perception of what he is like, while "ideal self" was defined as the image of an individual as he would like to be. Green et al. (1969) also attempted to investigate the relationships between the two self-concepts and product ownership.

Although this stream of research broadened marketers' understanding about the consumer's self-concept, results of the studies suffered largely similar limitations to the single dimension personality research. In addition, one of these self-concepts was not demonstrated to be better than the other in predicting brand choice (Green et al. 1969; Dolich 1969; Ham and Cundiff 1969, Ross 1971). Thus, it is argued that there may be other important dimension of the self, i.e., the social dimension of the self which is not captured by the psychologically oriented self conception used in those studies.

Product Conspicuousness and Sociological Perspective

In the product symbolism study, there was a stream of research which attempted to treat the self-concept from the sociological perspective. Since Copeland's (1923) seminal work on product classification, trichotomy of convenience, shopping, and specialty goods, there have been numerous studies that tried to link consumers' behavior to various product taxonomies. However, the classification schemes, despite their intuitive appeal, fail to provide useful guideline for marketing strategy (Wind 1982). Therefore, it is argued that the static product taxonomies are of little use unless consumers' "product usage" situations are taken into consideration. One of the interesting classifications is Boune's typology (1957) which is based on the degree to which products are subject to "social influence." The main dimension of his classification is "product conspicuousness", i.e., the degree to which a product is visible. This classification is of great interest because product conspicuousness can be conceptualized in light of interpersonal relationships in social process and also links the product to the concept of self. If a product consumption is conspicuous in public and is socially visible, consumers are likely to use the visibility of the product to communicate symbolically something about themselves to the "significant others" in the consumption situation. This symbolic communication is based on the premise that there exists a commonly shared meaning and experience about the product in specific consumption situations. Boune (1957) postulated that the degree to which a product is perceived to be conspicuous will influence the degree of "perceived

social risk" associated with its usage. Social risk is one of the multiple dimensions of perceived risk which consumers subjectively have in product purchase and/or consumption situation. Initially introduced in marketing literature by Bauer (1960), the perceived risk construct has since evolved into different areas. Functional risk is defined as the risk that the product will not perform properly (Cox 1967). Performance risk is defined as the extent to which consumers think that the various products perform differently in what is important to them (Brody and Cunningham 1968). Social risk is defined as the extent to which consumers think that other people judge them on the basis of the product or a brand they use (Jacoby and Kaplan 1972). Among these perceived risks, the perceived social risk is the factor which can invoke the socially oriented self-concept (situational self; to be discussed) in consumption situations. Also many studies found that social risk is the most important component of perceived risk. Jacoby and Kaplan (1972) reported that the strongest determinant of social risk was the degree to which the product usage is socially "visible." Perry and Hamm (1969) proposed that social significance refers to how the purchase decision would affect the opinion other people hold of the individual. Their study concluded that social risk was related to product usage conspicuousness and social importance. In addition, there are some studies which attempted to connect product "conspicuousness" and "socially oriented self-concept." Witt and Bruce (1970) found that as perceived product conspicuousness increased, subjects (housewives) were more likely to use fellow members' preferences to guide their own preferences. Midgley (1983) also reported that a majority of men formed their preferences and made purchase decisions for new suits on the basis of recommendations from others (generally their wives or peers).

Taken as a whole, the research on the consumer self-concept and product symbolism has treated the self-concept from the psychological perspective and largely neglected the influence of the social structure in which people interact and products are consumed. Although the product usage typology research recognized the importance of the influence of social interaction on consumer behavior and attempted to incorporate a sociological perspective, it failed to offer a rigorous theoretical framework to aid in understanding the influence of the social interaction on the consumer and the dynamic processes involved. Thus, the research on self-concept tended to be atheoretical (Siry 1982) and become no more than empirical testing.

Social Norm in Multiattribute Attitude Model

There was an effort to incorporate the influence of social influence on an individual's behavior in social psychology. Fishbein et al. extended their multiattribute model to include the social norm (Fishbein and Ajzen 1975). Specifically, "subjective norm" refers to the person's perceptions that particular referents think the

behavior should or should not be performed and to his motivation to comply with these referents. Although the normative component conceptually incorporates the social dimension into the model, the concept is too general and broad, making operationalization and measurement very difficult. Due to such inherent limitations of the model, the effort to apply it to consumer behavior research has not been successful (see Ryan and Bonfield 1975 for a review).

SYMBOLIC INTERACTIONISM²

Introduction

Symbolic interactionism, a research stream in sociology, appears to offer a theoretical basis for conceptualizing the "socially oriented self" and its relationship with product conspicuousness. Symbolic interactionists view the basic nature of society as a system of interpersonal communication and interaction and view the basic nature of the individual (self) as the product of society. It incorporates consideration of communicational dynamics rather than focusing on a communicational participant in isolation from the others with whom he interacts (McCall and Simmons 1978). Thus, it points to the positions that underlie structural relationships among persons and to the social roles that accompany these positions as the significant sources of relevant variation in the self.

Theoretical Contributions by Key Thinkers

James (1890) viewed humans as having a variety of types of self and argued that the human being has as many "social selves" as there are distinct groups of persons about whose opinion he cares. Thus, multifaceted self is the product of a heterogeneously organized society. Cooley (1902) saw that there is no individual apart from society: personality develops from social life and from communication among those sharing that social life. Specifically, the self is the product of a process summed up in the phrase "looking glass self" which refers to an individual perceiving himself in the way others perceive him. The basic dictum of Mead's social psychology (1934) is: Start with the ongoing social interaction for it is from the social process that mind, self, and society derive. Things become stimuli (objects) only as they take on meaning for the person engaged in the social process. As do things acquire meaning that defines

them through ongoing activity, so do people. We come to know who others are by interacting with them through significant "symbols." These symbols enable people to predict their own and others' behavior and to anticipate the future courses of interaction. The self is essentially a social structure, and it develops in social experience. In other words, we come to know who and what we are through interaction with others. The self may be said to exist in the activity of viewing oneself "reflexively." That is, we become "objects" to ourselves by attaching to ourselves symbols which permit use of the standpoint of others in order to view oneself as an object. Mead viewed the self as developing through the "role taking" process (i.e., taking the standpoint of others or "generalized others").

Assumptions

Symbolic interactionism has been characterized as building on a set of assumptions.

1. Humans must be studied on their own level and efforts to infer principles of behavior from the study of nonhuman form is misguided.

This reflects the emphasis on symbolic communication. The assumption is justified by the highly developed symbolic capacities of human beings.

2. The most fruitful approach to the study of human behavior is through an analysis of society.

This assumption underlies the potentialities of human development in the social process. It argues against the views of biological nature of humans and of learning and socialization.

3. The human being is an active agent of behavior rather than simply a passive respondent to external stimuli.

This assumption is built on the notion that things become stimuli only as they take on meaning for person engaged in the social process.

Propositions

The following propositions represent central features of contemporary symbolic interactionism, identifying a fundamental approach to human behavior by modern symbolic interactionists.

1. Behavior depends on a named or classified world. The names or class terms attached to aspects of the environment carry meaning in the form of shared behavioral expectations that grow out of social interaction. From interaction with others, one learns how to classify objects and in that process also learns how one is expected to behave with reference to those objects.

²This part derives extensively on Stryker (1980), Stryker and Serpe (1982), and Manis and Meltzer (1978). Two previous studies discussed the symbolic interactionism in consumer research (Reid and Frazer 1979; Schenk and Holman 1980). However, their treatment and interpretation of the approach was partial and narrow. Thus, the intent here is to provide a broad outline of major conceptual and theoretical underpinnings of the symbolic interactionist perspective.

2. Among the class terms learned in interaction are the symbols that are used to designate "positions," which are the relatively stable, morphological components of social structure. These positions carry the shared behavioral expectations that are conventionally labeled "roles."
3. Persons acting in the social structure name one another in the sense of recognizing one another as occupants of positions. When they name one another they invoke expectations with regard to each others behavior.
4. Persons acting in the context of organized behavior apply names to themselves as well. This reflexively applied positional designations, which become part of the "self," create internalized expectations with regard to their own behavior.
5. When entering interactive situations, persons define the situation by applying names to it, to other participants in the interaction, to themselves, and to particular features within the situation, and use the resulting definition to organize their own behavior accordingly.
6. Social behavior is not, however, determined by these definitions, though early definitions may constrain the alternative definitions to emerge from interaction. Behavior is the product of a role-making process, initiated by expectations invoked in the process of defining situations, but developing through a tentative probing interchange among actors that can reshape the form and the content of interaction.
7. The degree to which roles are "made" rather than simply "played," will depend on the larger social structures in which interactive situations are embedded. Some structures are "open," others relatively "closed" with respect to novelty in roles and in role enactments of performances. All structures impose some limits on the kind of definitions that may be called into play and thus limit the possibilities for interaction.
8. To the degree roles are made rather than only played as given, changes can occur in the character of definitions, in the names and class terms those definitions use, and in the possibilities for interaction; and such changes can in turn lead to changes in the larger social structures within which interactions take place.

Thus, symbolic interactionism proposes a dynamic theory about how individuals formulate and reassess their plans of action in terms of the objects and people encountered in their social environment,

and in terms of their own assessments of themselves. A most fundamental proposition of the symbolic interactionism is that a focus on the person without a correlative focus on social structure, or vice versa, is necessarily partial and incomplete. The "self-concept" can be conceptualized as an organization (structure) of various identities and attributes, and their evaluations, developed out of the individual's reflexive, social, and symbolic activities. As such, the self-concept is an experiential, modestly cognitive phenomenon accessible to scientific inquiry. They view the self not as a dependent variable, but as a most important variable intervening between the antecedent events of the social world and the consequent actions of the individual. In this respect, the approach basically agrees with the tenets of cognitive psychology which holds that cognitive processes mediate stimuli and responses. The difference lies in the specific emphasis by symbolic interactionists on the "effects of social stimuli" on behavior in various situations.

Situated Identity Theory

Among the diverse orientations within the symbolic interactionism, situated identity theory appears to lend itself to the direct application to the study of product symbolism and the consumer's self-concept. Building on Goffman's idea about the "self presentation" in everyday life (Goffman 1963), Alexander and his associates (1971; 1977; 1981) have defined situated identities as "the dispositional imputations about an individual that are conveyed by his action in a particular social context." They argue that when a person acts, he communicates information about the kind of person he presumes to be and obliges others to regard him as being that kind of person. In Mead's terminology, behaviors are "constituted" into action, because they have implications for the creation, affirmation, or transformation of an actor's situated identity. Alexander has postulated that if there is relative consensus about the meaning of actions within a population, situations are socially defined. That is, there must be some agreement about the dispositional dimensions relevant to describe an individual's conduct, and about how a particular action is to be evaluated along those dimensions. When these conditions are met, a situation has consensual meaning or social reality. When a social situation exists by these criteria, behavior can be predicted if the situated identity that results from the choice of one action out of some alternatives is considered more socially desirable than those associated with alternative actions.

An identity is considered as a working self-meaning constructed out of the material of a particular situation. People act to create the most socially desirable situated identity available because of the "self-esteem" motive (Alexander and Wiley 1981). This argument is based on Goffman's notion that social identity attributes organize and orient social interaction (Goffman 1963). These propositions are supported in a number of

experimental studies; cognitive dissonance, risk shifting, prisoner's dilemma, and expectation studies. In dealing with Festinger and Carlsmith's dissonance study (1959), Alexander et al. conducted an interpersonal simulation, gathering data not only on estimated responses but also on the situated identities created by the "stimulus person" whose responses were observed. The results replicated the relationships found in "insufficient justification" studies and were predictable from evaluative impressions. Attempts to reconcile these results with dissonance and incentive explanations have been unsatisfactory. It was found that subjects and observers attach the same situational meaning to experimental conditions and behaviors in them. The results obtained could be explained by the "social desirability" effects. From the subjects' standpoint, experiments may include "face saving" or "image enhancing" response alternatives that are unintentional consequences of the experimental design. Their identity imputation data show that changing some elements in the social context (i.e., by creating a different situated identity set from the experimenter's point of view), changes the meaning of the situation and of actions taken in it (from subjects' perspective). The meaning of subjects' responses changes with conditional manipulations and are associated with differentially evaluated identity attributions, because of changes in the kind of person they become by choosing among available response alternatives.

To summarize, the situated identity perspective conceives of individuals as structuring complex activities and stimuli sequences in terms of their implication for participants' dispositional attributes. When members of a given population consensually invoke the same dimensions to characterize actors, their attributional process creates social situations. Behavior is predicted if there is a "most favorable" situated identity to be gained from one of the behavioral alternatives that are possible under the circumstances. People are expected to choose to become the kind of person that will be most highly valued in each condition.

SITUATED IDENTITY APPLIED TO CONSUMER BRAND CHOICE

Situational Self

Situated identity theory is expected to be used to conceptualize the socially oriented self-concept discussed in the aforementioned product symbolism studies. This symbolic interactionist perspective can explain how a consumer's purchase decision is influenced by an anticipated reactions of others and how the consumption may influence others in the social interactive processes. The "situational self" is defined as the meaning of self that the consumer wishes others to have of himself. He seeks to achieve this by means of the product or brand he owns and uses in a typical consumption situation. The situation-specific self-concept may include attitudes and perceptions that the consumer feels the need for others to form of his internal disposition.

Thus, the situational self is dependent upon the parameters of a product (symbolic meaning) and its consumption situation (social process) as suggested by situated identity theory.

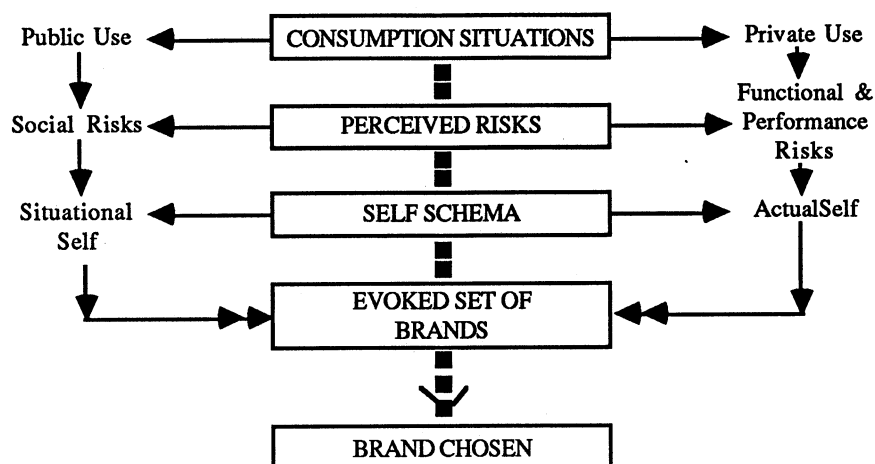
The situational self-concept is able to describe and predict the consumer's brand choice decision of the product which is used in public, and hence involves conspicuousness and visibility. In this product category alternative brands are assumed to be easily distinguishable and have well established images. It is also assumed that each brand implies a differentially desirable identity and there is relative consensus about the symbolic meaning of each brand within a population. The theoretical basis for the existence of brand images that are more or less the same for members of a social system lies in the propositions of symbolic interactionism. That is, people classify objects which they come into contact with in social processes, and in that process they also learn the symbolic meanings of the objects. Consequently, in the social process emerges the consensual meaning of the objects among all those who are interacting.

A Brand Choice Model

The situational self-concept is incorporated into a conceptual model of brand choice which is shown in Figure 1.

When a product is used in public (e.g., public luxuries such as golf clubs, snow skis, sail boat, etc.), its use involves high social visibility and conspicuousness because others are aware of one's possession and use of the product and can easily identify the brand. Thus, the consumer becomes conscious of the people in the consumption situation and is more concerned about how other people would judge him on the basis of the brand or the product he uses, which is defined as the perceived "social risk." Therefore, as the consumer subjectively assesses appropriate role behaviors and forms a meaningful evaluation of significant others to be encountered in the anticipated and/or typical consumption situation of the product (meaningful in terms of the plans of the consumer; enhancement of self-esteem motive). In this process, he establishes the "situational self" concept or draws one from his "self schema," if he has well established situation specific self concepts in relation to the product use situation. The consumer then identifies the self within the consumption situation in which the symbolic meaning of the product mediates the communication between him and others encountered as symbolic interactionists suggest. Therefore, the invoked "situational self" concept is to guide the brand choice process. He then searches through the evoked set of the brands in the product class and compares the images of brands with the situational self invoked. Each brand is to have a different degree of fit to the invoked situational self image because each has a different set of intrinsic and extrinsic values as a means of self enhancement when presented to significant others. In many product categories, alternative brands are easily

FIGURE 1
A Brand Choice Model



distinguishable and brand images are relatively well differentiated (or differentiable). Also, there is relative consensus in the market because of marketers' promotional efforts to differentiate their brand from competing brands (market segmentation and brand positioning). Each brand has a different symbolic meaning commonly shared by the majority of consumers. Therefore, the brand whose image is closest to the situational self will be selected (or will be the most preferred) for consumption in the anticipated situation. This process warrants more elaboration from the symbolic interactionist perspective to gain more insight into the dynamics involved. In this process, the consumer attributes "meaning" to the product symbolically which is to be communicated to the others encountered in the consumption situation in order to enhance his self-esteem. Goffman (1963) indicated products could serve as props to aid in communication of the situational self.

This private and individual symbolic interpretation of a brand is largely dependent upon an understanding of the symbolic meaning associated with the brand which one has learned from previous interactional experiences and/or from marketers' brand positioning efforts (e.g., image-oriented ad) to map their brand on consumers' perceptual space distinctly from other competing brands. Therefore, although the consumer may treat this process in a private manner, his evaluations of symbolic contents of the brand depend upon his "perceptions" of how other people would evaluate the brands. As the consumer attributes meaning to it, so the others interacting with the consumer in the consumption situation also attribute meaning to the symbol. This represents the symbolic interactionist perspective of how the individual and social structure maintain reciprocal relationships through symbolic communication. If a brand has a

commonly-shared meaning between the consumer and others, then the desired communication (self-enhancement) can take place and the interaction process will develop as desired by the consumer.

Meanwhile, when a product is consumed in a personal way (e.g., private necessities such as mattresses), its use does not involve conspicuousness or social visibility because almost nobody would be aware that the consumer owns or uses the product. When purchasing this kind of product, the consumer would be mainly concerned whether the product turns out to be defective or to be different from what he expected in some important physical and functional attributes. If that happens, he may be frustrated about or regret his purchasing decision. Thus, the consumer is expected to be more concerned about perceived functional and performance risks than the perceived social risk. "Functional risk" is defined as the risk that the product will not perform properly. "Performance risk" is defined as the extent to which the consumer thinks that different brands of a product perform differently in what is important to him. Therefore, in this situation, actual self-concept is expected to be invoked and guide the brand choice.

IMPLICATIONS OF THE MODEL

The model will contribute to the consumer self-concept and product symbolism research in several ways. First, it integrates the multiple dimensions of self-concepts into one construct under a symbolic interactionist framework as it applies to product symbolism. Specifically, the self concept is defined broadly enough to incorporate socially oriented self-concept (situational self) and psychologically oriented self-concept (actual self). On the other hand, the model is specific enough to suggest how to operationalize and measure the two dimensions of self. That is, the model introduced

the construct of perceived risk which has been used in many marketing studies. This compares with previous approaches which were mainly conceptual (e.g., applications of Fishbein's extended attitude model and Schenk and Holman 1980's conceptual model). Also, the proposed model is very specific in terms of the product category and consumption situation to which it can be applied.

Although the model is expected to enhance our understanding of consumer's brand choice behavior and improve the prediction of brand choice in some specific product categories, it certainly has its limitations. As an initial attempt to introduce the symbolic interactionist perspective into consumer behavior research, the focus has been on conceptualizing the "situational self" and on the application of the concept to consumer brand choice. Consequently, the model is not broad in its scope. The model does not take into account individual differences. It may well be that consumers differ in their perception of product conspicuousness. Constructs such as self-awareness (Wicklund and Frey 1980) and self-monitoring (Snyder 1979) might add additional insight if integrated into this framework in future research. Finally, the ultimate usefulness of the proposed situated self-concept in explaining or predicting behavior rests on empirical validation, which should be the next stage of this research program.

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Discussant Comments - Session 5.1

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Three of the four papers in this session are concerned with symbolic communication among consumers; an area of substantial current interest for consumer researchers generated by colleagues such as Hirschman and Holbrook, Levy, Rook, McCracken, and Belk. Of course, the study of symbolism in human behaviour has been going on much longer. Marx, Veblen, and Durkheim each considered major dimensions of symbolic behaviour. Within my professional lifetime but prior to the current surge of interest, Warner, Reisman, Gardner, Martineau, Rainwater, Coleman, and Levy (The same Levy), among others, considered the symbolic properties of objects acquired in the market place - especially in signalling status and/or social class. Even more work touching on symbolic consumption has been published outside the marketing literature (e.g., anthropology) and a substantial amount is in other than the English language (e.g., Bourdieu or Levi-Strauss in French).

Only the Lee paper among the three in this session on symbolic consumption hinted at the broader context within which this work is being conducted. This is unfortunate for a variety of reasons. First, it suggests that we are either ignorant of or ignoring a rich body of knowledge generated by scholars at least our equal in their insight into human behaviour. Second, it leads to the reinvention of the wheel; the "discovery" of classes of behaviour well documented in other disciplines. Third, it suggests a critical deficiency in the manner in which we are being prepared for our discipline.

The fourth paper seems to suffer from a tendency opposite to that discussed with respect to the "symbolism" papers. The authors seem to be ignoring a very substantial body of work by consumer researchers in their efforts to extend Erikson's work on personal identity.

After a brief commentary on each of the four papers, I would like to identify some issues with respect to symbolic consumption that were not considered in this session but that appear to me to be fundamental to an understanding of the process.

I. CLAIBORNE AND OZANNE, "THE MEANING OF CUSTOM-MADE HOMES: HOME AS A METAPHOR FOR LIVING"

The thesis, custom-made homes represent an opportunity for consumers to "create meaning" through the introduction of cultural and personal symbols ... and, subsequently, through the manner in which they live in a given house, owes much to such scholars as Edward T. Hall in both *The Silent Language* (1959) and *The Hidden Dimension* (1966), Mary Douglas in *The World of Goods* (1979), Csikzentmihalyi and Rochberg-Halton in their *The Meaning of Things* (1981), Grant McCracken in several efforts (especially *Culture and Consumption*

(1988), and earlier this year, Russ Belk's "Possessions and the Extended Self" in the *JCR*.

The idea of investigating the symbolic imprints of family units who have "custom made" their homes does constitute a new wrinkle so far as I know and certainly has intuitive appeal. Unfortunately, the work did not appear to produce empirical information markedly different from that available through studies on the selection of preexisting houses; a process much more convenient to investigate.

The investigation considered ten respondent households in a single community. In an exploratory study, the small number of households and the relative homogeneity of respondent units is not necessarily important. I had some problems with the husband-wife dyad as the "response unit", however. Both the family decision-making and the market research literature advise physical segregation and separate questionnaires for husbands and wives because of the possibility of contamination and/or dominance. Furthermore, the procedures employed make it difficult to detect sex-role specialization in the decision process even though most home-purchasing studies suggest such specialization exists.

Where Is Levi-Strauss When We Really Need Him?

Rather than pose a series of hypotheses for which the field procedures became a test, the authors employed "hermeneutical analysis;" a procedure introduced into the consumer behaviour literature by Grant McCracken. This may prove to be one of McCracken's less valuable contributions. Does it matter, given that categories are permitted to evolve as the data is analyzed, that the analysts are not trained ethnographers or structural anthropologists? Does such an analysis preclude hypotheses? If one does not know what to look for before the fact, how can one be assured the observations are sufficiently complete to establish categories afterwards?

The categories that did arise from the analysis, according to the discussion, seemed more related to functionality than to symbolism. "In summary, houses represent a new way of contrasting the needs for openness and privacy." (p.12) I felt the authors let the data lead them away from their stated purpose; in the process of defining categories on an evolutionary basis the original intent seems to have been lost.

While I am entirely sympathetic with the move away from the information-processing paradigm with its anal-retentive approach to numerical analysis, there are some restrictions that must be observed. Anarchy is no more functional in behavioural research than it is in politics. We are so inculcated with the rigidities imposed upon us by Scientism that, given license to generate and assess

data without its strictures, we behave as though no discipline at all were required.

Finally, nothing in this paper actually identified the symbols that were found to connote openness or privacy. Neither did I gain any understanding on the manner in which such symbols are transmitted through socialization, observation, or formal education. Do they form part of a system of non-verbal symbols that take on the qualities of more conventional verbal languages? If so, do these languages have structures?

II.T. BETTINA CORNWELL, "T-SHIRTS AS WEARABLE DIARY: AN EXAMINATION OF ARTIFACT CONSUMPTION AND GARNERING RELATED TO LIFE EVENTS"

Reading this paper was fun....an infrequent experience while slogging through the Consumer Research literature. Perhaps Morris Holbrook is having an impact after all.

The major premise underlying the author's work is that T-shirts with words, slogans, and pictures have communication as an overt objective *and their possessors share the values implicit in that message*. Such a maintained hypothesis concerning the symbolic content of items of dress is reasonable and was well-documented within the paper. The author cites relatively recent scholars such as Czikszentmihalyi and Rochberg-Halton (1982), Holman (1980), Hirschman (1985), and Wicklund and Gollwitzer (1982), but substantial evidence on this issue has been around at least since the turn of the century when A.L. Kroeber published his classic analysis on womens fashions over the preceding 300 years.

Some empirical evidence linking the messages on T-shirts with their possessors would have been reassuring. Most of us possess T-shirts that convey messages with which we would prefer not to be associated; not just because the sentiments are no longer apt (the Gary Hart T-shirt noted by the author) but also because we never wished to convey that message. I have received several such shirts from former students and former friends.

The choice of the T-shirt as an object of study is fortuitous for a number of reasons. As noted by the author, T-shirts are asexual and virtually universal in the subculture within which she operates. In addition, the possibility that the symbolic content of a T-shirt will be misinterpreted is minimized; the message is usually in verbal form, rarely ambiguous, and, unlike statements based upon a given style or fabric or colour combination, interpretation is not likely to vary with the taste system of the interpreter.

I was struck by the degree of self-awareness concerning the transforming qualities of T-shirts by the various diarists in the study. "Kay" in particular linked mood and attitude changes to the T-shirt she wore at a given time. Perhaps the T-shirt is the direct analog of the transformation mask. Haida friends (from the Northwest coast of Canada) report that very similar mood changes accompany the

manipulation of the masks employed in transformation rituals (in the Haida transformation mask there is a mask within a mask and one "changes" from one creature to another by pulling a string).

In the author's conclusions she avoids cosmic declarations based on five sets of observations; a restraint for which she is to be commended. She quite reasonably offers more questions than answers in her conclusions section. I would like to add one or two of my own: We know that not all persons within a given social system wear T-shirts, what qualities distinguish wearers from non-wearers? Can behaviours observed with respect to T-shirts be expected to occur with respect to other garments where the symbolic content is less obvious?

III. FEINBERG, YOON, WESTGATE, TRAPPEY, MONGER, SMITH, AND RAPHAEL. "A CONCEPTION OF CONSUMER IDENTITY."

I believe the research undertaken by the authors is both ambitious and important. It brought to mind, especially, F.B. Evans, who investigated the value of Edwards Personality Preference Profiles (i.e., "personality tests") as a predictor of product and brand preferences.(Evans 1959) Claycamp (1965) and Westfall (1962) have also done work that may prove useful. However, as in Evan's work, the question may *not* be so much whether consumption is an element of identity but, instead, whether it is important enough to have strategic or predictive significance. Alternatively, one may ask whether consumption is an independent element of personal identity or an extension of some other more basic elements. While the issue of order of development was addressed, the question of cause and effect was not.

I am surprised no use was made of the work of Ward (1972); Russ Belk, with and without associates (e.g., Belk, Bahn, and Mayer (1982); and others going back at least into the fifties on the character of the socialization process as it pertains to specific forms of consumption. The manner in which an individual "acquires" a consumer identity surely is linked to the socialization process. Just as the authors are surprised that no one has thought to extend Erikson's work so am I surprised they found so little inspiration within the marketing and consumer behaviour literature.

I must admit I have an aversion to studies conducted among university undergraduates. Arguments pro and con are familiar to most consumer researchers so I will not repeat them here. I do wish to point out that it seems particularly awkward to use students in this research since consumption styles and consumption values may be difficult to detect in individuals who are near the beginning of their consumer life cycles. Surely, yet-to-be-attained levels of education, occupation, discretionary income, and a whole host of environmental factors such as the values held by ones significant others will do much to shape the ultimate consumption element of any given "self."

The authors raised the issue of when various elements of self might evolve, but did not pursue the matter very far.

The procedures of investigation and analysis are thoroughly described - too thoroughly described for my taste - but left me hoping for more conceptual content. I would like to have seen more discussion on the bases for grafting a consumption component onto Marcia's identity interview, for example. I also hoped for conclusions more profound than "...occupational decisions are a major concern to college age individuals" or "Instead of consumer behaviour lying outside the mainstream of the human experience, (an absurd perception) consumer behaviour is part of a life span developmental perspective that has been successfully used to understand and explore major areas of human development." (p. 14, the comment in parentheses is mine)

What major areas of human development has consumer behaviour been used to explore? How does that relate to your instrument and your research? How can you hypothesize "...that consumer identity would be developed after occupational identity but before religious and political identity."(p.7) without providing a theoretical basis for such a hypothesis? You say "...the results empirically support the existence of a consumer identity..." (p.14) but do they? On what basis were those items on consumer identity chosen? How were they tested for construct validity? Does replication produce the same results? It may be that these steps fundamental to the development of any measurement instrument were completed by the authors or by others... if so, it is not evident from the paper.

Overall: This paper reads as though it were written by a committee....which, in a sense, it was. There is extraordinary detail on procedures related to analysis of the data but none on the development of the measurement instrument. The analytical procedures are very sophisticated but there is no assurance of validity for the data to which they are applied. More thought and less action is recommended. None of these comments take away from the desirability of research on consumer identity, its measurement, or implications.

IV. DONG H. LEE, "SYMBOLIC INTERACTIONISM: SOME IMPLICATIONS FOR CONSUMER SELF-CONCEPT AND PRODUCT SYMBOLISM RESEARCH"

The author is correct in observing that consumer researchers have ignored social research*lately*. But only since the beginning of our rather stifling preoccupation with the information-processing model. In the fifties and sixties, Levy, Gardner, Martineau, Rainwater, Coleman, Nicosia, Lazarfeld, Katz, Katona, Rogers, and others developed many of the principal concepts that underly our discipline. Our insights on social standing and spending behaviour, on peer and personal influence, on the two-step flow of communication, on diffusion theory, and a host of

other significant ideas came from social science researchers with at least one foot in the consumer research camp.

Among the critical conclusions from a literature review: "Social visibility" in consumption or display is a necessary condition in most instances if market objects are to carry symbolic content; and "significant others" are the principal audience to ones symbolic behaviours (an alternative hypothesis is possibleJ). Aversion to social risk (a la Bauer, Cox) is seen as an important driving mechanism. "We come to know who others are by interacting with them through 'significant symbols.' These symbols enable people to predict their own and others' behavior and to anticipate the future courses of interaction." (p.7)

I cannot agree with the author's contentions that the social visibility concept (a la Goffman) and the "social norm" as a factor in Fishbein's work lack a rigorous theoretical framework to aid in the understanding the influence of social interaction on the consumer and the dynamic processes involved. To say they were unsuccessful in application constitutes something close to heresythat does not mean it is inappropriate to look for other, more rigorous bases for explanation, however.

Questions suggested but not actually touched on in the discussion include: As social visibility increases for a given product, is it more likely that distinct, symbol-laden brand images will evolve? Are their products with little social visibility that carry high social-symbolic content?

With respect to the brand choice model which is the major focus of the paper, I cannot see that this model is any more precise or lends itself to any more rigorous empirical testing than the models the author chose to criticize. Public - private use, for example, is neither a continuum nor a dichotomy. Yet that is suggested by the manner in which the model is presented. The same comment holds for Social vs. functional risks and for situational vs. actual self. Situation is clearly an intervening variable but is not adequately provided for in the model. That, joined with individual differences (i.e., consumption style) for which the author acknowledges he has not accounted, makes the new model just as fuzzy as the old ones.

While I am pleased to have had the opportunity to read all the papers in this session - and each has contributed in some fashion to my understanding of consumer behaviour - this is the one paper from which I would actually be inclined to steal. The paper is much richer in conceptual content and requires far fewer leaps of logical faith to move from his statement of objectives to his conclusions than the others in this set. It is flawed in an editorial sense, but one can easily overlook the occasional grammatical deficiencies in the face of the quality of the thought that has gone into it.

I do not agree that he has achieved what he says he has. He has not overcome the absence of a "...rigorous theoretical framework which can systematically incorporate the social dimension of

self." But he has certainly contributed towards the development of such a framework.

SUGGESTIONS FOR ADDITIONAL RESEARCH ON SYMBOLIC CONSUMPTION.

The papers we have heard cover a range of issues on symbolic consumption. But many fundamental questions remain. Do the symbols purchased and/or displayed by consumers form non-verbal languages similar to the verbal ones (i.e., with similar structures)? To what extent must an object be involved in this symbolic process? Is it not possible that a service (e.g., an experience) could carry equally symbolic content? Some objects are denotative while others are connotative of a given meaning (e.g., status symbols). Why? How do we acquire our knowledge of symbolic languages? Do the meanings attached to those symbols change over time? If so, what factors are likely to trigger such changes? I suspect we all have ideas on how those questions should be answered. But those we will have to reserve for another year.

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How Regular is Regularity? An Empirical Test of the Regularity Assumption

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ABSTRACT

Using scanner panel data, an empirical test of the regularity assumption in the case of a new product entry is performed. Consumers with similar pre-entry purchasing patterns are assigned to segments on this basis to provide sufficient sample sizes for statistical testing.

Seven segments of the caffeinated ground coffee market of two retail markets were studied containing 6 and 4 regular brands respectively. It was found that there were no statistically significant violations of the regularity hypothesis. This result is in concert with the expectations from previous lab work which pointed to fewer violations as the choice environment increased in realism.

INTRODUCTION

An important problem for consumer researchers is the effect a new product has on consumers' preferences for the products already in the market. There is conflicting evidence from lab studies concerning possible change in preferences when a new alternative becomes available. Ryans (1974) found that the introduction of a new alternative does not change the preference orderings of the incumbent products. In contrast, Huber and Puto (1983) reported that the existence of a new alternative can greatly change the probability that one of the incumbent brands is chosen.

One thing that researchers in choice theory often agree on is: if the number of alternatives is increased from N to $N+1$ with the introduction of a new alternative, the probability of choosing any one of the original N alternatives does not increase. This assumption is called "regularity" and is a minimal condition for a large number of choice models including the Luce Choice Axiom (Luce 1959, 1977), Tversky's EBA model (Tversky 1972), market share attraction models (Bell, Keeney and Little 1975) and the ideal point model. The importance of regularity to choice models is illustrated by a comment from Luce (1977) that the "only property of general choice probabilities that has not been empirically disconfirmed has been regularity."

Despite the above conclusion, Huber, Payne and Puto (1982) and Huber and Puto (1983) present empirical evidence for violations of regularity in the choice processes of the subjects. They found that the addition of another alternative increased the probability that one of the original alternatives was

chosen. In response to these findings, some recent models have been proposed to handle situations where regularity is violated (Currim 1982, Batsell and Polking 1985).

The results of these choice experiments and the models proposed to remedy the problem of regularity violations should not be accepted uncritically. The assumption of regularity appears to be violated in the choice tasks reported in the these experiments. If these results can be generalized to other common choice situations, those marketers and academics who are interested in consumer choice may have to radically redirect their research to account for this problem. The aforementioned choice models which cannot deal with violations of regularity are among the most used models in consumer research.

Thus, the potential importance of the findings of Huber, Payne and Puto (1982) and Huber and Puto (1983) serve as motivation to critically evaluate these studies and their results. Furthermore, there are a number of limitations in these studies (and in all lab studies of this type) which may have accounted for the violations of regularity. Therefore, an empirical (field) test of the regularity assumption is performed.

CRITICAL REVIEW OF PREVIOUS RESEARCH

The main empirical evidence of violations of regularity comes from two lab studies by Huber, Payne, and Puto (1982) and Huber and Puto (1983). In both of these studies, groups of subjects were asked to make choices from sets of two alternatives and from sets of three alternatives. In the Huber, Payne, and Puto (1982) study, the new alternative was asymmetrically dominated by the existing set of products, i.e. dominated by one alternative but not the other. In the Huber and Puto (1983) study, the new alternative was extremely good on one choice dimension but poor on the others.

In the Huber, Payne and Puto (1982) study, it was found that the addition of the new alternative increased the probability of choosing one of the two original alternatives in 18 of 24 cases. This increase was taken as evidence of a violation of the regularity hypothesis. The authors concluded that the number of these violations was statistically significant; "This occurred in 18 out of 24 different cases ($p \leq 0.05$)."

The proportion of violations in the Huber and Puto (1983) paper was 15 out of 20 different cases using a similar experimental design.

The observed increases in the choice probabilities seemed large in an absolute sense (averaging 14.5% and 15.1% in the respective studies). However, using a z-test for equality of proportions, it can be shown that most of the changes in choice probabilities are not statistically significant. In fact, less than half of the reported

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violations are significant ($p \leq 0.05$). Of the 18 reported violations in the earlier study, only 8 were found significant. From the data provided in the later study, it was found that only 5 of 15 reported violations were significant.

One of the major limitations of these studies may have been the construction of the experimental stimuli. Since the goal of these studies was to illustrate the change in choice probabilities when a similar new brand is introduced (similarity effects), it can be assumed that these effects - attraction or substitution - were responsible for the violations of regularity. However, a replication of these studies by Ratneshwar, Shocker and Stewart (1987) found that the similarity effects demonstrated in these two studies are moderated by stimulus meaningfulness and product familiarity. One might argue that, based on these most recent findings, the remaining cases of violations of the regularity hypothesis may be due to stimulus construction problems.

A further problem with the product choice studies lies in the assumption that the subjects' preferences were homogeneous. This assumption had to be made in order to be able to measure product choice probabilities between subjects. Otherwise, the subjects would have to make repeated choices from the same set of alternatives.

However, it is difficult to argue that consumers are homogeneous. In fact, the entire field of market segmentation is predicated on using these differences to improve the process of marketing. On the other hand, without the assumption of homogeneity, the between subject analysis in the choice experiments is incorrect.

The final limitation is one common to all laboratory studies: external validity. The question of the generalizability of lab results to the world outside is especially important in this case since the lab experiments are limited to 2 to 4 products evaluated on, at most, 3 dimensions. The importance of empirical verification is heightened by the fact that most product categories have a larger number of alternatives which can be evaluated on a wide range of bases.

Although some of these limitations are common to all laboratory research, it is important to replicate findings of this importance outside the lab regardless of the quality of the research. For this reason, a test of the regularity assumption using actual choice data is performed. The advantages of this method and the actual design is discussed in the next section.

EMPIRICAL TEST OF REGULARITY ASSUMPTION

The use of actual choice data to test for violations of the regularity assumption avoids some of the limitations of the lab studies discussed above. The main advantages are 1) less restrictive assumptions concerning homogeneity of preferences, 2) no restriction on the number of choice attributes to be used by consumers, 3) larger number of available alternatives, and 4) choice made in natural setting. The primary assumption

underlying the analysis of actual choice data is that the choice process of each consumer is zero order and stationary. A zero order choice process is one in which the choice of an alternative at time t is independent of the choice made at time $t-1$. A stationary choice process assumes that the choice probabilities are fixed over time. Under these assumptions, a Z-test for equality of two proportions (choice probabilities before and after the entry of the new product) can be used to test for violations of regularity.

There is one problem with relaxing the assumption concerning homogeneity of preferences. If the test for violations of regularity is performed at the individual level, a large number of choices must be observed. However, the longer the period of observation, the more likely that the marketplace will change leading to non-stationary choice processes. On the other hand, aggregating all of the consumers' choices might obscure possibly important consumer heterogeneity.

As a compromise, it is proposed that the market be segmented according to the choice probabilities of the consumers. A segment is defined as a group of consumers who are homogeneous with respect to the probabilities of choosing different brands in a product class. Those consumers with the same choice probabilities will be considered a segment and treated as a single unit. Since the situation examined in this paper is the introduction of a new brand into an existing market, the segmentation will be based on the pre-entry buying behavior of the consumers.

Market Segmentation Using Choice Probabilities

The market segmentation will use the pre-entry purchase patterns as a basis for market segmentation. The procedure used was developed by Grover and Srinivasan (1987) using latent class modeling using a widely available computer algorithm.

It is assumed that the probabilistic brand choice process is stationary (constant) and zero order (brand choice at time t is not affected by brand choice at time $t-1$) so that each household is characterized by its choice probabilities. If there are n brands in the market, an n -component vector of choice probabilities varies over the population. It is assumed that differences in purchase patterns observed across households can be captured by n brand loyal and m switching segments. Each household is assumed to be a member of only one of the $n+m$ segments.

A brand loyal segment will purchase only its preferred brand. This implies that for segment l , the proportion of households purchasing brand i on one occasion and brand j on another is given by: $p_{i,j,l} = 1$ if $i = j = l$, $= 0$ otherwise for all $l = 1, \dots, n$.

For the brand switching segment k , let $p_{i,k}$ be the probability of choosing brand i . In other words, $p_{i,k}$ is the brand share of brand i for segment k . It is clear that $p_{i,k} \geq 0$ and $\sum_i p_{i,k} = 1$ for all $k = 1, \dots, m$. Since the choice process is assumed to be

zero-order and stationary, the probability of buying brand i on one occasion and brand j on another is $s_{i,j,k} = P_{i,k}P_{j,k}$ for segment k .

Let the proportion of consumers who are loyal to brand l be V_l and the proportion of consumers in switching segment k be W_k . Clearly, $V_l \geq 0$, $W_k \geq 0$ and $\sum_l V_l + \sum_k W_k = 1$. Defining the theoretical proportion of consumers in the market who buy brand i on one occasion and j on another as $S_{i,j}$, then $S_{i,j}$ is given by:

$$\begin{aligned} S_{i,j} &= \sum_l V_l s_{i,j,l} + \sum_k W_k s_{i,j,k} \\ &= \sum_l V_l P_{i,l} P_{j,l} + \sum_k W_k P_{i,k} P_{j,k} \end{aligned}$$

for j not equal to i and

$$S_{i,i} = V_i + \sum_k W_k (P_{i,k})^2.$$

The latent class procedure estimates the proportion of consumers in each brand loyal segment (V_l), the proportion of customers in each switching segment (W_k), and the vector of brand choice probabilities for each switching segment ($P_{i,k}$, $i=1, \dots, n$). This is accomplished through the decomposition of the brand switching matrix $S=(S_{i,j})$.

In order to assign each household to a given segment, a maximum likelihood function was used to determine the Bayesian probability that a given household belongs to a given segment. The household is assigned to that segment for which this probability is maximized.

The likelihood function used the purchase frequency vector for each household in addition to the estimates from the latent class procedure. Let r_i (for $i=1, \dots, n$) denote the number of purchases of brand i for a given household. The likelihood of (r_1, \dots, r_n) given segment h ($1, \dots, n+m$) is given by the formula:

$$\begin{aligned} L_h &= [(\sum_i r_i)! / \pi_i(r_i)!] \\ &\quad * (P_{1,h}^{r_1} P_{2,h}^{r_2} \dots P_{n,h}^{r_n}). \end{aligned}$$

The prior probability of belonging to segment h is V_l for $h=1, \dots, n$ and W_k for $k=n+1, \dots, n+m$ and will be denoted by B_h . The posterior probability of belonging to segment h is given by Bayes' Rule:

$$P_h = B_h L_h / \sum_j B_j L_j, \quad j=1, \dots, n+m.$$

From this market segmentation procedure, those consumers with the same pre-entry purchase patterns will be identified. This segmentation will be used to test whether the introduction of a new brand changes the choice probabilities of those consumers who do not buy the new product.

EMPIRICAL INVESTIGATION

The empirical tests of the regularity hypothesis reported here will try to replicate the

violations observed in the lab. The situation studied is the change in choice probabilities with the introduction of a new brand into an existing market. The study will consider the choice probabilities of only those consumers who *do not* purchase the new brand. Since the empirical test compares the pre-entry and post-entry purchase probabilities, only those consumers who do not try the new brand can be assumed to have a choice process is stationary and zero order.

This restriction of the sample is similar to those experiments in which none of the subjects chose the new, added alternative. There were 9 such experiments in Huber and Puto (1983).

In the previous laboratory experiments, the added alternative was inferior in some respect at least one member of the original choice set. In the data used in this paper, however, the new alternative was sampled (and repurchased) by a large number of consumers in the two markets under study. Since many consumers felt that the new brand was sufficiently similar to existing brands to warrant trial, it will be assumed that the perception of similarity of the new brand to existing offerings is widely shared. The new brand is therefore assumed to be similar to existing offerings and not an inferior substitute. In that case, there may be effects of attraction or substitution (which caused the violations of regularity in the lab experiments). Although there is no way to determine if the non-triers perceived the new brand as being similar, if these effects are as strong as demonstrated in the lab, violations of regularity should occur in the purchase patterns of those who not try the new brand.

The database used is the IRI Academic Research Database of coffee purchases. The markets under study are the retail ground coffee markets of Pittsfield, MA and Marion, IN. The new product entry being studied is the entry of Master Blend, a General Foods brand, in March, 1981. After the brand was introduced, it was available in all grinds in all stores tracked by the IRI data.

The study is limited to ground caffeinated coffee purchases since it has been found that regular ground coffee and instant or decaffeinated coffee are used for different usage situations rather than being substitutes (Urban, Johnson and Hauser, 1983).

Those brand-grind combinations which accounted for at least 1% of the purchases in the pre-entry period were retained for analysis. The brand-grind combinations used in the study are listed in Table 1. The eight brands retained accounted for 94.8% of the pre-entry purchases in Pittsfield. The six brands retained for the Marion market accounted for 95.7% of the pre-entry purchases. It is clear that these brands account for most of the purchases in these markets.

In addition to choosing which brands to include in the study, which households to include must also be decided. The households included in the study have purchased ground coffee at least 8 times before and after the entry of the new brand.

TABLE 1
Brand-Grinds Used in the Study

Pre-entry Purchase Share		
Brand	Pittsfield	Marion
A Hills Bros.	7.5	---
B Folgers	23.5	30.8
C Folgers Flaked	3.4	19.2
D Chase and Sandborn	3.5	4.6
E Maxwell House	28.7	24.8
F Brim - Decaffeinated	3.1	7.4
G Sanka - Decaffeinated	1.4	8.9
H Chock Full O'Nuts	23.0	---
Total	94.8	95.7

Note: (---) indicates that the brand-grind combination was unavailable in the market indicated.

Lighter buyers were excluded since, due to the small number of purchases observed, it is very difficult to accurately measure their purchase probabilities. Including the light buyers might lead to their misassignment to a segment simply because not enough purchases were observed.

Segmentation Results

In these markets, there are a large number of households who purchase both regular and decaffeinated coffee, presumably for different purposes. Those households which purchase both types of coffee will be excluded since changes in the decaffeinated brands (for example, a price hike) might affect purchasing of regular coffee. Therefore, only households loyal to caffeinated brands will be studied.

To determine which households were loyal to which brands, the segmentation procedure described above was applied to all eligible households (those with at least 8 pre-entry purchases). In the interest of brevity of presentation, only the final segmentation results will be presented (for the estimation details, see Grover and Srinivasan, 1987).

In order to obtain these results, the data were split by markets into two subsamples for model identification and then estimation. The chi-square test for the assumption of a zero-order, stationary choice process performed on the brand switching matrices showed no significant deviations. The m+n solution was identified for m = 1,5 switching segments. It was determined that the four switching

segment solution for Pittsfield and the two switching segment solution for Marion were the best fitting (based on the recommended \bar{R}^2 measure) without overfitting the data. The final model parameters were estimated from the second subsample. These estimation results are in Table 2.

Tests for Violations of Regularity

Each consumer was assigned to a single segment based on his pre-entry purchase behavior (total segment size in Table 3). Those consumers who did not purchase the new product at least once in the first year of availability were the subjects of the tests for regularity violations (sample size in Table 3).

The purchase frequency vectors of the consumers in each segment were converted to purchase probabilities by dividing each element of the vector by the total number of purchases made by the consumer. The segment choice probability vector was then computed by aggregating the individual probabilities by segment for both the pre-entry and post-entry time periods. This yields an unweighted "average" choice probability vector.

Without the conversion to probabilities at the individual level, those consumers with a large number of purchases would have a great effect on the segment purchase probability vector. A small change in the buying patterns of a single, high volume user could be magnified, leading to a possibly erroneous conclusion that regularity had been violated.

TABLE 2
Estimate of Latent Class Parameters: Pittsfield Market

Estimated B_k - Prior Probability of Being in Segment k.
(.001,.07,0.02,0.009,0.096,.04,0.001,0.164,0.23,0.055,0.23,0.08)

Estimated Choice Probability Vectors for Brand Switching Segments.
 $p_{1,j}=(0.24, 0.25, 0.01, 0.02, 0.33, 0.00, 0.00, 0.15)$
 $p_{2,j}=(0.05, 0.08, 0.00, 0.00, 0.18, 0.11, 0.50, 0.07)$
 $p_{3,j}=(0.01, 0.34, 0.08, 0.06, 0.20, 0.00, 0.00, 0.33)$
 $p_{4,j}=(0.03, 0.30, 0.00, 0.14, 0.45, 0.07, 0.00, 0.01)$

Estimate of Latent Class Parameters: Marion Market

Estimated B_k - Prior Probability of Being in Segment k.
(0.15, 0.18, 0.03, 0.09, 0.05, 0.03, 0.195, 0.268)

Estimated Choice Probability Vectors for Brand Switching Segments.
 $p_{1,j}=(0.050, 0.08, 0.017, 0.140, 0.18, 0.53)$
 $p_{2,j}=(0.436, 0.10, 0.100, 0.347, 0.01, 0.00)$

TABLE 3
Segments Identified Using Latent Class Procedure

Pittsfield		Marion	
Brand Loyal Segment	Number of Households (total/sample)	Brand Loyal Segment	Number of Households (total/sample)
A	0/0	B	35/21
B	15/14	C	39/13
C	5/0	D	4/3
D	2/0	E	28/7
E	34/15	F	7/0
F	7/0	G	8/0
G	2/0		
H	35/23		
Switching Segment	Number of Households	Switching Segment	Number of Households
1	93/0	1	16/0
2	10/0	2	73/0
3	38/0		
4	65/0		

The Z-statistic requires that the number of observations of a choice from a set be supplied. Since the segment choice probability vector is based on the "average" member of the segment, the average number of purchases by a member of a segment will be used as the number of observations.

To determine if regularity has been violated, the pre and post entry purchase vectors will be compared. If there is any increase in the probability

of choosing some brand in the post-entry observations, the statistical significance of this increase will be determined using a Z-test for the equality of proportions.

The changes in the post-entry purchasing patterns may be due to factors other than the entry of a new brand and these factors may even be unobservable. However, the procedures used to choose the brands and households for the study

TABLE 4
Tests for Violation of Regularity

Note: Z-statistics are reported for the largest increase in choice shares (underlined).

Results for Pittsfield							Average Number of Purchases
Choice Shares	A	B	C	D	E	H	
<i>Segment 2 - 14 households</i>							
Pre-entry	8.3%	76.4%	1.0%	2.7%	9.8%	1.8%	20.71
Post-entry	<u>12.8%</u>	<u>67.9%</u>	<u>1.3%</u>	<u>2.3%</u>	<u>11.5%</u>	<u>4.3%</u>	20.42
Change	<u>4.5%</u>	-8.6%	0.3%	-0.4%	1.7%	2.5%	Z = 0.470
Z-test for change in probability of choosing brand A = 0.470							
<i>Segment 5 - 15 households</i>							
Pre-entry	3.7%	12.3%	1.7%	3.0%	69.9%	9.5%	22.93
Post-entry	<u>9.0%</u>	<u>14.8%</u>	<u>2.0%</u>	<u>1.5%</u>	<u>65.7%</u>	<u>7.0%</u>	19.06
Change	<u>5.3%</u>	2.5%	0.3%	-1.5%	-4.1%	-2.5%	Z = 0.719
Z-test for change in probability of choosing brand A = 0.719							
<i>Segment 8 - 23 households</i>							
Pre-entry	6.4%	10.3%	2.0%	0.0%	6.5%	74.9%	27.83
Post-entry	<u>8.6%</u>	<u>8.5%</u>	<u>0.0%</u>	<u>0.3%</u>	<u>12.9%</u>	<u>69.8%</u>	29.95
Change	2.2%	-1.7%	-2.0%	0.3%	<u>6.3%</u>	-5.1%	Z = 0.810
Z-test for change in probability of choosing brand E = 0.810							
Results for Marion:							Average Number of Purchases
Choice Shares	B	C	D	E			
<i>Segment 1 - 21 households</i>							
Pre-entry	92.4%	1.8%	0.5%	5.3%			21.43
Post-entry	<u>86.0%</u>	<u>1.7%</u>	<u>1.7%</u>	<u>10.6%</u>			27
Change	-6.4%	0.0%	1.2%	<u>5.3%</u>			Z = 0.6629
Z-test for change in probability of choosing brand E = 0.6629							
<i>Segment 2 - 13 households</i>							
Pre-entry	1.4%	98.0%	0.4%	0.2%			21.69
Post-entry	<u>2.7%</u>	<u>95.0%</u>	<u>0.2%</u>	<u>2.2%</u>			26.62
Change	1.3%	-3.0%	-0.2%	<u>1.9%</u>			Z = 0.589
Z-test for change in probability of choosing brand E = 0.589							
<i>Segment 3 - 3 households</i>							
Pre-entry	13.3%	0.0%	77.0%	9.7%			29.0
Post-entry	<u>24.7%</u>	<u>1.0%</u>	<u>68.6%</u>	<u>5.7%</u>			29.1
Change	<u>11.4%</u>	1.0%	-8.4%	-4.0%			Z = 1.1078
Z-test for change in probability of choosing brand A = 1.1078							
<i>Segment 4 - 7 households</i>							
Pre-entry	10.9%	0.4%	2.4%	86.3%			24.86
Post-entry	<u>11.3%</u>	<u>0.0%</u>	<u>12.6%</u>	<u>76.1%</u>			34.33
Change	0.4%	-0.4%	<u>10.2%</u>	-10.2%			Z = 1.3967
Z-test for change in probability of choosing brand C = 1.3967							

attempted to reduce these effects (like spurious changes due to sampling error) and are the same ones used by practitioners using these analysis procedures to study actual market behavior.

Statistical Notation

The hypotheses are:

$$H_0 = P(x|A) \geq P(x|B) \text{ and}$$

$$H_1 = P(x|A) < P(x|B).$$

If N_1 , N_2 are the number of observations and R_1 , R_2 are the number of times that x was chosen, then define:

$$p^* = (R_1 + R_2) / (N_1 + N_2).$$

The Z-statistic is:

$$Z = [(R_1/N_1) - (R_2/N_2)] \\ + \sqrt{[p^*(1-p^*)(1/N_1 + 1/N_2)]}.$$

Previous work has used McNemar's test, Fisher's exact test or the chi-square statistic. These are all proper tests for violations of the assumption of zero-order choice process or stationary choice process since they take into account all choice probabilities. However, the concern in this paper is only for violations of regularity. In addition, since the data have not been collected in the lab, there is no way to insure that the assumptions of cell size can be fulfilled. This leads to using the Z-statistic to test for violations of regularity.

RESULTS

There were three and four segments in the Pittsfield and Marion markets respectively which had a sufficient number of consumers who did not try the new product. The Z-tests reported in Table 4 do not indicate any significant violations of the regularity hypothesis. Although the largest increases in choice probabilities for each segment averaged over 6%, none of them were statistically significant.

DISCUSSION AND CONCLUSIONS

It would be very surprising if there were a large number of significant violations found in the data presented here. However, the situation observed in this study is as close to the previous lab experiments one could hope for in the real world. How could the results be so different from the lab studies? The real question is: Are the results different?

Recall that Huber, Payne and Puto (1982) and Huber and Puto (1983) reported a large number of violations of regularity but that only a few of these violations were significant. Recall further that the work of Rameshwar, Shocker, and Stewart (1987) showed that the similarity effects (which lead to violations of regularity) may be mitigated by product familiarity and meaningfulness of the lab

stimuli. Since at least 8 choices of coffee by each household were observed in the supermarket, it is reasonable to assume that the consumer was familiar with the product (ground coffee).

The progression of work from the original lab studies to the Rameshwar, Shocker, and Stewart (1987) paper to this study show a definite reduction in the incidence and severity of violations of the regularity assumption. It is not an accident that each of the succeeding studies attempted to be more realistic. It is hoped that the corresponding drop in regularity is also not an accident.

The study does not have the dramatic implications for marketers and scholars that it would if the results were different. The validation of the results of Ryans (1974) is still important since his study involved a durable good and the product preference measure was a ranking. The product in this study is a grocery item whose implied preference is indicated by a probability. This news should give some comfort to those who use choice models which require the regularity assumption, like the ideal point, attraction models and the others mentioned above.

There are obviously a large number of limitations to this study. The lack of regularity violations in this entry episode does not mean that it cannot or will not happen in other situations. There may be question of the aggregation of consumers into segments since previous work relied exclusively on pooled or individual level data. Furthermore, there may have been some higher order or non-stationary choice processes at work in this market. Even with these potential problems (and all of the others not mentioned), the results do not seem to be exceptionally out of line with previous research.

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Effects of the Mass Media News on Trends in the Consumption of Caffeine-Free Colas

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ABSTRACT

The influence of the news media on consumer behavior is explored using an extension of procedures employed successfully in the past to predict public opinion from the press. For the current caffeine and cola study, texts of news articles were retrieved from the NEXIS computer database and scored by computer. The story scores were used to project expected time trends in overall consumption of caffeine-free colas. The projections show a dramatic increase in expected sales of the caffeine-free product in the early 1980s accompanying the introduction of the colas. Then the model predicts a plateau of little change in market share in good agreement with overall sales of caffeine-free colas.

INTRODUCTION

Prior studies have already shown that the news media plays a significant role in influencing public opinion (Dearing and Rogers, 1988; Fan, 1988; Iyengar and Kinder, 1987; Page, Shapiro, and Dempsey, 1987). Since purchase patterns are related to opinions, the news media should also affect consumer behavior, especially for products such as caffeine-free colas since prices are the same regardless of caffeine content, since caffeine has minimal effect on taste, and since all products of the same company are physically displayed together for easy customer choice. Therefore, advertising and news coverage are likely to be the major influences on the purchase of caffeine-free colas. Of the two, the news was likely to be dominant force since there was no incentive to produce such colas without messages about caffeine's effects.

METHODOLOGY

Four main steps were used to study the news and market share of caffeine-free colas: (1) retrieval of the texts of relevant news articles from an electronic database, (2) performance of a computer content analysis of the articles, (3) calculation of mathematical projections of consumption trends, and (4) comparisons of the calculated trends with actual opinion values or sales figures. The analysis follows other studies demonstrating that time trends of public opinion could be predicted from computer content analysis scores of news stories from the Associated Press (AP) wire service. Topics of previous studies have included consumer sentiment (Fan, 1988; Tims, Fan, and Freeman, in press) and the 1987 - 1988 presidential contest between George Bush and Michael Dukakis where the time trend calculated from 2603 AP stories was within 2.7

percent, on average, of 120 actual published poll values (Fan and Tims, 1989).

RESULTS

Stories mentioning both "caffeine" and "soft drinks" or "colas" were retrieved from the AP because this news wire had already been used successfully for opinion calculations (see references in previous section) and because this news wire is relied upon by most written and electronic news organizations in the United States. The analysis ran from January 1, 1977, well before the discussion of caffeine-free colas, to August 7, 1989 when the analysis was begun. All text within 50 words of the words "caffeine," "cola," or "soft drink" was retrieved into the investigators' computer from all 238 identified stories (650,000 characters of text). Text at a greater distance from any of these words was usually irrelevant and was therefore not harvested.

This text was then analyzed by computer for its support of various positions pertinent to caffeine in colas. A reading of a random sample of the retrieved stories showed that their overall sense could be captured by examining only paragraphs containing the word "caffeine." Therefore, the computer was used to "filter" the text keeping only such paragraphs. The yield was 230,000 characters or 36 percent of the original retrieval. The paragraph was chosen as the unit of analysis because the beginnings of paragraphs are easy for the computer to identify and because AP paragraphs tend to be short, typically discussing one idea in one or two sentences.

The caffeine containing paragraphs were read by human analysts to determine the extent to which the paragraphs supported different positions. Four referred to disadvantages of caffeine consumption: harm to the central nervous system, causation of diseases (such as hypertension or heart disease), impediment to the development of fetuses or young children, and harm for unspecified reasons. The fifth position was that caffeine provided a positive benefit or at least did not constitute a health hazard.

The human analysts then constructed a dictionary and a corresponding set of rules to score the paragraphs for their support of the five positions. The scoring used the fact that the filtered paragraphs were all about caffeine since they all contained the word. Consequently, the mere presence of words mentioning children or pregnancy (e.g. "baby," "conception," "fetus," or "mother") implied that the drug was discussed in an unfavorable light. Most paragraphs mentioning these terms described caffeine's ill effects.

Similarly, words like "cancer" and "illness" led to paragraph scores linking caffeine with diseases; words like "addict" and "anxiety" suggested

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that caffeine was bad for the nervous system; and words like "avoid" and "problem" meant a score unfavorable to caffeine for nonspecific reasons. Scores for nonspecific disadvantages were also implied by phrases such as "caffeine-free," "no caffeine" and "not ... drink caffeine containing." This latter set of conditions meant that the mere mention of caffeine-free products was scored as adding to the available information claiming that caffeine-free colas were better than their caffeine containing counterparts. Words such as "alert," "benefit," and "analgesic" or "pain killer" resulted in a paragraph being scored as favorable to caffeine.

The dictionary also included negation words like "insufficient," "not," and "without." Rules were written so that a negation word close to a word in the "children" class would lead to a paragraph score favorable to caffeine. Thus, for example, a paragraph with the phrase "does not affect fetuses" was scored as favorable to caffeine. In the reverse case, a negation word close to a clause favoring caffeine resulted in a score unfavorable to caffeine for nonspecific reasons.

Doubt and ambiguity were also coded. If a paragraph had a favorable and/or unfavorable mention of caffeine, the computer was instructed to score the paragraph as half pro- and half anti-caffeine if that paragraph also had a conditional word like "disputed" or "inconclusive." Each paragraph had a total possible score of 1.0 with partial scores summing to this value. If a paragraph had phrases scored as being harmful for different reasons, the paragraph score was split between the reasons.

In developing the dictionary and rules described above, two different human analysts compared the computer decisions with impressions obtained by reading the text. The dictionary and corresponding rules were changed and refined until the computer decisions gave good approximations with human evaluations based on about 200,000 characters from stories selected at random. Then, the computer scored the entire text uniformly and consistently without further human interference. The broad applicability of the computer instructions is seen in the fact that 217 of the 238 retrieved stories had a score supporting at least one of the five chosen positions.

Since each score also had a date, it was convenient to plot all the scores as a function of time (Fig. 1). For this plot, each paragraph was given its scored value on the day of the AP dispatch. With each passing day, the score from each paragraph was decreased by one-half because the mathematical model of ideodynamics (Fan, 1988) has found that this rapid decrease in score value reflects the memory loss of the public. With a one day half-life, a paragraph effectively loses all its persuasive ability within a week.

The data in Fig. 1 show that there was relatively little news about caffeine in the cola context before 1979. In late 1978, the Food and Drug Administration (FDA) began reviewing studies implicating the substance as a possible cause of

birth defects. In September 1980, the FDA added caffeine to a list of substances that pregnant women should avoid or use sparingly. By December, an FDA review panel recommended removing the drug from the list of substances Generally Regarded as Safe (GRAS) and placing it in a category of substances requiring additional study. In 1981, evidence challenging the FDA's warnings against caffeine began to appear in the news. From 1982 to the beginning of 1984, the press carried many reports debating caffeine's potential health hazards, primarily in the area of fetal development. By late 1984, discussion on the possible harms of caffeine had diminished (Fig. 1).

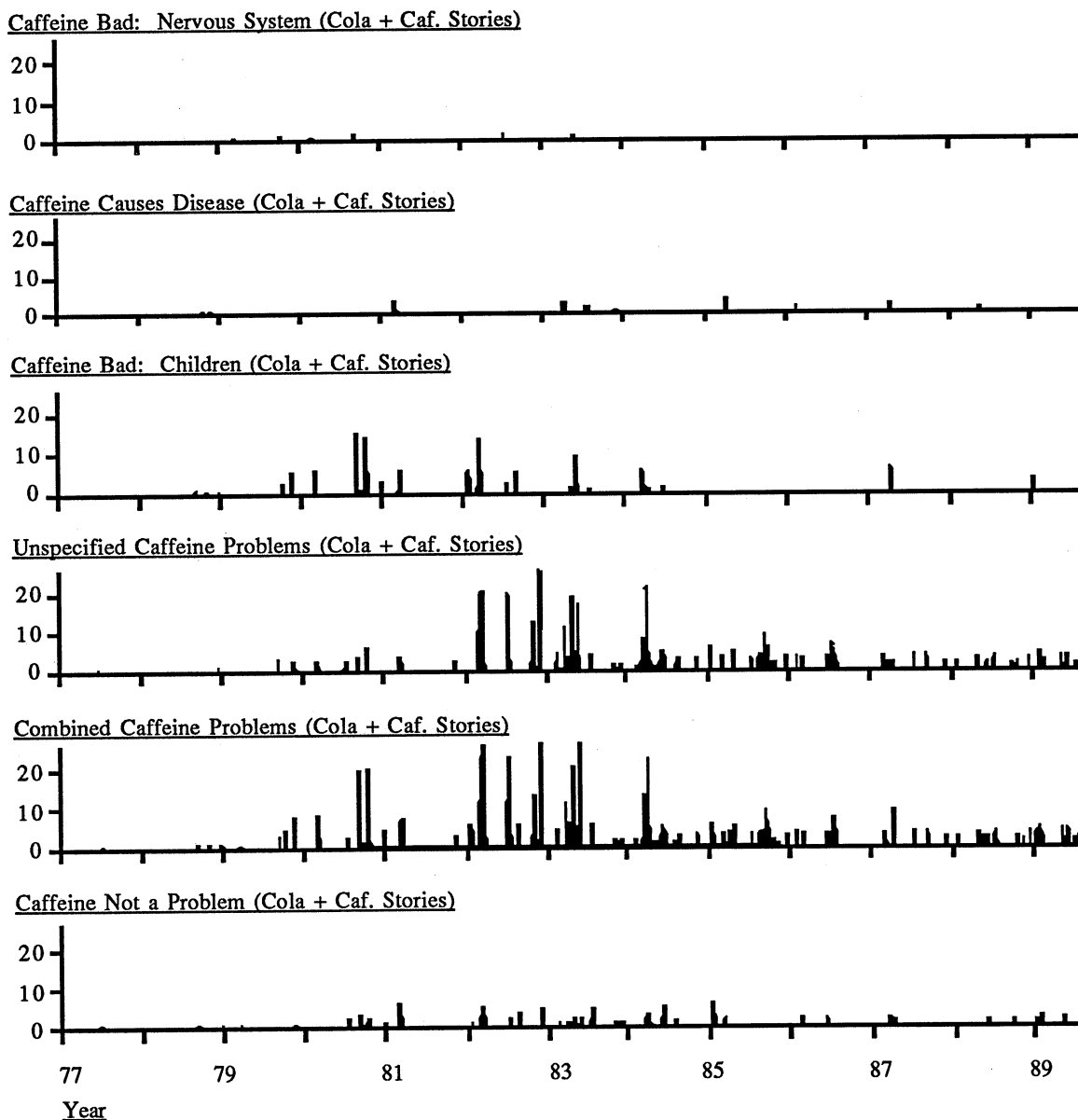
In addition to discussion about the health aspects of the drug, Fig. 1 also included substantial coverage of the soft drink manufacturers' introduction of caffeine-free colas in response to the caffeine controversy. Royal Crown introduced the first caffeine-free sugarless cola in March 1980. At that time the FDA required caffeine in sugared colas. In mid-October, the FDA proposed changing its regulations so that regular colas need not include caffeine. In March 1982 7UP shook the soft drink industry with an anti-caffeine advertising campaign and the introduction of its caffeine-free cola, Like. PepsiCo and Coca-Cola decried the 7UP campaign, but four months later, in July 1982, PepsiCo introduced its own caffeine-free colas, Pepsi Free and Sugar Free Pepsi Free (these were renamed Caffeine-free Pepsi and Caffeine-free Diet Pepsi in 1988). Coca-Cola followed suit in April 1983, introducing caffeine-free versions of Coke, Diet Coke, and Tab.

The history of the market share for Coca-Cola and PepsiCo's caffeine-free colas is plotted in Fig. 2 beginning with the first full calendar year after their introduction (Maxwell, 1989). Only Caffeine-free Diet Coke has shown an increase in recent years. However, the overall market share of Diet Coke is so large that the increase in its caffeine-free version alone was enough to cause a small rise in the share of all colas without caffeine in 1987 and 1988 (Fig. 2, bottom frame).

The scores from the 238 AP stories on caffeine and soft drinks or colas (Fig. 1) were used in the mathematical model of ideodynamics to calculate expected purchases of caffeine-free colas. This model is consistent with previous reports noting that consumers respond positively to increasing amounts of information, although not necessarily in a linear fashion (Keller and Staelin, 1989; Meyer and Johnson, 1989; Alba and Marmorstein, 1987).

Ideodynamics argues that people change their purchasing patterns only in response to information favoring another product or opposing their current product choice. Information reinforcing preferences might cause greater product or brand loyalty but will cause no alterations in buying habits. Using these arguments, a fraction of the public currently purchasing a caffeine containing soft drink should switch to the caffeine-free product by persuasive information noting the dangers of this drug. If C_F describes the number of consumers of caffeine-free

FIGURE 1
 Informational pressures relevant to the problems of caffeine in stories mentioning both soft drink or cola and caffeine



The vertical scale is in paragraphs. Top frame: Paragraphs supporting the position that caffeine harms the central nervous system. Second frame: Paragraphs supporting the position that caffeine causes diseases such as hypertension and heart disease. Third frame: Paragraphs supporting the position that caffeine hinders the development of fetuses and children. Fourth frame: Paragraphs supporting the position that caffeine is harmful without reasons being given. Fifth frame: Combination of all above paragraphs supporting the position that caffeine is harmful. Bottom frame: Paragraphs supporting the position that caffeine is not harmful.

colas in the population, and C_C represents the number of purchasers of the caffeine containing variety at a particular initial time t_1 , then $C_F + C_C = 100$ percent at all times t_n if the population of cola consumers does not change composition significantly during the study. It should be possible to compute time trends for both C_F and C_C from t_1 to t_n if the C values at t_1 and all intervening changes are known.

In any time interval t , the number of caffeine-free consumers C_F is postulated to increase in proportion to the strength G_F of the persuasive paragraphs describing problems with caffeine (Fig. 1, next to bottom frame). However, the increase should also be proportional to C_C , the population still consuming the caffeine containing product since that is the population of potential converts. The more the potential converts, the larger should be the number of people whose habits are changed given the same persuasive information. There is also a constant of proportionality k incorporating the attention being paid to caffeine information and the natural resistance to switching buying patterns.

The reverse transition is also hypothesized in which G_C , information about caffeine not being a problem (Fig. 1, bottom frame), would convert the caffeine-free drinkers C_F to return to the caffeinated product. However, caffeine has always been in colas and it is conceivable that there is a residual preference for the caffeinated variety, perhaps due to a small taste difference or a desire to be kept awake by caffeine. In this case, there might be an additional persuasive force encouraging the drinkers of caffeine-free colas to return to the caffeine containing soft drink. This persuasive information could be modeled as being proportional to the amount of caffeine containing colas available. That is, the more colas sold with caffeine, the more the consumer would feel that it was permissible to consume the soft drink with the drug. In other words, the persuasive pressure favoring more caffeine would include not only G_C from news messages saying that caffeine was beneficial or at least not harmful but also an added component proportional to C_C , the number of drinkers of caffeinated colas. If the proportionality constant is c for C_C , then the ideodynamic expressions for the numbers of consumers of caffeinated and caffeine-free colas at time t are

$$(Eq. 1) \quad C_{F,t} = C_{F,t-1} + k \cdot G_{F,t} \cdot C_{C,t-1} - k \cdot (G_{C,t} + c \cdot C_{C,t-1}) \cdot C_{F,t-1}$$

$$C_{C,t} = C_{C,t-1} - k \cdot G_{F,t} \cdot C_{C,t-1} + k \cdot (G_{C,t} + c \cdot C_{C,t-1}) \cdot C_{F,t-1}$$

(see Fan, 1988 for additional details for derivation of these equations). In the first equation, the positive term reflects the recruitment of caffeine-free drinkers from the caffeine consuming group and the

negative term is due to the loss of caffeine-free buyers due to return to the caffeine purchasing population. The same terms are also found in the second equation and keep the total population size at 100 percent.

The initial condition for equations 1 was that the entire population drank caffeine containing colas, the only kind in existence, on January 1, 1977 when the AP retrievals and calculations started. Then computations were made at $t = 24$ hour intervals with the newly calculated C values after each day being used for the computation on the subsequent day. The only two unknown parameters in this equation are constants k and c . These parameters were optimized to fit the actual consumption pattern for the overall consumption of caffeine-free colas beginning in 1984, the first year in which both Coke and Pepsi caffeine-free colas were sold during the entire calendar year (Fig. 2, bottom frame).

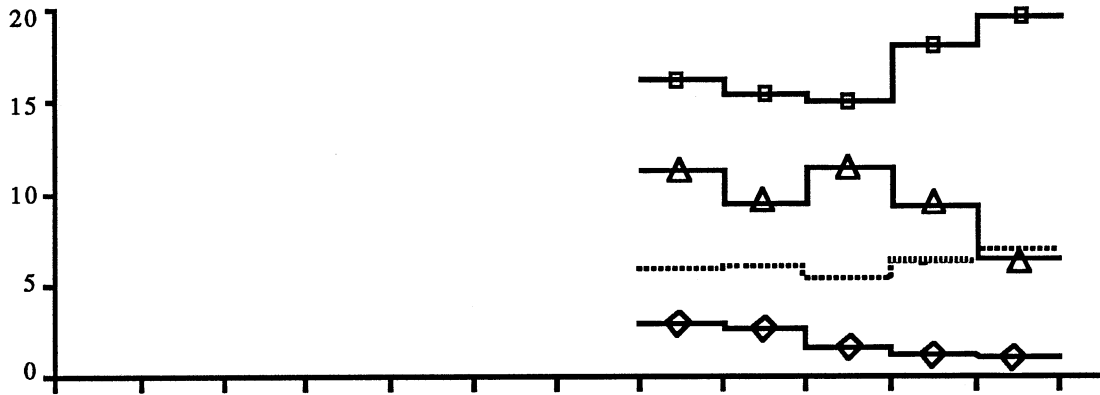
Comparison with Fig. 1 explains the shape of this projected time trend. Before 1980, there was relatively little information about caffeine, so there should be no change with 100 percent consumption of the caffeinated variety (Fig. 2). Then from 1980 to the beginning of 1984 there was a notable increase in anti-caffeine information (Fig. 1, next to bottom frame) with a much smaller corresponding increase in pro-caffeine news (Fig. 1, bottom frame). This rise in anti-caffeine coverage caused the rapid increase in the projected preference for caffeine-free colas from 1980 to early 1984. Then, the anti-caffeine news decreased sharply (Fig. 1). At this time, the $c \cdot C_C$ term began to be important leading to a plateau or even a slight decrease in the consumption of the caffeine-free product.

If parameter c in the $c \cdot C_C$ term is increased, there will be a more pronounced drop in the caffeine-free market share as was found for all colas except Diet Coke. The $c \cdot C_C$ term was justified on the grounds that some people might prefer to have caffeine in their cola for reasons other than those given in the mass media. Obviously, the reverse could also be true, other persons might not like the effects of caffeine, such as inhibiting sleep. Simple substitution into equations 1 of the original condition that $C_C + C_F = 100$ percent yields the conclusion that, if both C_C and C_F have different constant multipliers, then only one term is needed, in this case $c \cdot C_C$, reflecting the extent to which the constant for C_C is larger than the one for C_F .

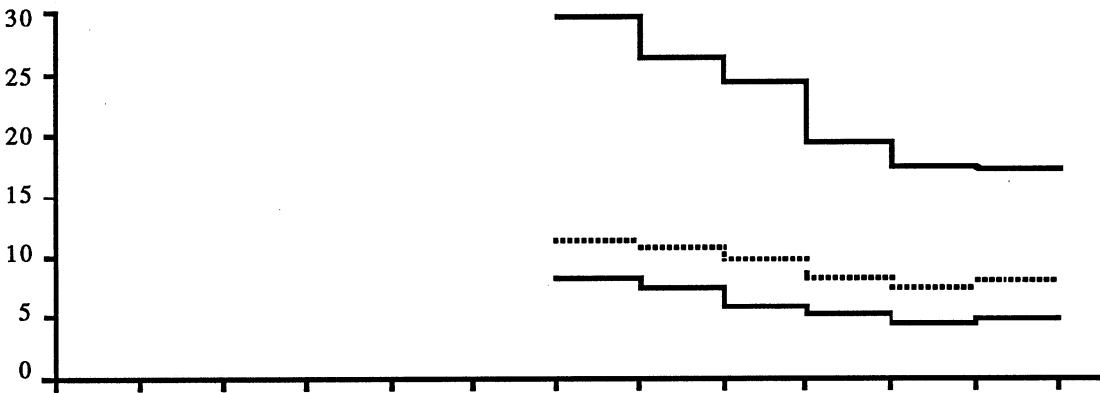
For the studies described above, only AP stories discussing both caffeine and soft drink or cola were used. To account for the public using all information about caffeine and not just that in soft drink stories, another NEXIS retrieval was made, this time for all stories mentioning the word "caffeine." This retrieval included not only the AP but also the United Press International wire service, the *New York Times* and *Washington Post* newspapers, and *U.S. News & World Report* and *Newsweek* magazines. This analysis ran from September 26,

FIGURE 2
Actual and calculated market share of caffeine-free soft drinks

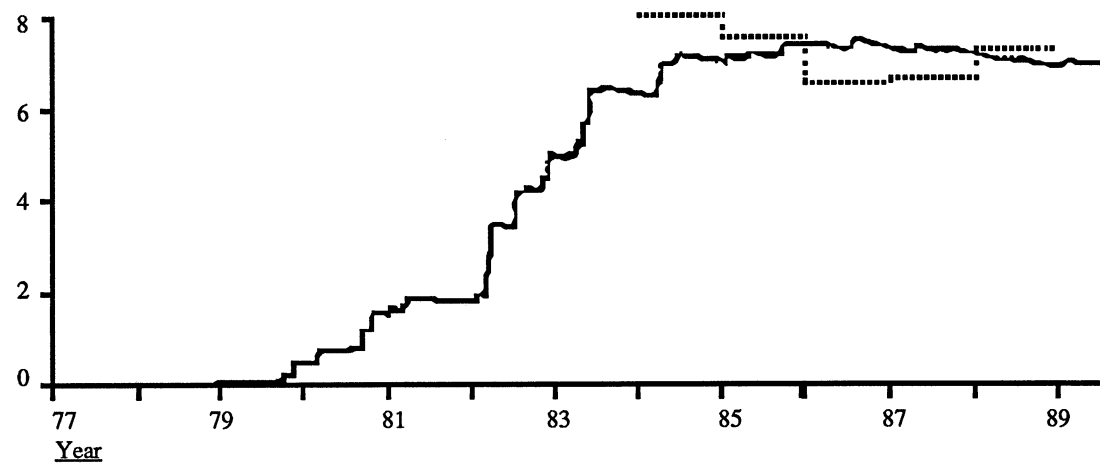
Coke Brands: Caffeine-Free Market Share



PepsiCo Brands: Caffeine-Free Market Share



Caffeine-Free Market Share: Real and Calculated



Top frame is for Coca-Cola brand products: Squares: $(\text{Caffeine-free Diet Coke}) / (\text{Caffeine-free Diet Coke} + \text{Diet Coke})$. Triangles: $(\text{Caffeine-free Coke}) / (\text{Caffeine-free Coke} + \text{Coke Classic} + \text{Coke})$. Diamonds: $(\text{Caffeine-free Tab}) / (\text{Caffeine-free Tab} + \text{Tab})$. Dotted line: $(\text{Sum of all three caffeine-free colas in numerators of previous three plots}) / (\text{Sum of all denominators in three previous plots})$. Center frame is for PepsiCo brand products: Squares: $(\text{Caffeine-free Diet Pepsi}) / (\text{Caffeine-free Diet Pepsi} + \text{Diet Pepsi})$. Diamonds: $(\text{Caffeine-free Pepsi}) / (\text{Caffeine-free Pepsi} + \text{Pepsi})$. Dotted line: $(\text{Sum of both caffeine-free colas in numerators of previous two plots}) / (\text{Sum of all corresponding denominators})$. Bottom frame: Dotted line: Overall market share of caffeine-free colas from $(\text{Sum of all numerators in plots by brands in previous frames}) / (\text{Sum of all corresponding denominators})$. Solid line: Ideodynamic prediction of market share based on paragraph scores in the bottom two frames of Fig. 1.

1980, the earliest date for which all the sources were present in the database, to July 27, 1989. With this larger number of data sources and the lack of requirement for the word caffeine, 1782 stories were identified and text was retrieved from all within 50 words of the word "caffeine" (2,500,000 characters of text). The same content analysis was applied as described above leading to the paragraph plots of Fig. 3. The first filtration to retain only paragraphs mentioning "caffeine" resulted in 1,400,000 characters or 56 percent of the retrieved text. The computer gave a score for at least one of the six scored positions for 1479 of the original 1782 retrieved stories.

The paragraph plots in both Figs. 1 and 3 show that caffeine was discussed more often in the context of problems than as being desirable, regardless of whether colas were mentioned. The complexion of the positive and negative information could be explored by calculating likely public opinion using equations 1 without the $c.C_C$ term. These simpler equations were consistently used in the past for studies relating the mass media with opinion (Fan, 1988; Tims, Fan, and Freeman, in press; Fan and Tims, 1989; Fan and McAvoy, 1989). Using the CWC method of Fan and McAvoy (1989) it was possible to estimate that the projected opinion -- and hence the information structure -- was fairly constant and overwhelmingly against the consumption of caffeine (Fig. 4). The anti-caffeine messages were consistently higher (Fig. 4) for Fig. 3, being closer to 90 percent than the 80 percent for the AP stories for Fig. 1. The differences between the two lines could either be due to the requirement of cola mentions in Fig. 1 or the fact that the AP is systematically slightly less sympathetic to caffeine than the other news sources.

Besides including an extra $c.C_C$ term, the projection in Fig. 2 uses the same AP story scores but a different constant k . The value was $k = 0.037$ per AP paragraph per day for purchases (Fig. 2) and $k = 1.0$ per AP paragraph per day for opinion (Fig. 4). The much larger value in Fig. 4 suggests that people are much more ready to start thinking that caffeine is bad than to start purchasing caffeine-free drinks.

An additional question is whether the decreased discussion of caffeine in colas after 1984 is due to less discussion of colas and soft drinks in general. To explore this possibility, another retrieval was made in which 2000 out of 7306 AP stories on soft drinks or colas were retrieved at random from January 1, 1977 to August 7, 1989. All text within 50 words of one of these key words was retrieved (2,600,000 characters of text) and scored for the number of paragraphs discussing soft drinks or colas regardless whether caffeine was also present. The caffeine stories were ignored because they only constituted 3 percent of the total. Fig. 5 shows that the peak of caffeine discussion from 1982 - 1984 did not correspond to the major peaks of soft drink discussion in 1985 - 1987 when other issues were discussed, such as the introduction of

new Coke and lawsuits involving the major manufacturers.

DISCUSSION

This study has examined the effect of the news media on consumer behavior and was greatly facilitated by the ability to retrieve large amounts of relevant information from electronic databases. Such retrievals are more complete than is possible using manual searches because the computer, with no loss of attention, can easily scan for words appearing within the contents of a story instead of merely in the headline. For this analysis, 4020 stories containing 4,700,000 characters of text were retrieved and analyzed by computer, the only practical method for evaluating such a large quantity of text. The new method of successive filtrations is highly flexible since the user can enter customized dictionaries and rules for individual studies. Using a fixed set of instructions, the computer has the advantage of consistency and uniformity, an advantage which compensates for its inability to detect some subtleties in language usage that only a human can catch.

The computer content scores were entered into the mathematical model of ideodynamics to give consumption time trends which are close to actual market shares. The data from Fig. 1 used for the calculations included both exogenous reports on the desirability of caffeine and endogenous stories on the public's own behavior in terms of purchases of caffeine-free colas. The computations were made every 24-hours, thereby avoiding aggregation errors when data are pooled into quarters or years. The calculations can be performed throughout a time period when information important to the consumer is available.

The ideodynamic model includes only two parameters and is therefore suitable for rigorous testing using a reasonable number of data points. In fact, since both parameters have already been fixed, a good test would involve retrieving more stories into the future and seeing if the computer text analysis can yield scores which still give accurate market shares without altering either constant.

Even for the data in this paper, no changes in the parameters can change the time at which the public should initially have become interested in caffeine-free colas. With little news prior to 1980, the model only permitted public preference for the caffeinated variety.

Then, with the increase in cola news in 1980 - 1984, the model insists on an increase in interest in caffeine-free colas. The only question is how much. After 1984, news coverage relevant to colas diminished so the main question is the extent to which caffeine-free consumers have inherent preferences which will push them back to drinking the caffeinated drink. Depending on this pressure governed by constant c , the decrease in cola consumption will be more or less great.

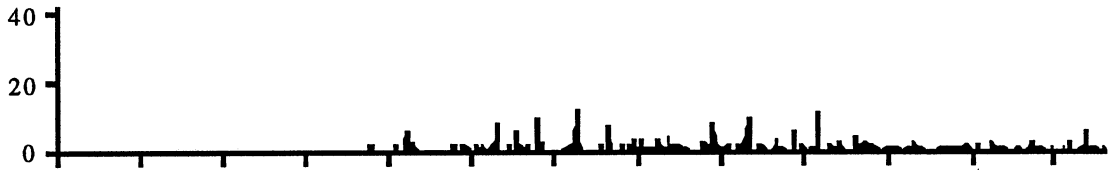
The model uses three important assumptions which merit some discussion. In the first place, the

FIGURE 3
Informational pressures relevant to the problems of caffeine in all stories on caffeine

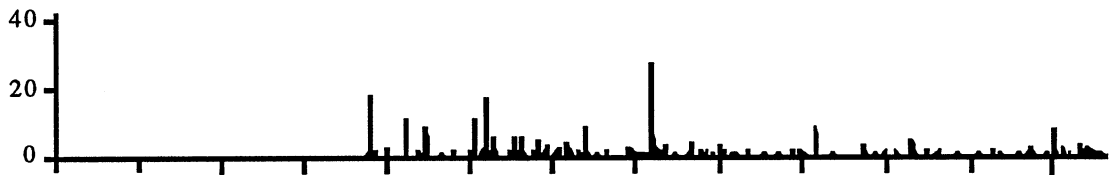
Caffeine Bad for Nervous System (All Caf. Stories)



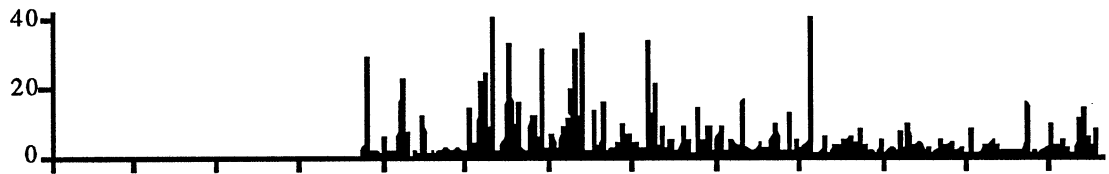
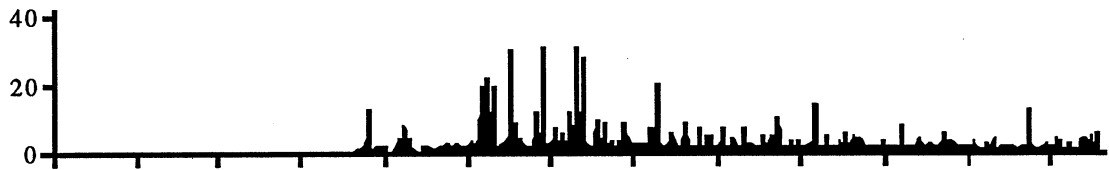
Caffeine Causes Disease (All Caf. Stories)



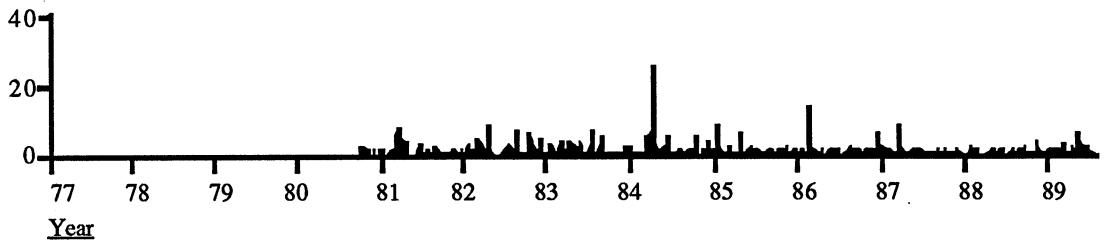
Caffeine Bad for Children (All Caf. Stories)



Unspecified Caffeine Problems (All Caf. Stories)



Caffeine Not a Problem (All Caf. Stories)



Same as Fig. 1 except that the retrieval was for all stories on caffeine instead of caffeine in the context of soft drinks and the retrieval began on September 2, 1980 instead of January 1, 1977 and used six news sources (see text) instead of just the AP.

FIGURE 4

Opinion that caffeine is bad predicted from soft drink stories (solid line) or from all caffeine stories (dotted line)

Solid line predicted from paragraph scores in Fig. 1 and dotted line from paragraph scores in Fig. 3.

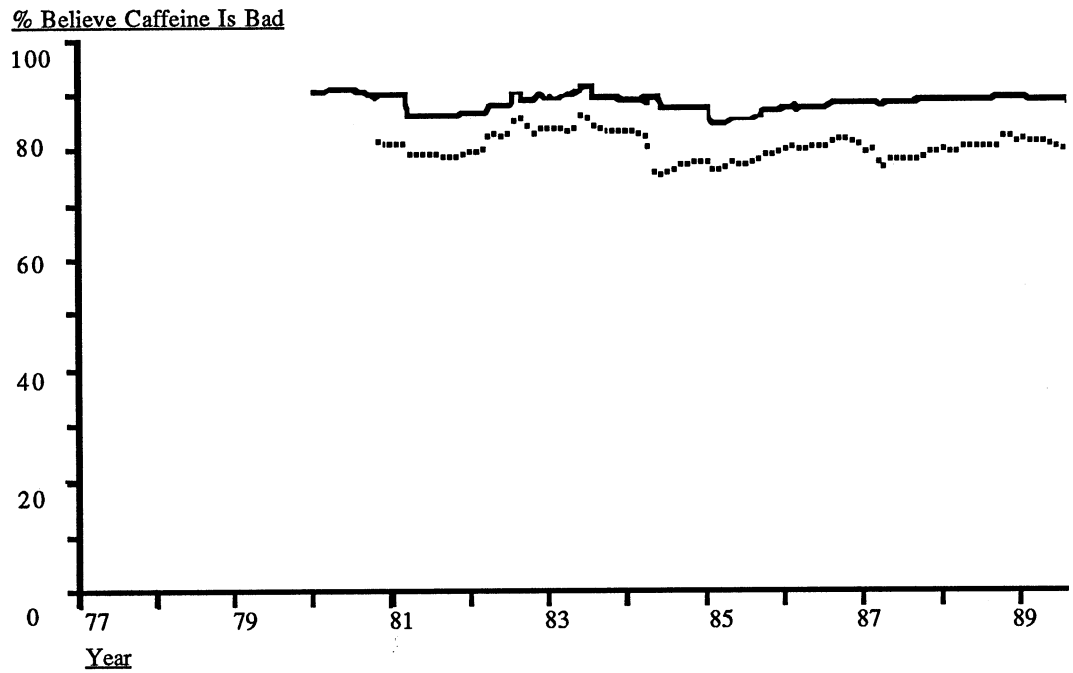
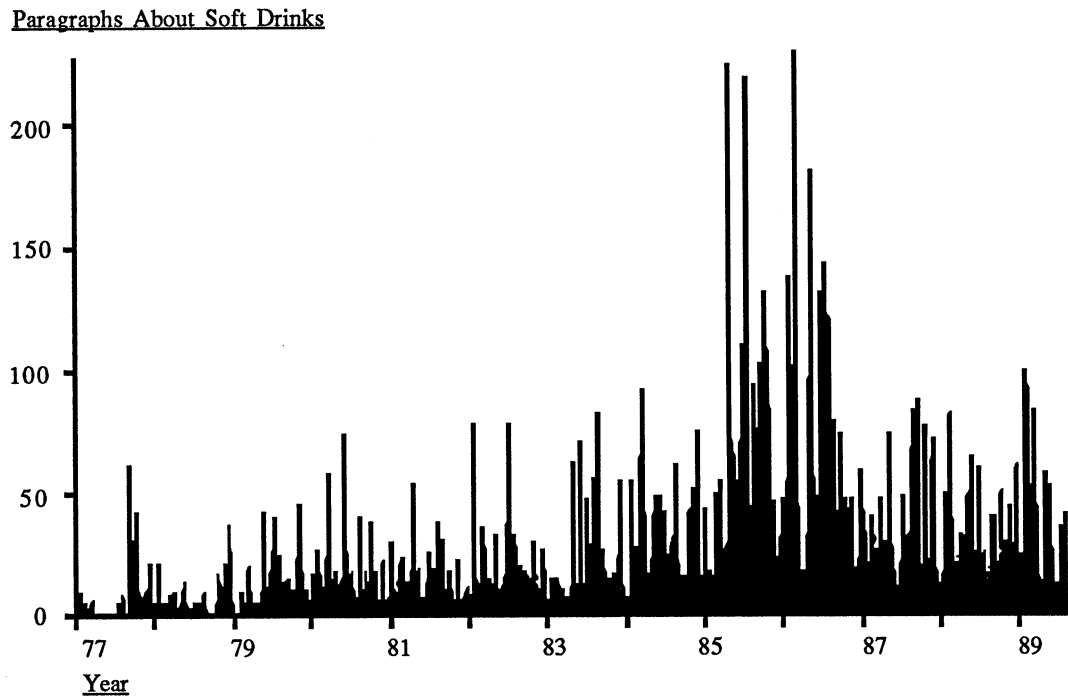


FIGURE 5

Paragraphs discussing soft drinks and colas regardless of whether caffeine is mentioned.



model should only work if most of the important persuasive information is used in the calculation. Thus a more accurate calculation would require inclusion of persuasive information from marketing and advertising.

Another important assumption was that the same people were studied for the entire 12 years from 1977 to 1989 and that they only chose between the caffeinated and caffeine-free versions of a cola. However, from 1981 to 1988, there has been a continual increase in the sales of colas so the question is whether there are substantial numbers of new drinkers and, if so, how they make their choices. Also, a cola consumer might switch not to a diet variety but to an alternative drink like a lemon-lime soft drink. The estimates in this paper will be inaccurate if these other factors are very important.

Finally, it is assumed that caffeine-free colas are as readily available as the caffeinated variety.

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A Structural Examination of Two Optimal Stimulation Level Measurement Models

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ABSTRACT

The study examines the internal structure of two measurement models used to operationalize the optimal stimulation level (OSL) construct in consumer research. Using a causal modeling approach, the structure of Zuckerman's Sensation Seeking Scale was confirmed. However, the analysis raises questions regarding the internal specification of Mehrabian and Russell's Arousal Seeking Tendency instrument. The need for a theory-based definition of OSL in consumer behavior is identified. Implications for future OSL scale refinement research are offered.

INTRODUCTION

The OSL Construct and Adaptive Behavior

Behavioral scientists' interest in the concept of stimulation dates back at least a century. In the field of psychology, the concept has been incorporated in several frameworks that describe the link between one's psychological state and his/her reaction to environmental stimuli (Hebb 1955; Leuba 1955). A summary of the OSL literature can be found in Rogers (1979). A generally accepted conceptual treatment of the stimulation construct is that each individual has a uniquely determined, homeostatic degree of stimulation or an "optimal stimulation level" (OSL) with which he/she is comfortable. When the environment is deficient in providing stimulation at this level, one tends to seek complexity or novelty. Conversely, when the environment provides more stimulation than the desired, optimal level, the individual will engage in behavior to reduce stimulation. Thus, the individual is viewed as adapting to his/her environment so as to maintain a balance between actual and optimal levels of stimulation. This adaptive behavior will involve either stimulation seeking or avoidance depending on the individual's OSL and present profile of environmental input. Thus, three factors must be considered in the analysis of stimulation adaptive behavior: (a) the individual's OSL, (b) the stimulating or arousal potential of the object, person, or event within the environment which is confronting the individual, and (c) one's state at the time of exposure to the stimulus in question (Berlyne 1960).

Several alternative theoretical frameworks incorporating the OSL construct have been developed by psychologists to explain stimulation-related exploratory behavior in a clinical research setting (Berlyne 1960, 1963; Driver and Streufert 1965; Fiske and Maddi 1961; Hunt 1963). More pragmatically, the construct has obvious significance in a consumer behavior context as OSL may contribute to an explanation of differences across consumers relative to a range of diverse

behaviors including brand switching, acceptance of innovations, shopping behavior, and response to advertising repetition as summarized by Raju (1980).

OSL Measurement Models in Consumer Research

Stimulation seeking as an influence on consumer behavior has been addressed in the marketing literature both conceptually (Faison 1977; Hirschman 1984; Howard and Sheth 1969; Kirby 1975; Markin 1974; Raju 1981; Raju and Venkatesan 1980; Venkatesan 1974) and empirically (Etzel and Wahlers 1984; Goodwin 1980; Grossbart, Mittelstaedt, and Devere 1976; Joachimsthaler and Lastovicka 1984; Mittelstaedt, Grossbart, Curtis, and Devere 1976; Raju 1980; Venkatraman and MacInnis 1985; Wahlers and Etzel 1985; Wahlers, Dunn, and Etzel 1986). The evidence provided by prior studies suggests that the tendency to seek stimulation is a significant behavioral influence that is manifest in varying degrees across a number of consumer activities. Research in marketing thus far has dealt with arousal seeking and has not focused specifically on stimulation avoidance behavior.

In terms of measuring the OSL construct, Raju (1980) has identified several paper-and-pencil instruments found in the psychology literature as potential OSL operationalizations. Among these are the Sensation Seeking scale (Zuckerman 1979; Zuckerman, Kolin, Price, and Zoob 1964), the Arousal Seeking Tendency scale (Mehrabian and Russell 1974), the Change Seeker Index (Garlington and Shimota 1964), the Stimulus Variation Seeking scale (Penney and Reinhr 1966), and the Similes Preference Inventory (Pearson and Maddi 1966). The Sensation Seeking (SS) scale and the Arousal Seeking Tendency (AST) scale have been the two predominant instruments employed in consumer behavior studies. The principal studies involving an empirical treatment of OSL in a marketing context are chronologically summarized in Table 1.

An inspection of the Sensation Seeking scale and the Arousal Seeking Tendency scale and their respective subscales proposed by the scale developers suggests that these two instruments tap somewhat different aspects of OSL. The SS instrument consists of forty pairs of statements in a forced-choice format. Zuckerman (1979) has identified four components which underlie SS: (a) Thrill and Adventure Seeking, (b) Experience Seeking, (c) Boredom Susceptibility, and (d) Disinhibition. Alternatively, the AST scale consists of forty items combined with nine-point Likert agreement-disagreement scales. Mehrabian and Russell (1974) assert that the instrument taps five underlying factors relating to OSL: arousal associated with (a) Change, (b) Unusual Stimuli, (c) Risk, (d) Sensuality, and (e) New Environments.

TABLE 1
MEASUREMENT OF OSL IN SELECTED CONSUMER BEHAVIOR STUDIES

Study	Year	Scale Used	Focus of Investigation	Findings
Grossbart, et al.	1975	SS	Relationship between OSL and perceptions of retail shopping environment	Environmental adjectives and SS in combination better predicted behavior than either the adjectives or SS alone
Grossbart, et al.	1976	SS	Relationship of OSL to adoption process for nontraditional retail outlets	SS positively associated with consumers acceptance of nontraditional urban retail outlets
Mittelstaedt, et al.	1976	SS	Relationship of OSL to adoption process for new products and services	SS directly linked to awareness and trial of new products and retail outlets negatively linked to awareness-trial timing and rejection of products and outlets under consideration
Goodwin	1980	AST	OSL treated as covariate in responses to stimulus characteristics such as complexity, blurredness, and incompleteness	AST found to influence advertising attentiveness and impact of the various message components studied
Raju	1980	AST	Relationship of OSL to other aspects of personality, demographics, and general exploratory tendencies in a consumer context	AST associated with tolerance for ambiguity and education and inversely linked with rigidity and age. AST found to be positively related to selected exploratory behavior tendencies.
Etzel & Wahlers	1984	AST	Relationship of OSL to vacation travel preferences	AST positively related to vacation preferences described as different, and offering change - and negatively linked with those described as restful, rejuvenating, and traditional.
Joachimsthaler & Lastovicka	1984	AST	Relationship of OSL to selected personality traits and exploratory behavior tendencies involving information search and innovativeness	Rather than acting as a mediator, AST and selected personality traits exerted direct influence on subjects' exploratory behavior proneness.
Wahlers & Etzel	1985	SS	Differences between experienced and optimal stimulation related to preference for activity	OSL satiation related to preferences for tranquil, passive vacations. OSL deprivation linked to preferences for action, activity-oriented vacations.
Venkatraman MacInnis	1985	SS & AST	Relationship of OSL to epistemic and sensory exploration and product perceptions	SS in combination with other & personality traits defined four types of consumers exhibiting different product perception and exploratory behavior pattern

TABLE 1 (CONTINUED)
MEASUREMENT OF OSL IN SELECTED CONSUMER BEHAVIOR STUDIES

Study	Year	Scale Used	Focus of Investigation	Findings
Wahlers, Dunn & Etzel	1986	SS & AST	Comparison of alternative OSL measures with Raju's exploratory tendencies classifications	SS and AST positively linked to innovativeness, risk taking, shopping and brand switching, and information seeking - while negatively related to repetitive behavior proneness.

While it appears intuitively obvious that these factors are related both internally and across scales, the two scales have not been compared in a consumer behavior study. In addition, the degree of interscale congruence with respect to scale components is unclear. Thus far these two scaling approaches have been used interchangeably in consumer research.

Research Objective

Prompted by the observation that Sensation Seeking and Arousal Seeking Tendency have been the scaling methods of choice to operationalize OSL in the consumer behavior literature -- and noting that the scales have different subscale descriptions, the present study was conducted to examine both the measurement congruence between the scales and to assess the dimensionality of the measures. The results should provide consumer behavior researchers some direction in OSL scale selection -- particularly when dimensionality is relevant..

THE STUDY

Method

To examine the Sensation Seeking and Arousal Seeking Tendency as alternative measures of OSL, data were collected via mail questionnaire from a Midwestern consumer panel. The questionnaire contained Form V of the Sensation Seeking scale (Zuckerman 1979) and the Arousal Seeking Tendency instrument (Mehrabian and Russell 1974). A pretest of the questionnaire found no item order bias (either between or within the two OSL instruments). Thus, the two instruments included in the final questionnaire were presented in the same form that they appear in the psychology literature. The results reported in this paper are based upon 697 usable responses to the questionnaire.

In an initial examination of the data, SS and AST scores were calculated for each respondent after making the appropriate item scale reversals described in the literature. In addition, subscale scores for SS and AST were generated for each subject. The subscale structure of the Sensation Seeking scale is fully detailed by Zuckerman (1979).

However, since the Arousal Seeking Tendency instrument's item-to-subscale pairings are only partially disclosed in the literature (Mehrabian and Russell 1974, pp. 42-43), the complete structure (see Figure 2) was reconstructed with the assistance of the scale developers.

Reliability estimates for SS (0.851 overall) and each of the four SS subscales were calculated in addition to between-subscale correlations. Both reliabilities and correlation coefficients associated with the SS scale were found to be in agreement with parallel statistics reported in previous studies by Zuckerman (1979, pp. 110-113) and Ridgeway and Russell (1980, p. 663). Similarly, reliability estimates and between-subscale correlations were calculated for AST. While no previous reports of subscale reliabilities were found in the literature, the reliability estimates for the total scale (0.853) was consistent with AST reliability (0.881) reported earlier by Wahlers, Dunn, and Etzel (1986). In addition, between-subscale correlations were judged to be in reasonable agreement with those disclosed by Mehrabian and Russell (1974). Thus, the consistency in the measurement models' reliabilities and subscale intercorrelations observed between the present study's subjects and other previous samples used by the scale developers and other researchers was interpreted as evidence of sample adequacy.

Correlation Between SS and AST

The first objective of the study was to determine the overall comparability of the two scales. To do that a simple correlation between SS and AST was computed. The results ($r=.951$) indicate that the scales produce very similar scores. Thus researchers interested in an overall, general OSL measure could feel comfortable with either scale.

TESTING THE INTERNAL STRUCTURE OF SS AND AST

Sensation Seeking as a Measure of OSL

The internal structure of the SS measurement model was examined using a second-order factor model shown in Figure 1. The items comprising each of the four subscales are identified by number

FIGURE 1
SENSATION SEEKING MEASUREMENT MODEL

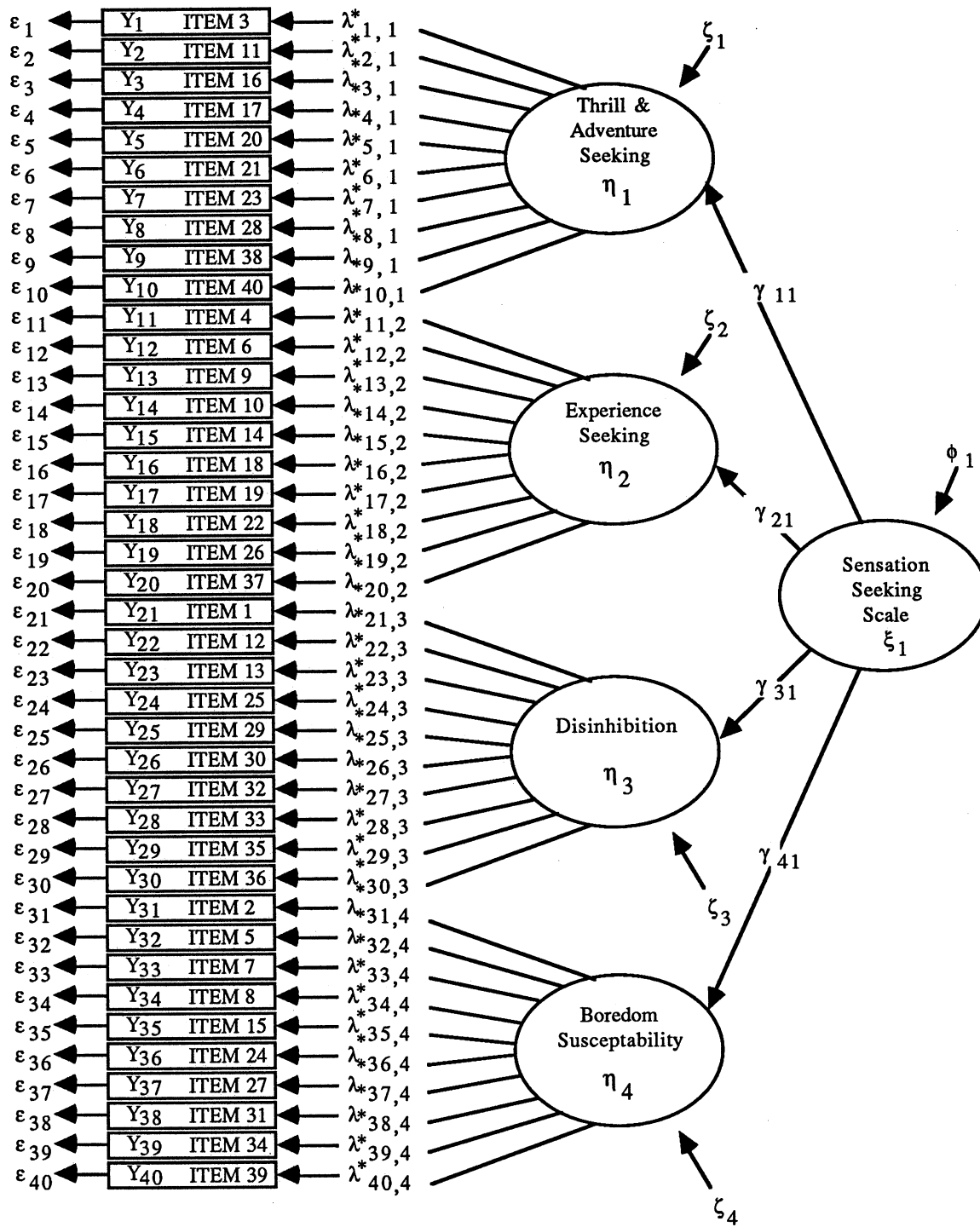


TABLE 2
PARAMETER ESTIMATES FOR SENSATION SEEKING MEASUREMENT MODEL

Chi-Square Estimate				1508.61
Degrees of Freedom				731
Probability				<.001
Goodness-of-Fit Index				.883
Adjusted Goodness-of-Fit Index				.868
Root Mean Square Residual				.050

Model Parameters	ML Estimate	Std. Error	T Value	Std. Parameter Value
γ_1	0.706	0.076	9.339	0.583
γ_2	0.862	0.087	9.876	0.825
γ_3 ^a	1.000	0.000	0.000	0.941
γ_4	0.807	0.086	9.394	0.826
ϕ_1	0.319	0.044	7.205	1.000
ζ_1	0.309	0.037	8.456	0.660
ζ_2	0.111	0.024	4.581	0.319
ζ_3	0.041	0.020	2.115	0.115
ζ_4	0.097	0.024	3.999	0.317

^aScaling parameters fixed equal to 1.0.

for the sake of brevity using the numbering scheme consistent with Zuckerman's item list (1979, pp. 397-401).

Parameters were estimated using LISREL (Jöreskog and Sörbom 1978). In an initial analysis, the model produced unsatisfactory fit. (Because of the large sample size and model complexity, absolute fit in terms of the X^2 statistic was not expected (Burt 1973, p. 148).) Therefore in order to continue the analysis, the model's fit was adjusted by sequential modifications indicated by the modification indices. It is important to note that our goal was to minimize unnecessary modifications so as to preserve the structural integrity of the SS measurement model relative to the form specified by the developers and used in past consumer behavior studies. Hence, modifications were continued only to a point at which the X^2 statistic was approximately equal to twice the number of degrees of freedom (Carmines and McIver 1981, p. 80). The fit statistics for the SS measurement model were $X^2(731)=1508.61$, GFI=0.883, AGFI=0.868, and RMSR=0.050. Parameters are included in Tables 2 and 3.

With the exception of Item 6 which cross-loaded on the first subscale (Thrill and Adventure Seeking), the remaining thirty-nine items exhibited the hypothesized loadings structure described by Zuckerman. In addition, only four correlated error terms were uncovered in the analysis which is not unexpected given the total number of indicators

comprising the SS model. Thus, given the large sample size and small number of data-based modifications required to achieve approximate fit (i.e., $X^2 \approx 2(df)$), one can conclude that the SS model is reasonably specified both conceptually and empirically.

Arousal Seeking Tendency as a Measure of OSL

The second-order factor model associated with the Arousal Seeking Tendency framework is shown in Figure 2. Again, items comprising each of the five AST subscales are identified by number consistent with the item numbering scheme used by Mehrabian and Russell (1974, pp. 218-219).

Parameters were estimated using LISREL adjusting the model to fit the same X^2 criterion described above. The fit statistics for the AST measurement model were $X^2(707)=1693.19$, GFI=0.859, AGFI=0.837, RMSR=0.054. Parameters are included in Tables 4 and 5.

Results of this analysis point to several problems. First, the third subfactor (η_3) purportedly representing Risk exhibited an unsatisfactory parameter estimate (standardized $\gamma_3=0.042$, $p>0.05$). An inspection of the item loadings included in Table 5 further shows sixteen items specified for subscales one (Change), two (Unusual Stimuli), four (Sensuality), and five (New

TABLE 3
MAXIMUM LIKELIHOOD ESTIMATES FOR SENSATION SEEKING MEASUREMENT SCALE^a

Item	Thrill & Adventure Seeking η_1	Experience Seeking η_2	Disinhibition η_3	Boredom susceptibility η_4
Y1	ITEM 3	0.819	....	....
Y2	ITEM 11	0.760	....	....
Y3	ITEM 16	0.914	....	....
Y4	ITEM 17	1.000	....	....
Y5	ITEM 20	0.586	....	....
Y6	ITEM 21	0.891	....	....
Y7	ITEM 23	0.751	....	....
Y8	ITEM 28	0.721	....	....
Y9	ITEM 38	0.645	....	....
Y10	ITEM 40	0.759	....	....
Y11	ITEM 4	....	0.529	....
Y12	ITEM 6	0.566	0.052 ^b	....
Y13	ITEM 9	....	1.000	....
Y14	ITEM 10	....	0.485	....
Y15	ITEM 14	....	0.351	....
Y16	ITEM 18	....	0.358	....
Y17	ITEM 19	....	0.814	....
Y18	ITEM 22	....	0.909	....
Y19	ITEM 26	....	0.616	....
Y20	ITEM 37	....	0.752	....
Y21	ITEM 1	....	....	0.831
Y22	ITEM 12	....	....	0.746
Y23	ITEM 13	....	....	0.848
Y24	ITEM 25	....	....	1.000
Y25	ITEM 29	....	....	0.899
Y26	ITEM 30	....	....	0.593
Y27	ITEM 32	....	....	0.875
Y28	ITEM 33	....	....	0.939
Y29	ITEM 35	....	....	0.776
Y30	ITEM 36	....	....	0.659
Y31	ITEM 2	....	....	-0.024 ^b
Y32	ITEM 5	....	....	0.736
Y33	ITEM 7	....	....	0.456
Y34	ITEM 8	....	....	0.192
Y35	ITEM 15	....	....	0.252
Y36	ITEM 24	....	....	1.000
Y37	ITEM 27	....	....	0.707
Y38	ITEM 31	....	....	0.894
Y39	ITEM 34	....	....	0.660
Y40	ITEM 39	....	....	0.300

^a $\chi^2(731)=1508.61$, GFI=0.883, AGFI=0.868, RMSR=0.050.

^bInsignificant at $p>.05$. All other parameters significant at $p\leq.05$.

FIGURE 2
AROUSAL SEEKING TENDENCY MEASUREMENT MODEL

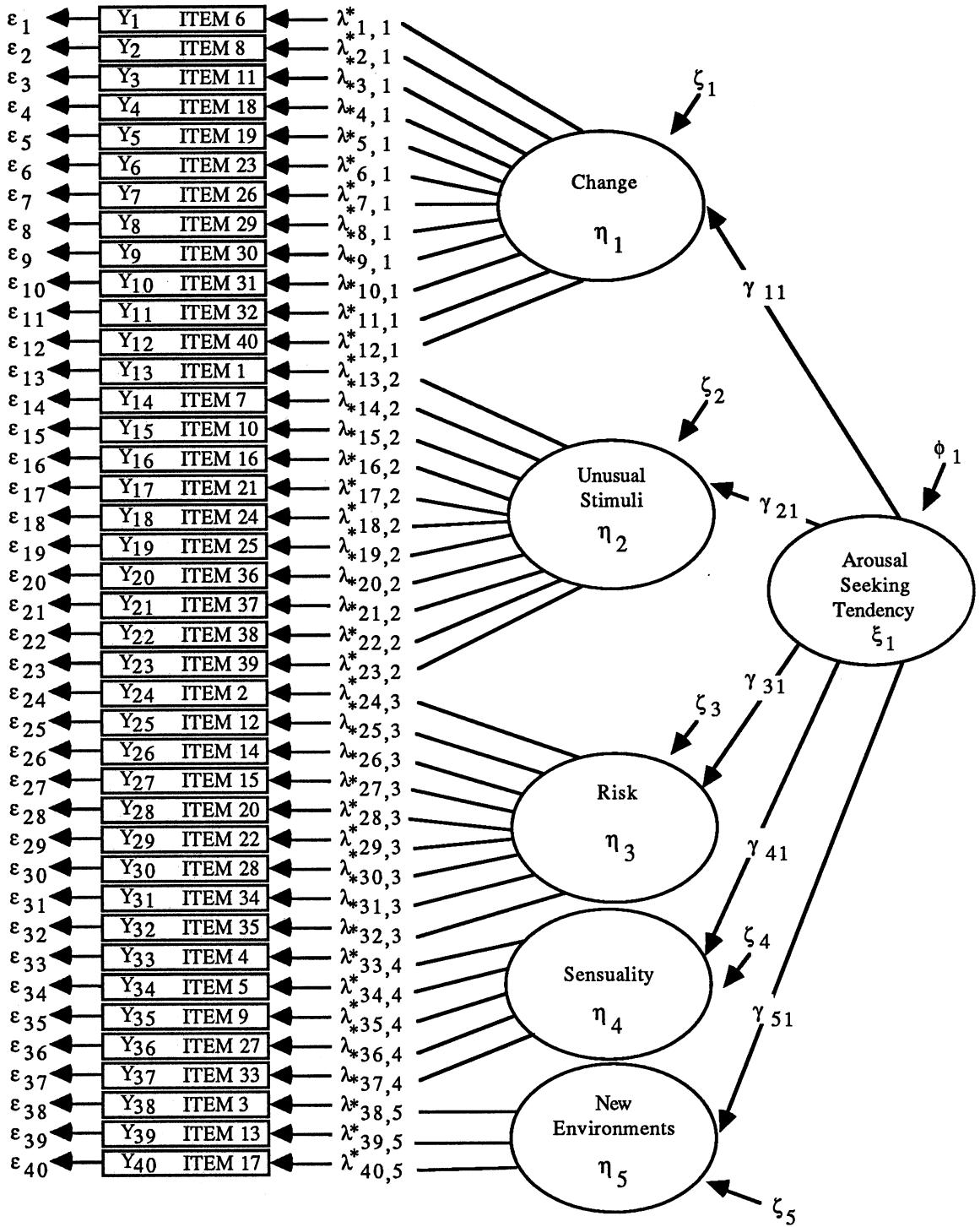


TABLE 4
PARAMETER ESTIMATES FOR AROUSAL SEEKING TENDENCY MEASUREMENT MODEL

Chi-Square Estimate			1693.19	
Degrees of Freedom			707	
Probability			<.001	
Goodness-of-Fit Index			.859	
Adjusted Goodness-of-Fit Index			.837	
Root Mean Square Residual			.054	

Model Parameters	ML Estimate	Std. Error	T Value	Std. Parameter Value
γ_{11}	0.825	0.071	11.674	0.755
γ_{21}	0.933	0.074	12.545	0.996
γ_{31}	0.050	0.059	0.844	0.042
γ_{41}^a	1.000	0.000	0.000	0.861
γ_{51}	0.652	0.074	8.779	0.774
ϕ_1	0.374	0.048	7.839	1.000
ζ_1	0.192	0.025	7.635	0.430
ζ_2	0.003	0.017	0.145	0.008
ζ_3	0.510	0.049	10.394	0.998
ζ_4	0.130	0.038	3.411	0.258
ζ_5	0.107	0.037	2.876	0.402

^aScaling parameters fixed equal to 1.0.

Environments) incorrectly cross loaded on the third subscale (Risk); and one item specified on the third subscale incorrectly cross loaded on subfactor one. In addition, seven items were found to exhibit parameters having nonsignificant t-values on their respective hypothesized subscales. A total of eight statistically significant intercorrelated error terms were further uncovered. Thus, although the overall goodness-of-fit statistics are encouraging, the abundance of cross loadings, nonsignificant parameter estimates, and a fair number of intercorrelated error terms leads to questions regarding the internal specification of the AST measurement model's structure.

CONCLUSIONS

A second-order causal model analysis of the Sensation Seeking measurement model confirmed that its framework appears to be conceptually and empirically well specified. In contrast, however, a similar examination of Arousal Seeking Tendency uncovered serious problems in the structure of the paradigm's subfactors. Specifically, seventeen items were inappropriately cross loaded, seven items failed to load on their respective hypothesized subfactors, and eight statistically significant correlated error terms were discovered. These results suggest that

researchers interested in selecting a measurement model to investigate the dimensions of the OSL construct would be advised to employ Sensation Seeking rather than Arousal Seeking Tendency. While both scales have been developed to tap a similar aggregate conceptualization of OSL, on a subscale level the two scales not only are comprised of somewhat different dimensions in terms of numbers and meaning, but additionally the AST structure could not be empirically confirmed using the present panel data.

Thus far the SS and AST paradigms have been used interchangeably in consumer research to represent a unidimensional, summed-scale measure of OSL. On this aggregate basis the two measurement models may tap a similar conceptualization of OSL. However, in cases in which the dimensionality of stimulation seeking is of interest, the structural differences between SS and AST may produce inconsistent findings.

Future research needs to address several issues. First, given the inability of the present data to confirm the structure of AST, this model requires further scrutiny before it is widely used in an applied marketing research context. Additionally, opportunity exists to compare the dimensional differences and similarities of SS and AST with

TABLE 5
MAXIMUM LIKELIHOOD ESTIMATES FOR AROUSAL SEEKING TENDENCY MEASUREMENT MODEL^a

Item	Change η1	Unusual Stimuli η2	Risk η3	Sensuality η4	New Environments η5
Y1	ITEM 6	0.814	....	0.332	....
Y2	ITEM 8	0.709	....	....	....
Y3	ITEM 11	0.037 ^b	....	0.875	....
Y4	ITEM 18	1.000	....	0.250	....
Y5	ITEM 19	0.980	....	0.295	....
Y6	ITEM 23	1.020	....	....	....
Y7	ITEM 26	1.007	....	....	....
Y8	ITEM 29	0.321	....	1.023	....
Y9	ITEM 30	0.878	....	....	....
Y10	ITEM 31	-0.050 ^b	....	0.484	....
Y11	ITEM 32	0.569	....	....	....
Y12	ITEM 40	0.937	....	....	....
Y13	ITEM 1	....	0.518	....	....
Y14	ITEM 7	....	-0.115 ^b	0.318	....
Y15	ITEM 10	....	0.819	....	....
Y16	ITEM 16	....	0.940	-0.238	....
Y17	ITEM 21	....	-0.003	0.587	....
Y18	ITEM 24	....	0.985	....	....
Y19	ITEM 25	....	0.249	1.000 ^b	....
Y20	ITEM 36	....	1.000	....	....
Y21	ITEM 37	....	-0.003 ^b	0.587	....
Y22	ITEM 38	....	0.080 ^b	0.305	....
Y23	ITEM 39	....	0.231	0.599	....
Y24	ITEM 2	....	....	0.877	....
Y25	ITEM 12	....	....	0.637	....
Y26	ITEM 14	....	....	0.700	....
Y27	ITEM 15	....	....	0.334	....
Y28	ITEM 20	....	....	0.663	....
Y29	ITEM 22	....	....	0.591	....
Y30	ITEM 28	....	....	0.745	....
Y31	ITEM 34	0.749	....	0.218	....
Y32	ITEM 35	....	....	0.629	....
Y33	ITEM 4	....	....	....	-0.092 ^b
Y34	ITEM 5	....	....	0.373	0.184
Y35	ITEM 9	....	....	0.310	0.060 ^b
Y36	ITEM 27	....	....	....	1.000
Y37	ITEM 33	....	....	....	0.766
Y38	ITEM 3	....	....	....	1.000
Y39	ITEM 13	....	....	....	0.940
Y40	ITEM 17	....	....	0.702	0.257

^aχ²(707)=1693.19, GFI=0.859, AGFI=0.837, RMSR=0.054.

^bInsignificant at p>.05. All other parameters significant at p≤.05.

respect to a range of actual behaviors reflecting stimulation seeking and/or avoidance. Finally, noting that both the SS and AST instruments were developed in a clinical context, there is an opportunity to develop a measurement instrument more directly representing the OSL construct in a consumer context. Given the apparent relevance of exploratory consumer behavior, this would be a logical research priority.

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Specifying Measurement Error in Structural Equation Models: Are Congeneric Measurement Models Appropriate?

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ABSTRACT

It is well known that misspecification of structural equation models leads to biased estimates. It is also widely known that systematic measurement errors are ubiquitous. In spite of these two well known facts, researchers using structural equations (LISREL) usually specify congeneric measurement models. This paper outlines why congeneric measurement models may lead to biased estimates of the structural relationships which consequently can affect theoretical conclusions in empirical research. Several alternative techniques for modelling measurement error are presented.

Congeneric measures are the most commonly used approach for specifying structural equation models (Anderson and Gerbing 1982; Darden, Carlson, and Hampton 1984). Congeneric measurement models assume measures are composed of a single underlying construct (true score represented by ξ 's and η 's) and random measurement error (δ 's and ϵ 's) as illustrated in Figure 1.

However, it is quite likely that measures tap more than one underlying construct. In this case, the true score contains both valid and invalid components (Gerbing and Anderson 1984, Smith 1974). The valid component is the construct we are trying to measure. The invalid component is other trait and method components which are "... part of the true portion of variance because they contribute to the covariance of the variable with other variables..." (Smith 1974, p 492). For example, measures of satisfaction might contain variance from product satisfaction, method effects, general life satisfaction, and random error.

When present, invalid components (hereafter referred to as systematic measurement errors) constitute additional constructs whose variance cannot be properly subsumed under random error. As shown in Figure 2, when systematic measurement error exists, a measure contains variance from random error (ϵ 's) and at least *two* underlying constructs, the construct of interest ($\eta_1, \eta_2, \text{ or } \eta_3$) and a second, invalid or confounding component ($\eta_4, \eta_5, \text{ or } \eta_6$).

The use of congeneric measurement models, as in Figure 1, is only appropriate if measures do not contain systematic error. Unfortunately, systematic measurement errors are commonly found in behavioral research (Peter and Churchill 1986, Cote and Buckley 1987). Measures often contain invalid components, most notably method effects. It has been suggested that method effects are omnipresent (Fiske 1982, Peter 1981). Cote and Buckley (1987) provided empirical support for this claim and found that, on average, 26.3% of the

variance in measures is due to method effects. In addition to method effects, it is quite possible that measures tap multiple constructs (Cattell 1978), a problem that is rarely addressed in consumer behavior (Churchill 1979, Anderson and Gerbing 1982).

In summary, it appears quite likely that measures contain systematic measurement error. Systematic measurement error can be either method effects or some other type of invalid measurement component. This raises questions about how consumer researchers specify measures in structural equation models. Simply put, Figure 2 probably represents measurement reality, yet we commonly specify Figure 1 when fitting structural equation models.

EFFECTS OF MISSPECIFYING MEASUREMENT CONDITIONS

Proper interpretation of structural estimates is possible only when the measurement model is correctly specified (Anderson and Gerbing 1982, Gerbing and Anderson 1984). Failing to model systematic measurement error can lead to biased and inconsistent parameter estimates which may confound theoretical conclusions (Anderson and Gerbing 1982, Burt 1976, Gerbing and Anderson 1984, Kumar and Dillon 1987, Phillips 1981). While it is impossible to determine the effect of misspecification on any *single* parameter estimate, failure to model existing systematic measurement error will, on average, inflate estimates of structural relationships. This can be seen by considering the model in Figure 1. Suppose that the first indicator for each construct ($x_1, y_1, \text{ and } y_4$) has been measured using method 1, the second indicator with method 2 and the third indicator with method 3. Since they are not modeled, the shared method variance must be accounted for in some other way. The model allows for shared method variance only through the structural relationships (γ 's and β 's). For example, the shared method variance between x_1 and y_4 can only be accounted for through γ_{21} . Since the structural estimates contain both trait variance *and* method variance, they may overestimate the effect of one trait on another. Moreover, this bias may make a relationship appear statistically significant when it is actually zero.

MODELLING SYSTEMATIC MEASUREMENT ERROR

Three methods for modelling systematic measurement error have been suggested; 1) create separate factors to explicitly model invalid components, 2) use second order factor analysis to implicitly model invalid components, or 3) use a correlated errors model. The separate factors

FIGURE 1
How Measurement Error is Commonly Specified

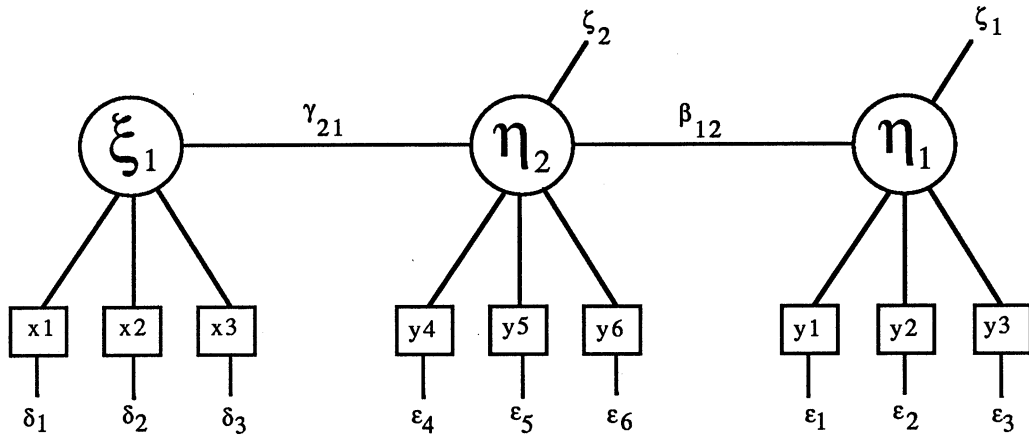


FIGURE 2
True Measurement Conditions

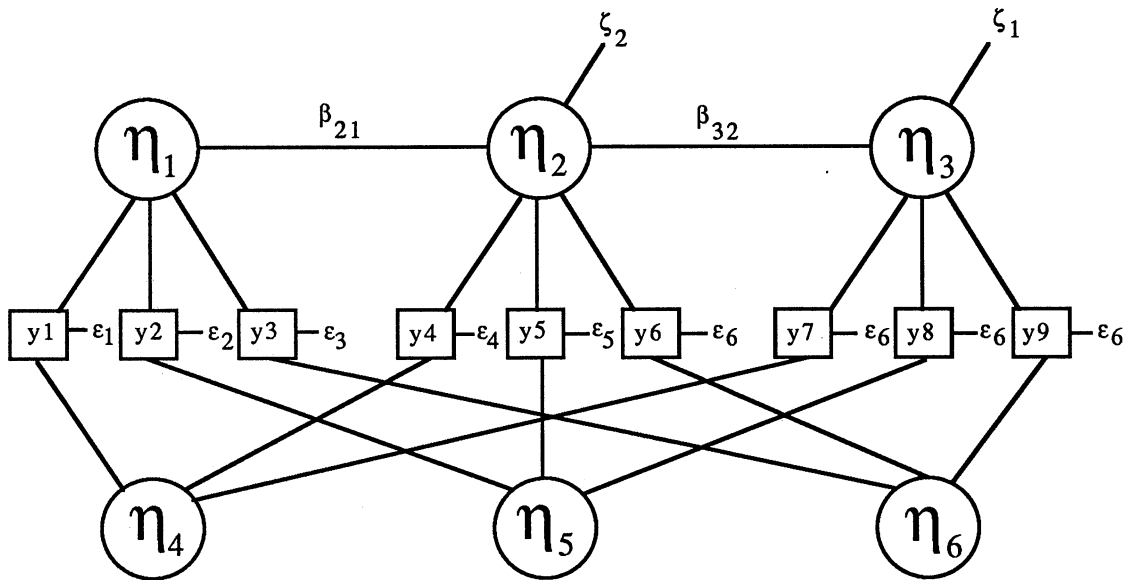
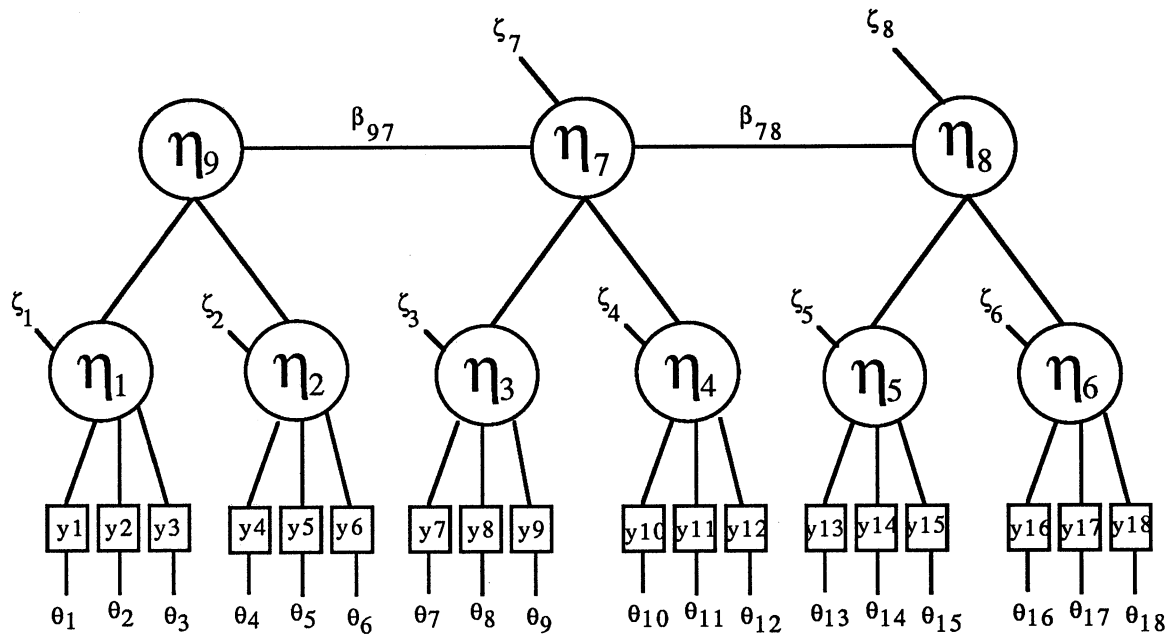


FIGURE 3
Second Order Factor Model (Gerbing and Anderson)



approach is exemplified by multitrait-multimethod analysis. As shown in Figure 2, valid components are modeled as separate factors, with the structural relationships specified among the constructs of interest. Invalid components are also modeled as separate factors. These invalid components can either be correlated or uncorrelated with one another, but must be uncorrelated with the valid components (due to identification problems). Systematic error will not confound the estimated relationships among the valid factors since they are separated out.

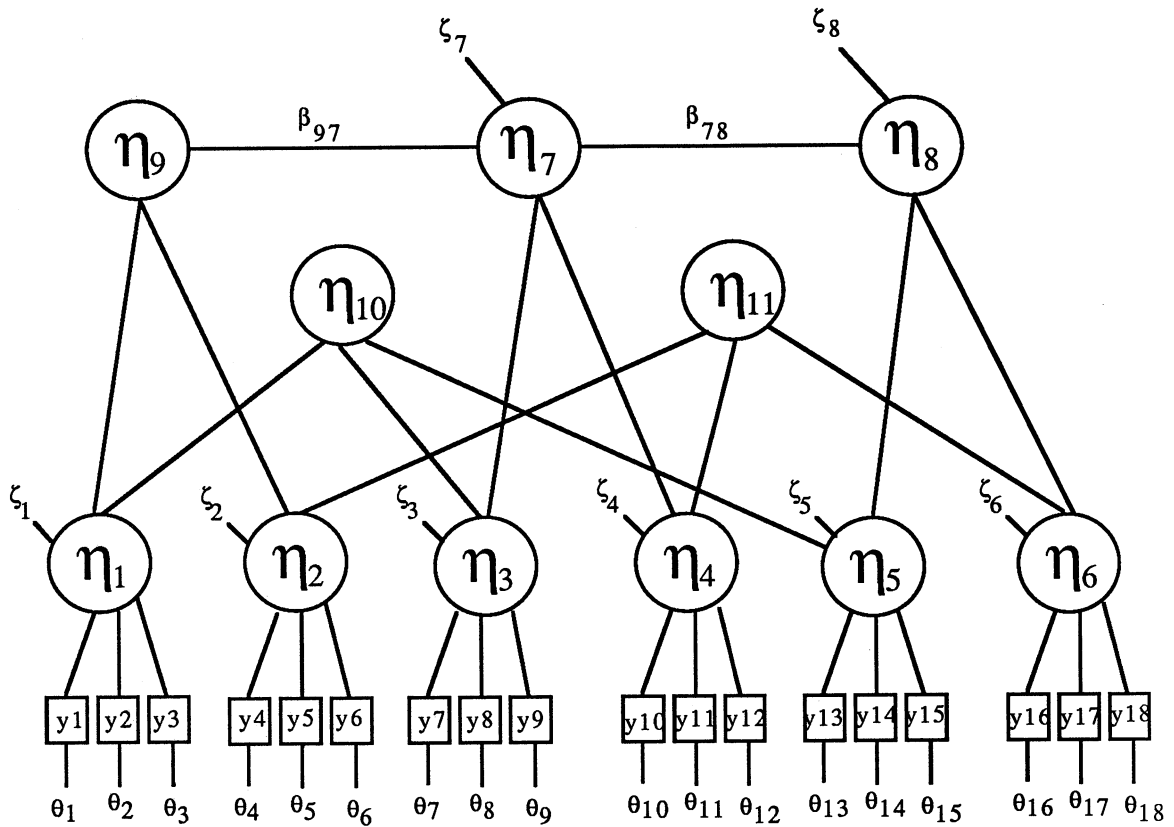
Second order factor models are an alternative way to account for systematic error (Gerbing and Anderson 1984, Marsh and Hocevar 1988). A traditional measurement model is used to specify first order factors which contain both valid and invalid components (η_1 to η_6 in Figure 3). For example, η_6 contains variance from trait 3 (η_8) and invalid component 6 (ζ_6). Second order factors are then specified as a common component (valid component) in the first order factors (η_7 to η_9 in

Figure 3). The invalid components are separated out in ζ_1 to ζ_6 .

Marsh and Hocevar (1988) recommend combining the traditional MTMM model and the second order factor model presented above. This combination results in a model with both explicitly and implicitly modeled invalid components (see Figure 4). As with the second order factor model discussed above, first order factors include both valid and invalid components (η_1 to η_6). Second order factors for both the valid components (η_7 to η_9) and *known* invalid components (η_{10} to η_{11}) are then specified. Finally, the unique variance for the first order factors (ζ_1 to ζ_9) model any additional invalid components the researcher can not identify.

The third alternative is to model the invalid component using correlated measurement errors (John and Reve 1982, Marsh 1988). Model identification is ensured by constraining correlations among errors to be equal. For the model in Figure

FIGURE 4
Second Order Factor Model (Marsh and Hocevar)



1, the constraints could be specified such that only six correlated error parameters are estimated¹ (John

¹The specification for method effects in Figure 2 can be replaced with the following correlated error specifications.

$$\sigma_A = \sigma_{1,4} = \sigma_{1,7} = \sigma_{4,7}$$

$$\sigma_B = \sigma_{2,5} = \sigma_{2,8} = \sigma_{5,8}$$

$$\sigma_C = \sigma_{3,6} = \sigma_{3,9} = \sigma_{6,9}$$

$$\sigma_D = \sigma_{1,2} = \sigma_{1,5} = \sigma_{1,8} = \sigma_{4,2} = \sigma_{4,5} = \sigma_{4,8} = \sigma_{7,2} = \sigma_{7,5} = \sigma_{7,8}$$

$$\sigma_E = \sigma_{1,3} = \sigma_{1,6} = \sigma_{1,9} = \sigma_{4,3} = \sigma_{4,5,6} = \sigma_{4,9} = \sigma_{7,3} = \sigma_{7,5,6} = \sigma_{7,9}$$

$$\sigma_F = \sigma_{2,3} = \sigma_{2,6} = \sigma_{2,9} = \sigma_{5,3} = \sigma_{5,6} = \sigma_{3,9} = \sigma_{8,3} = \sigma_{8,6} = \sigma_{8,9}$$

Where

σ_A = correlation among measures containing method 1.

σ_B = correlation among measures containing method 2.

and Reve 1982). Assuming simple method effects, all the error terms for measures using method 1 (ϵ_1 , ϵ_4 , and δ_1 in Figure 1) would be correlated with the correlations constrained as equal (With LISREL this can only be done by making Ksi 1 an endogenous factor and converting all the δ 's to ϵ 's as was done in Figure 2). This is repeated for all other methods and intercorrelations among different methods. Unlike the models discussed above, the correlated errors model does not include additional factors to control for invalid components, rather, correlated error terms account for the correlation between invalid components.

σ_C = correlation among measures containing method 3.

σ_D = correlation among measures containing method 1 and those containing method 2.

σ_E = correlation among measures containing method 1 and those containing method 3.

σ_F = correlation among measures containing method 2 and those containing method 3.

It has been argued that using correlated errors is theoretically inelegant and makes actual theoretical relationships unclear (Gerbing and Anderson 1984). This is true only when correlated errors are specified in an atheoretical, post hoc basis. Theoretically supportable correlated errors have been used to model method effects in an multitrait-multimethod model (Arora 1982) and are extensively used with longitudinal data (Alwin and Jackson 1979).

When using correlated errors models, there is no requirement that all constructs be measured using the same invalid components (as with multitrait multimethod data). For example, some constructs can be measured with a single method component while others have some combination of methods. Finally, correlated error models may even be superior to traditional MTMM factor models (Widaman 1985), since they are not plagued by Heywood cases and provide more intuitively reasonable estimates (Marsh 1987).

AN EXAMPLE

Modelling invalid components is common when assessing validity with confirmatory factor analysis, but is much less frequently used when structural relationships are specified (exceptions include: Allen and Taylor 1985; Anderson 1987; Arora, 1982; Bielby, Hauser and Featherman 1977; Campbell 1983; Wolfle and Robertshaw 1982). Wolfle and Robertshaw present a good example of how systematic measurement error affects structural estimates. The effect of locus of control in period 1 on locus of control in period 2 dropped from 0.445 to 0.335 when method effects were accounted for using a correlated errors model. Reanalysis of Churchill and Surprenant (1982) data will further highlight the drastic difference in theoretical conclusions that may result when a model incorporating an invalid component rather than a congeneric measurement model is examined.

Churchill and Surprenant examined the effect of expectation and performance on disconfirmation and satisfaction using a video disk player and a plant. Churchill and Surprenant express concern about the inconsistent results between the two models, and suggest this may be due to differences in the measures used for each data set and the possibility of shared method variance. The pair-wise correlations reported in their study were reexamined using EQS to analyze both of these possibilities.

To test the effect of using different measures for the two data sets, a model using all the measures except 13 was fit to *both* data sets. This adjustment did effect the magnitude of the estimates but not the theoretical conclusion. Most notably, the plant data indicated disconfirmation affected satisfaction while the video disk player data still indicated it did not (see $\beta_{4,3}$ in Table 1). The video disk player data also indicated a much larger effect for perceived performance on disconfirmation and satisfaction (see $\beta_{3,2}$ and $\beta_{4,2}$ in Table 1).

To test the possible effect of shared method variance, correlated errors were added to Churchill and Surprenant's (see Figure 2, Churchill and Surprenant 1982). Although not identical, the measurement methods used by Churchill and Surprenant for each question were very similar, except for the faces scale (measure 12). A model was specified with the error terms for measures 1 thru 11 correlated with one another and constrained equal (only one method effect for measures 1 thru 11). Accounting for method effects resulted in models with similar estimates for both data sets (see Table 1). While some minor differences in the size of the estimates still exist, the theoretical conclusions for the two models are identical. Both models now indicate; disconfirmation affects satisfaction ($\beta_{4,3}$), perceived performance has a minimal effect on satisfaction ($\beta_{3,2}$), and perceived performance has a large effect on disconfirmation ($\beta_{4,2}$).

In summary, as Churchill and Surprenant suggest, not accounting for systematic measurement error appears to have effected theoretical conclusions. In particular, the conclusion that, "the effects of expectation, disconfirmation, and performance on satisfaction may differ for durable and nondurable products," was not supported when shared method variance is modeled. In addition, their conclusion that, ". . . both researchers and managers must direct much more attention to the impact of performance levels (on satisfaction)," may have been overstated.

LIMITATIONS

The researcher faces a dilemma when confronted with systematic measurement error. One alternative is to ignore systematic measurement error and use a model that is known to be misspecified. The other alternative is equally unattractive because data requirement may be excessive or restrictive assumptions about the nature of the systematic measurement error may be needed.

The ability of the researcher to explicitly model systematic measurement error will be limited for several reasons. First, the multiple measures necessary for this approach are often not available. Either multiple methods have not been developed (e.g. behavior intentions) or the researcher is unable to include multiple measures (data already collected or cost/length constraints). Even when multiple measures are available, the model may not be identified. MTMM models with more than three traits and three methods are considered identified, even with all traits and methods specified as correlated. However, replacing the correlation specifications with causal relationships may cause identification problems for subcomponents of the model. For example, a standard MTMM model is identified for the Arora data (1979), but when trait intercorrelations are replaced with structural relationships suggested by Arora, LISREL indicates the model is not identified. Determining model

identification must be handled on a case by case basis.

A final limitation is that the researcher must be able to identify and correctly model the invalid component(s). This may be difficult if the invalid component is not method based, or more than one invalid component exists. If more than one invalid component exists, then it is unlikely that the researcher can explicitly model all the relevant factors and still have an identified model. Identifying relevant systematic error may also prove difficult. Even when multitrait-multimethod data is used, simply modelling method effects does not insure proper specification. There may be other types of systematic error which are improperly modeled. To help minimize the existence of systematic measurement error (other than method effects), scales should be constructed using the procedures outlined by Churchill (1979) and Gerbing and Anderson (1988).

The second order factor models bypass the need to explicitly identify and model the invalid component. The advantage to this approach is its ability to account for multiple invalid components which do not have to be explicitly identified and modeled. The major problem associated with this approach is model identification (Gerbing and Anderson 1984). As with the explicit modelling approach, the identification problem must be handled on a case by case basis.

A problem with the second order factor model in Figure 3 is that systematic errors are uncorrelated. This may be inappropriate in some cases such as when there are shared method effects. When these correlations are not modeled, the second order factor will contain part of the invalid component. The problem becomes more serious the higher the correlation among the invalid components. This can be overcome by including correlations among the invalid components, however, empirical identification is difficult to achieve if a large percentage of the invalid components are correlated. Finally, the second order factor model not only requires multiple methods, but also requires the use of multi-item rather than single item scales. This is more restrictive than the traditional MTMM approach which only requires a single item for each method/trait combination.

The second order factor model in Figure 4 allows the researcher to explicitly model invalid components that may be correlated while simultaneously accounting for any unknown systematic error. This approach is the most powerful approach and makes the least restrictive assumptions about measurement conditions. As with the two approaches discussed above, identification can be a major problem. For example, Marsh and Hocevar (1988) present a three trait, three method model with three measures for each trait-method combination. This model was identified when correlations among the traits and methods was specified. However, changing the correlations to causal links will cause the model to be unidentified since certain subcomponents of the model are not

identified. In addition, the data requirements for complex models can be quite formidable, not only are multi-item, multiple method scales required, but there must be a large number of them since the number of specified relationships is also large.

Correlated error models have the most restrictive assumptions about the systematic errors. Restricting correlated errors to be equal implies that the percentage of measurement error, due to a specific systematic error, is identical for all measures. This assumption is violated if interactions between traits and methods exist. By definition, trait-method interactions indicate that the method variance differs across traits. The prevalence of trait-method interactions is unknown because they are difficult to assess. However, Widaman (1985) argues that these interactions should not exist and that they may be safely ignored in empirical work (commonly practiced in multitrait-multimethod analysis). The appropriateness of the equality constraints can be examined using first-order derivatives and modification indices. If these indicate that particular equality constraints are unreasonable (i.e., significantly reduce fit), the offending constraints can be relaxed. If only a few constraints require removal, the model may still be identified and the problems associated with the equality constraints will be reduced.

The correlated errors model will require that a correlation, rather than a covariance matrix, be analyzed. A covariance matrix cannot be analyzed since it is unlikely that the constraint of equal covariance between errors is reasonable if the measures have significantly different variances. Analyzing a correlation matrix is a compromise, however, because of the scale invariance problem. Analyzing a correlation matrix can lead to questionable estimates of the χ^2 value and the standard errors. For example, Bentler and Lee (1983) found the χ^2 value was optimistic by about 15%, and the correct standard errors were up to three times less efficient when a correlation matrix is analyzed. Nevertheless, dealing with scale invariance may be preferable to using a model that is known to be misspecified. Bentler and Lee (1982) found the parameter estimates were very similar no matter which matrix was analyzed. In addition, Lee (1985) has suggested an estimation procedure which is scale invariant, although programs using this procedure are not yet readily available.

DISCUSSION AND CONCLUSIONS

The pervasiveness of systematic measurement error, such as method effects, is widely recognized, yet researchers frequently do not model these invalid components (Darden, Carlson, and Hampton 1984). Commonly used congeneric measurement models may be inappropriate since they ignore the existence of systematic error and may often lead to inflated estimates of the structural relationships. However, the problem can be remedied by properly modelling systematic error in one of three ways, explicitly model the invalid components, second

TABLE 2
DATA REQUIREMENTS AND DISADVANTAGES OF ALTERNATIVE APPROACHES FOR
MODELLING SYSTEMATIC MEASUREMENT ERROR

Approach	Data Requirements	Disadvantages
Explicit modelling of invalid component	Matched measures which contain identical invalid components, need minimum of three different valid and three different invalid components	Data requirements may be restrictive, identification may be difficult to achieve, must be able to identify systematic errors
Simple second order factor models	Multi-item scales for each valid/invalid factor, multiple invalid components for each valid component	Data requirements may be restrictive, identification may be difficult to achieve, invalid components can not be correlated
Complex second order factor models	Multi-item scales for each valid/invalid factor, multiple invalid components for each valid component, matched measures which contain identical invalid components, minimum of three different valid and three different invalid components	Data requirements may be very restrictive, identification may be difficult to achieve
Correlated error model	Some factors must have more than one invalid component, some factors must have multiple measures	Percentage of systematic measurement error must be equal for all correlated error terms constrained equal, must analyze correlation matrix (scale invariance problem)

order factor analysis, or theoretical use of correlated errors. The results of this study underscore the importance of assessing and properly modelling measurement error before testing theory. Models ignoring systematic measurement error and using similar measures for all variables make it impossible to determine whether results are theoretically important or simply statistical artifacts.

Measurement quality must be carefully considered when using structural equation models. Without careful consideration of the possible presence of systematic measurement error, interpretation of the structural relationships is confounded. When selecting an approach to model systematic measurement errors, there is a tradeoff between the data requirements and assumptions about the nature of systematic error. If multi-item measures using multiple methods is available, complex modelling of the invalid components can be accomplished. If such data is unavailable, then a correlated errors model with the associated restrictive assumptions must be used. Table 2 summarizes the data requirements and disadvantages of the approaches for including systematic measurement error. Preferably, multiple methods should be used to measure each construct but the possibility of systematic error must be assessed and properly modeled even when a single method is used.

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Varying Approaches to Data Analysis Discussant's Remarks

Stephen J. Arnold, Queen's University

The title of this session reflects the diversity of the four papers. One paper models choice of ground coffee. The second paper models market share as a function of number of newspaper stories. The third paper compares two optimal stimulation level scales. The fourth paper prescribes alternatives for accounting for systematic measurement error in structural equation models.

Unable to establish a common theme among these papers, I decided to focus upon the Wahlers and Etzel paper. It raises an important issue--whether or not a scale can be multidimensional. After commenting on this paper, I will make brief remarks about the other three papers.

WAHLERS AND ETZEL

The paper by Wahlers and Etzel examines the "internal structure of two measurement models used to operationalize the optimal stimulation level (OSL) construct in consumer research." Specifically, they consider two forty-item scales, the Sensation Seeking (SS) scale and the Arousal Seeking Tendency (AST) scale. They hypothesize four and five dimensions underlie the SS scale and the AST scale, respectively.

Wahlers and Etzel attempt to confirm the expected dimensionality of each scale using a second-order factor model. In this model, OSL is the second order construct, the four or five dimensions are the first-order constructs and the indicators are single-item measures. The research objective is "to examine both the measurement congruence between the scales and to assess the dimensionality of the measures. The results should provide consumer behavior researchers some direction in OSL scale selection--particularly when dimensionality is relevant."

Although initial analyses of the SS scale produced "unsatisfactory fit," Wahlers and Etzel make modifications until they are able to show that thirty-nine of forty items load as per the underlying four-dimensional structure. In the AST scale, however, they find seventeen items in the AST scale are inappropriately cross-loaded on the five-dimensional structure and that seven items fail to load on their respective hypothesized dimensions. They conclude by saying "researchers interested in selecting a measurement model to investigate the dimensions of the OSL construct would be advised to employ Sensation Seeking rather than Arousal Seeking Tendency."

I question whether these results "provide consumer behavior researchers some direction in OSL scale selection." Specifically, I believe that finding multidimensionality in a scale is an undesirable result. Since the AST results show more unidimensionality, I conclude researchers would be advised to employ the AST rather than the SS scale.

Several arguments can be made against pursuing and finding multidimensionality in scales. One argument is that it is contrary to the unidimensionality thesis advanced by Gerbing and Anderson (1988) and others. Anderson and Gerbing (1988), for example, state:

"that the computation of this composite score is meaningful only if each of the measures is acceptably unidimensional.

Unidimensionality refers to the existence of a single trait or construct underlying a set of measures" p.186

Other things being equal, a scale exhibiting multidimensionality will have a lower coefficient alpha, a measure of reliability, than will a unidimensional scale. The structure displayed in Figure 1 of the Wahlers and Etzel paper implies items associated with a specific first-order construct will be highly correlated with each other. However, these same items will be less correlated with items representing the other first-order constructs. Thus, the average intercorrelation among all items is less than it would be under unidimensionality. A lower average intercorrelation in turn drives down coefficient alpha. It is not surprising that reliability estimates are 0.851 for the SS scale and 0.853 for the AST scale. With a forty-item unidimensional scale, it would seem reasonable to expect reliabilities in the 0.9 range.

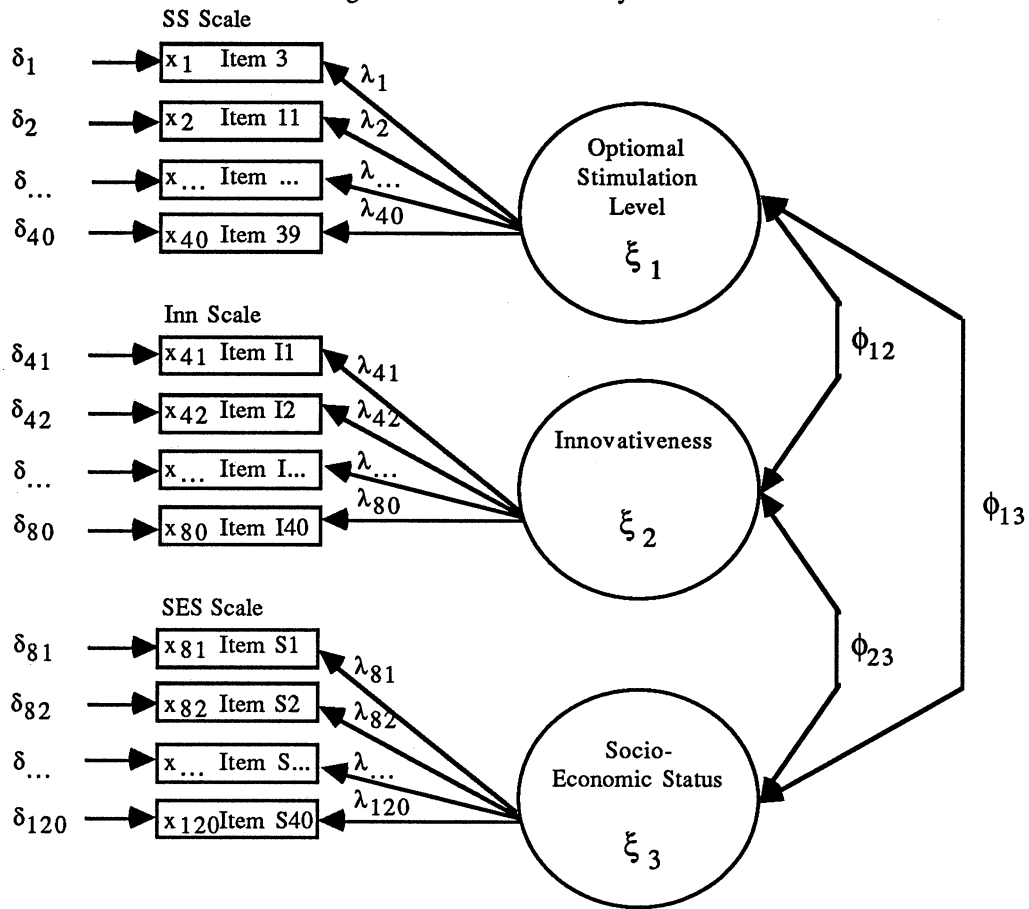
There are inherent contradictions in the concept of a multidimensional scale. For example, each of the forty items are stated to be indicative of the one second-order OSL construct. This implies all of the items are related to each other. At the same time, each of the forty items are posited to be indicative of one and only one of the four or five dimensional OSL constructs. This implies the items not indicative of the same construct are unrelated.

The clear factor pattern and "good fit" of the SS multiple construct model underlying Table 3 in Wahlers and Etzel means the four first order scales exhibit discriminant validity. In fact, these reputedly alternative OSL scales should exhibit convergent validity.

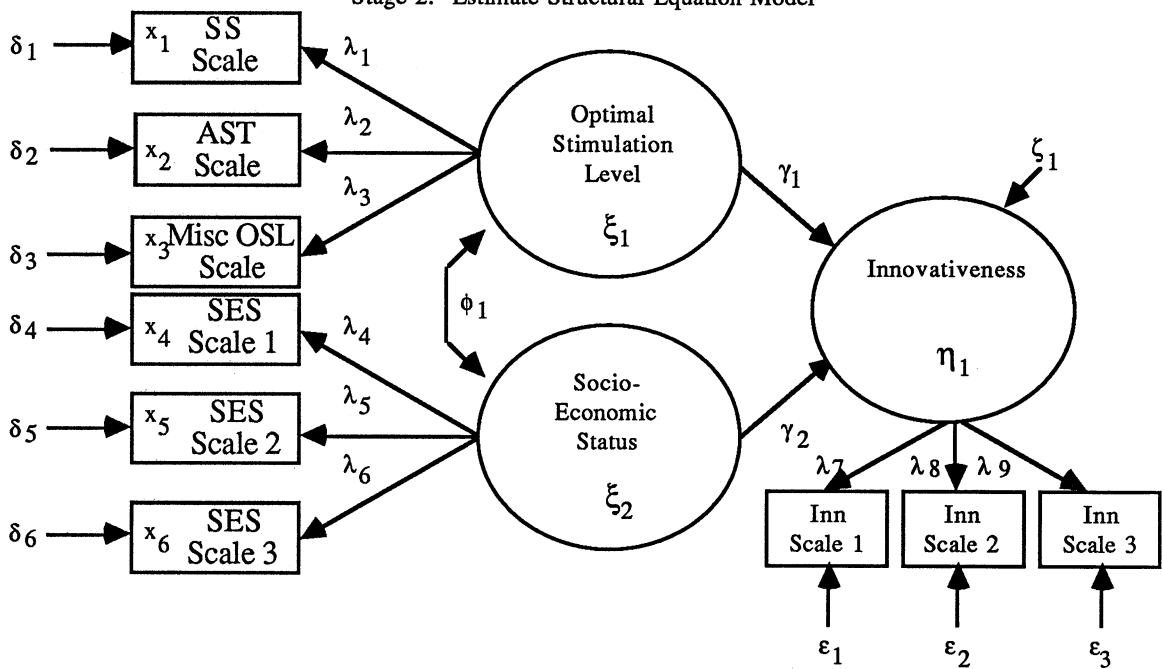
The unclear factor pattern and "several problems" of the AST results in Table 4 suggest at least some degree of convergence among the five alternative OSL scales. This provides some evidence of convergent validity for the AST scale. Thus, if the objective is to assess the construct validity of the SS and AST scales, the AST scale gives better results. This conclusion is opposite to that drawn by Wahlers and Etzel.

In general, a unidimensional set of items representative of the OSL construct should be resistant to demonstrating any stable underlying factor structure. As a consequence, any attempt to fit

FIGURE 1
Two-Stage Scale Assessment
Stage 1: Estimate Item Analysis Model



Stage 2: Estimate Structural Equation Model



a model which expresses the items as a function of multidimensional constructs should result in a poor fit.

Substituting four or five constructs for one construct defeats the criterion of parsimony in a theoretical model. A simple structure has been made more complex without any apparent gain.

Nomological validity is also not demonstrated when variations of the OSL construct, e.g., Thrill and Adventure Seeking, Experience Seeking, etc., are expressed as functions of the OSL construct. Nomological validity is demonstrated in a structural context when either a. the OSL construct is confirmed to be a function of two or more antecedents, e.g., situation characteristics, personality traits, or, b. the OSL construct is confirmed to have certain hypothesized consequences, e.g., innovative behaviour, risk taking.

Having raised questions about the Wahlers and Etzel approach to scale assessment, I feel obliged to present an alternative. Following Cronbach and Meehl, Campbell and Fiske, Nunnally, Heeler and Ray, Churchill, Bagozzi, and Peter among others, scaling research should work to establish construct validity of the scale. Construct validity, in turn, means finding evidence of convergent validity (scales indicative of the same construct are highly related), discriminant validity (scales indicative of different constructs are not related to each other) and nomological validity (expected relationships between constructs are confirmed).

To evaluate these three forms of validity, scale assessment appears to require estimation of two models rather than one, contrary to Wahlers and Etzel. Estimation of an "item analysis model" indicates discriminant validity. Estimation of a "structural model" demonstrates convergent validity and nomological validity.

The item analysis model is illustrated in Figure 1. Note that it is a confirmatory factor analysis model where only one construct is OSL-related. The other constructs are unrelated to OSL. This is a second fundamental difference from the Wahlers and Etzel approach.

The indicators in the item analysis model are groups of single-item measures indicative of each construct. The set of indicators associated with the OSL construct will be the group of single-item measures under investigation, e.g., the forty-item SS scale. Each of the other groups of single-items represent each of the other constructs, e.g., a group of innovativeness items represent the innovativeness construct.

When this model is estimated, the λ 's are indicative of the relationship between each item and its corresponding scale. High λ 's are desired. Anderson and Gerbing (1988) show that a function of the λ 's also provides an expression for computing the reliability of the scale.

The ϕ 's between the OSL construct and the other constructs are indicative of the discriminant validity of the SS scale (Widaman 1985).

The structural model to be estimated for scale assessment is also illustrated in Figure 1. In this model, the construct related to the scale under investigation is expressed as either an antecedent to, or consequence of, the other constructs. The indicators of the construct of interest are three alternative multiple-item scales (the SS scale, the AST scale and another OSL scale). Single-item measures are not used.

When this model is estimated, the cross-product of the λ 's for the SS and AST indicators demonstrate the degree of convergent validity (Widaman 1985). The γ 's between the OSL and other constructs demonstrate the existence of nomological validity.

GRUCA

Imagine a new supermarket is built in your neighbourhood. What happens to your chances of shopping at each of the existing supermarkets? It seems they would either stay the same or fall. It doesn't seem logical they would rise. This is the regularity assumption which is tested in the Gruca paper. Instead of supermarket data, however, he uses the ubiquitous coffee data.

I believe Gruca understates how well his results support the regularity assumption. Table 4 gives the share changes for the seven brand loyal segments. The percentage change to focus on in each segment is obviously the one for the brand to which the segment is loyal. In seven out of the seven segments, the portion loyal to the brand drops after entry of the new brand.

The small number of households used in the estimation (52 in Pittsfield and 44 in Marion) raises questions of external validity. Systematically excluded are the light users and those who purchase beans, instant coffee, decaffeinated coffee, minor brands or the new brand. Also excluded are coffee purchasers who are not on either of the two panels.

Obviously, no one test of an assumption can be definitive. Continued testing is justified and the validity of the assumption at any point in time depends on the accumulated evidence.

FAN AND SHAFFER

In marketing communications courses, we always refer to the potential influence of public relations activities in addition to the effects of advertising and personal selling. However, I can't recall any empirical advertising/sales or market share models which included measures of this form of unpaid media presence or "information pressure" as it is referred to by Fan and Shaffer. Drawing our attention to this variable and describing a measurement approach is a contribution made by these authors. They also highlight the use of electronic databases which I think is an underutilized resource in marketing research.

Whether or not information pressure will explain additional variance in measures of sales and market share after accounting for the other major variables--advertising spending, distribution and pricing--is another question. I can anticipate a high correlation between advertising spending and unpaid media presence. If this was the case, unpaid presence would not have a significant effect once the effects of advertising spending were partialled out.

This question in turn leads to a more general question--how valid are these results? What we see is a significant relationship between information pressure and market share when the data for one measure is related to the data for one other measure. However, any series of data with up to one inflection point can be fitted quite well with a two-parameter model. A spurious relationship is another possibility. Thus, obtaining measures for the other major variables and including them in the model is an obvious and important next step.

If obtaining these other measures is a problem, establishing predictive rather than nomological validity is an alternative. This could be done using a holdout sample. The model would be estimated on the first half of the data and tested on the second.

Consistency in formulation is also important which applies to the current effort as well as to any future models which might be estimated. By this I mean that the dependent variable, market share, is a relative or proportionate measure. The specification for the independent measures should be the same. Thus, information pressure should be specified as share of new stories rather than absolute number of news stories.

COTE AND GREENBERG

This paper is an important followup to Cote and Buckley's 1987 paper which alerted us to the potential magnitude of method variance. The current paper outlines alternative techniques for accounting for method variance as well as other forms of potential measurement error.

I have only one observation and it is to emphasize a disadvantage which was acknowledged for the first three alternative techniques: "identification may be difficult to achieve." With a few exceptions, I believe identification will be *extremely* difficult to achieve. This only emphasizes the importance of the correlated errors model alternative. It may also point to the utility of a fifth alternative technique which is not mentioned: Perhaps we will have to revert to inspection of the multitrait, multimethod correlation matrices. For example, an inspection of the correlation matrix for the eighteen measures should reveal that y_1 , y_2 and y_3 correlate more with y_4 , y_5 and y_6 than with y_7 through y_{18} .

In any case, determining whether or whether not there is method variance is dealing only with nomological validity. It will still be necessary to consider the convergent and discriminant validities as I discussed earlier when commenting on the Wahlers and Etzel paper.

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Repetition, Social Settings, Perceived Humor, and Wearout

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ABSTRACT

Humor has been examined from various perspectives in consumer behavior research. As E.B. White (1941) has asserted, "humor can be dissected, as a frog can, but the thing dies in the process." Here, we continue this dissection tradition by examining two variables which may significantly influence perceived humor: social settings and wearout. A theoretical model is developed to predict when commercials will be perceived as humorous and when they will die (under the knife).

INTRODUCTION

The history of advertising and the history of humor have only recently intersected. In the early days of American journalism, ads were serious business, literally called "tombstone" ads by journalism historians because they were print notices which resembled the terse wording found memorializing the dead.

With the advent of broadcast media--radio and television--humor has blossomed, and it can be argued that the association is more than coincidental. Broadcast introduces into the advertising communication process three elements absent from print advertising. One is unsought repetition of a commercial message. The other is the possibility of communication to an audience greater than one, whose members are aware that others are sharing with them receipt of the advertiser's message. The third, of course, is the possibility of enhancing perceived humor through voice inflection, accent, and music.

The influence of the first two factors--unsought repetition and multi-person audiences--on response to humor in advertising is the focus of the discussion to be presented here. We will first outline the argument that humorous ads may flourish because of these two factors. Then we will review literature suggesting that repetition of a humorous ad leads to a particular type of "wearout," where a commercial message may lose its perceived humor. However, we will also suggest that in social settings, wearout of humor can be mitigated by the presence of a multi-person audience which supplements the humor in the commercial with its own shared meanings.

WHY COMMERCIALS NEED HUMOR

Literature linking attitude toward an ad to its effectiveness provides one managerial rationale for humor in advertising (Gelb and Pickett 1983). Another rationale is the association of humor with attention getting (Sternthal and Craig 1973, Madden and Weinberger 1984). These arguments appear to support the value of humor in advertising in any medium, print or broadcast.

In fact, however, humor appears relatively more rarely in print ads than in broadcast

commercials. When Sears sends out a direct mail piece for its McKids stores directing the reader to "fill out the name and address coupon if your label was eaten by a large creature with teeth," the piece stands out conspicuously from the vast majority of humorless direct advertising. Similarly, a reader may page through a daily paper or magazine in vain seeking a light touch in display or classified ads. It seems reasonable to ask, then, why humor has made greater headway in radio and television.

It will be argued here that humor is related to the purpose of advertising and humor is the advertiser's response to anticipated audience unhappiness with unsought repetition in commercials. However, humor may "wear out" even sooner than other commercials do--possibly because it commands more attention. On the other hand it appears that the capacity of broadcast commercial messages to achieve exposure to audiences of more than one person, consciously sharing the experience, mitigates some wearout of humorous messages. Each of these will be discussed in turn.

BROADCAST MEDIA: HOME OF HUMOR

Our first proposition is that commercial messages in broadcast media are more likely to at least attempt to evoke humor than are print ads. Two explanations, which are not contradictory, may be offered.

First, Puto and Wells (1984) suggest that good advertising either transforms the experience of using a product (e.g., a musical cola commercial) or informs the consumer. Broadcast media appear particularly appropriate for "transforming," due to the availability of music and other sound. Humor is a more likely approach for transformational than for informational advertising, one may surmise. If so, the link between broadcast media and humor is indirect, but plausible.

Second, the advertiser's desire to prevent or delay "wearout" is another explanation. If a print ad would be boring upon rereading, it will presumably not be reread. A radio or TV spot, by contrast is less likely to be encountered only once. The advertiser, aware of the problem, uses humor to bribe the viewer or listener to tolerate the repetition.

HUMOR AND REPETITION

Whether either or both of the previous explanations are indeed the factors linking humor to broadcast media, the reality is that humor may actually speed wearout (Gelb and Zinkhan 1985). The phenomenon of "wearout" refers to the fact that advertisements lose effectiveness after repeated exposures. There is evidence that this effect occurs for a variety of dependent measures, including: humor (Gelb and Zinkhan 1985), persuasion, recall,

and sales (Blair 1988). It is generally assumed that advertising messages achieve their peak effect after three exposures. After that point, the persuasive or selling power of an ad declines with repeated exposures.

Investigating the potential wearout of humorous appeals, a McCollum/Spielman study ("Repeating ..." 1978) concluded that a humorous or off-beat commercial will lose its effectiveness sooner than a straight selling message. More recently, however, this result was unsupported in a study by Belch and Belch (1984). In their laboratory study, they embedded in a half-hour television program either humorous or serious Federal Express commercials shown one, three, or five times during the program. Unaided message recall scores showed no significant effect for humorous vs. serious message or for number of exposures. Intention to use Federal Express, designed as a measure of persuasion, likewise did not vary significantly based on humor, number of exposures, or the interaction between the two.

An earlier study by Ray and Sawyer (1971) did not consider humor specifically, but explored the repetition effect of "grabber" ads (those with intrusive and unique qualities). Such ads, which might or might not seek to evoke humor, were found to outperform "non-grabbers" on recall but to underperform them on purchase intention. Blair (1988) similarly investigated the proposition that certain "world class" ads do not wear out over time. She found that such commercials do build in the sense that persuasive ads increase sales over time (related to advertising spending). However, in the process, these ads also wear out (Blair 1988).

Various models have been proposed for explaining and investigating advertising response. Here we discuss two models:

- 1) A cognitive model, in which some element (e.g., humor) elicits attention for the substance of a message. This subsequently produces belief, then conviction, then brand preference.
- 2) A classical conditioning model, in which some element (e.g., humor) makes the advertisement attractive, and that attractiveness is transferred to the brand.

These two models are adapted from theories developed in the speech literature which link humor to persuasion. In general, we feel that a promising method for comparing these two, competing models is to examine their predicted effects on various measures of advertising response (e.g., recall, persuasion). That is, these two models can be used to derive predictions about the expected effects which humor will have on alternative measures of advertising effectiveness. To the extent to which these predictions are confirmed, the relative power of the two models can be assessed.

If an individual is exposed several times to the same humorous commercial, which exposure will

have the greatest influence on that individual's subsequent evaluation of the advertised product? In other words, which will be more influential: the level of perceived humor following the first exposure or the level of perceived humor after the final exposure?

The two proposed models have differing predictions concerning this question. Under situations where the cognitive model is appropriate, the better predictor of advertising response (e.g., recall, persuasion) would be the humor perceived following the first advertising exposure. In situations where the classical conditioning model applies, the better predictor would be the humor perceived in the final (pre-purchase) advertising exposure.

These different predictions result from the function of humor in the advertisement. Madden and Weinberger (1982) found a significant association between humor and Starch "noted" scores, suggesting that humor draws attention to an ad. Using the cognitive model, it then appears that a sequential process of first knowing and second believing the substance of the message is set in motion. Thus, if the humor fades on subsequent exposures, there should be no associated drop in conviction, which presumably has already been developed. Perceived humor and recall should be positively associated if this model applies.

By contrast, humor would have a different function in the "transfer of affect" model (Shimp 1982). Presumably its function would be to make the advertisement attractive, and by classical conditioning to make the brand attractive. If so, and if humor then fades with repeated exposures, it would be expected that the impact of the initial perception of humor would be superseded by later perception. Thus, a level of perceived humor in the advertising exposure closest to the purchase decision would be a better predictor of brand choice than would the initial level of perceived humor. Perceived humor and recall need not be positively associated for this model to apply, since brand choice is presumed to stem from advertising attractiveness, not from the substance of the message.

To explore whether the cognitive model does explain wearout, Craig, Sternthal and Leavitt (1976) forced attention to repeated messages, and by doing so postponed wearout, a result supporting the attention-belief-persuasion path. However, Calder and Sternthal (1980) found that wearout can occur in spite of advertising strategies designed to enhance attention. They expected message repetition to lead to counterargumentation, a hypothesis which would appear to support the classical conditioning model, if some element which provides positive feelings about a message (humor, perhaps) declines over time and permits a clearer-eyed consumer to begin evaluating the message. Specifically, the researchers measured the effect of successive exposures on the arousal value of commercials and also the evaluation of those commercials. Results showed, for one of two products, a lower evaluation

with a higher number of exposures and a non-monotonic effect on arousal, which increased up to three exposures and then decreased with six exposures. However, the study failed to find the expected increase in negative thoughts processed by audience members after several exposures. Thus, the findings were equivocal.

The above discussion of the literature suggests the overall proposition that perceived humor will decline with repetition. The cognitive and classical conditioning models provide alternative explanations for this effect. Since these models provide contrasting predictions about the relationship between humor and advertising effectiveness, carefully designed experiments should be able to identify the circumstances under which one model is superior or preferable to the other in terms of explaining this humor wearout effect.

THE INFLUENCE OF SOCIAL SETTINGS

The discussion so far has offered a contradictory picture. Humorous messages are placed on TV or radio because humor is deemed useful, but humor "wears out" with repetition. The final proposition to be presented here concerns the effect of social settings. Specifically, if more than one person is listening to or watching a commercial message, then this social dimension increases the likelihood that a message will be perceived as humorous, *even* after repetition.

Three studies suggest the merits of the case. Butcher and Whissell (1984) instructed experimental groups of two, four, or 10 subjects to view a humorous short film and taped their laughter. They found that, as group size increased, there were more laughs per person, longer laughs, and louder laughs. The trend in all cases was for greatest responding to occur in the 10-person audience and least responding in the 2-person audience (p. 950). An explanation for this relationship may be found in research by Alello et al. (1983) who found that "high spatial density" (more people per square foot) enhanced subjects' enjoyment of humor.

The third relevant study (Brown et al. 1982), building on the effect of "laugh tracks" in TV shows, showed print cartoons to individuals and measured laughter and smiling. A pre-coached "model" looked at the cartoons first, and then left the room; results showed that when the model had laughed, a subject laughed more than when the no-longer-present model had not laughed.

These studies support previous research which has found laughter to be contagious--or as the second study shows, even the recollection of laughter.

Here, then, may be a clue to the common-sense observation that not all humorous commercials (or comedy acts) "wear out" with repetition; some seem to get better, as *anticipation* of what will be presented evokes an anticipatory humorous response. If, in fact, a listener or viewer laughs because others do or have, the fact that broadcast commercials may have audiences of a size

greater than one allows for the possibility that wearout of humor may at least be postponed. In a similar way, certain television commercials appear to become "funnier" over time as their punch lines enter the language of popular culture and are repeated by professional comedians, as well as the general public. One example of this sort of "world altering" commercial is Wendy's "where's the beef?" campaign, which even became an integral part of the 1980 Presidential election.

DISCUSSION

This paper has offered three propositions:

1. Humorous commercials are disproportionately placed in broadcast media.
2. The unavoidable multiple exposures of radio and TV audience members to humorous broadcast messages diminishes perceived humor as exposures increase. The classical conditioning and cognitive response models provide competing explanations for this effect.
3. The contagious quality of laughter suggests that wearout can be greatly delayed under some circumstances, if commercial messages are seen/heard by someone in a social setting.

Taken together, these propositions suggest specific research directions.

First, it would be useful to examine the effect of group vs. individual responses to humor in radio commercials. The appeal of Jack Benny's "Well..." indicates the likelihood that a family gathered around the radio *circa* 1945 did indeed enjoy a group response to humor. For the 1990s, an appropriate project might be to test the perceived humor in drive-time radio messages heard by carpoolers vs. solo drivers, for example.

Second, it would be valuable to analyze elements of broadcast/telecast messages to determine which ones evoke group responses, with the idea of employing these elements in prime-time dayparts where group listening or viewing is most likely. Is "visual humor," for instance, more evocative of group response than is clever dialogue?

Third, we need to examine the fundamental issue of whether laughter and reports of perceived humor measure the same response, and/or to what extent they do so. The study where a laughing or non-laughing model left the room before the research subjects were exposed to a humorous stimulus obviously tried to reduce the likelihood of laughing because others were doing so, rather than laughing because the stimulus was perceived as funny. But one study can never be definitive.

Finally, we need to probe further the effects of "successful" humorous messages. Which are most likely to achieve which advertising objectives?

Only if humor "works" with considerable reliability is it useful to know the extent to which it wanes with repetition and/or waxes as the group sitting in front of the TV set enlarges. Basic questions in this whole area continue to challenge consumer behavior researchers, no matter how carefully or reliably we hone our dissecting knife.

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Does Brand Attitude Moderate the Persuasiveness of Humor in Advertising

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INTRODUCTION

Though the use of humor in advertising has been growing with widespread support among practitioners (Kelly and Solomon 1975; Markiewicz 1974; Lubalin 1977; Madden and Weinberger 1984), academic research in the area has over the years yielded equivocal conclusions. In research studies, humorous treatments of ads have failed to evoke systematic and superior persuasive effects, either by themselves, or in comparison with serious versions of the same messages (Sternthal and Craig 1973; Duncan 1979). Both methodological as well as conceptual critiques have been directed at the above research, particularly with increasing emphasis on the role of contingencies that might moderate the impact of humor in advertising. It has been pointed out (Murray 1987) that with the exception of a few audience characteristics, such as race, sex, etc., systematic and theoretically driven investigations are missing in the literature.

The current research attempts to enhance our understanding of the role of humor in advertising by examining the moderating role of a viewer's prior evaluation of the advertised brand. The latter was considered to be a variable of significant importance both from a conceptual as well as a managerial perspective. It was believed that while the presence or absence of humor in a message would affect the extent of cognitive elaboration associated with the message (i.e., humorous ads would lead to more cognitive responses than corresponding serious versions), the nature of an audience's prior evaluation of the advertised brand would determine the directionality of the cognitive elaboration. That is, a favorable prior evaluation would increase the persuasiveness of humor, while a negative prior evaluation would yield no improvement over a neutral version. Further, such effects were expected to persist over a period of time and hence be of managerial relevance.

THE STUDY

Using a between-subjects design, subjects' prior evaluation of the target brand was first manipulated through product trial. Next, subjects saw either a humorous or a non-humorous ad. The effects of these two independent factors on ad attitude, brand attitude, purchase intent, and choice behavior were examined after a week's delay.

RESULTS

Results show that the effect of humor in advertising is contingent on the subjects' prior attitude towards the brand. As hypothesized, when a consumer's prior brand evaluation is favorable, a humorous ad is more effective in enhancing brand attitude and choice behavior, in comparison to the corresponding non-humorous ad. When a consumer's prior brand evaluation is unfavorable, the converse

was found to be true. That is, the non-humorous ad was more effective in enhancing consumer attitudes and choice behavior compared to the humorous version. The above interaction was observed a week after subjects' exposure to the ads, thereby supporting our premise that the effects are persistent over time and warrant managerial attention.

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Parallel Processing Models of Consumer Information Processing: Their Impact on Consumer Research Methods

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ABSTRACT

Current models of consumer information processing assume that processing occurs in a serial, or sequential fashion. However, new models of parallel distributed processing (PDP) have been developed in the fields of cognitive science and artificial intelligence. These new models assume massively parallel processing in the human brain, and have implications for marketers' research on consumer information processing. Parallel models are introduced and underlying assumptions of serial and parallel models are compared. The impact of accepting parallel processing models on the development of consumer research methods and analysis of results is discussed.

INTRODUCTION

When the study of cognition became popular in the 1960s, it was generally assumed that the human information processing system functioned much like a von Neumann computer. Processing was viewed as serial, consisting of a sequence of discrete operations. Memory was viewed as a set of separate stores. Serial processing models, originally introduced in 1936 by English logician Alan Turing, are the foundation of current models of human information processing used in marketing. The most basic assumption of serial processing models, as delineated by Newell and Simon's (1972) theory of problem solving, requires that only one information process occur at a time. This view has prospered for many years, with more recent models and theories, including frames (Minsky 1975), schemata (Bobrow and Norman 1975), scripts (Schank and Abelson (1977), knowledge assembly (Hayes-Roth 1977) and Bettman's information processing theory of consumer choice (1979), incorporating serial processing. This fact has not only influenced development of human information processing theory, but has directed researchers' selection of research methods used in the study of consumer information processing, particularly process tracing methods.

Evidence from neurobiology suggests that the brain does not operate in a serial manner (Shepherd 1979, Crick and Asanuma 1986). This evidence shows that the human brain is massively parallel, capable of processing a large number of relatively complex cognitive tasks simultaneously. Researchers in a variety of fields have now begun to develop models of human information processing based on this evidence of parallel processing (McClelland, Rumelhart and the Parallel Distributed Processing (PDP) Research Group 1986, Anderson and Hinton 1981). This work has led to a reconceptualization of memory structure and knowledge representation (Anderson 1976, Feldman 1985, Rumelhart and Norman 1981). Testing these

new models requires research methods that are not, necessarily, tied to the basic assumption of serial processing. If selection of either serial or parallel processing models determines how consumer research is conducted, effects of the respective models become a fundamental issue for researchers.

This paper has three objectives: (1) to introduce the concept of parallel processing; (2) to compare specific assumptions underlying serial and parallel processing models; and (3) to address implications of replacing serial processing models with parallel processing models for consumer research. In particular, the appropriateness of current research techniques used by consumer researchers are evaluated in light of parallel processing models.

PARALLEL PROCESSING MODELS

Parallel processing models have grown out of research in cognitive science. Cognitive science is interdisciplinary, drawing on expertise from a variety of fields, including neurobiology, cognitive psychology, mathematics and computer science. Much of the work in this area has been conducted under the rubric of artificial intelligence (AI). The major focus of AI is to develop methods of replicating human intelligence in a computer environment. These attempts at replication of human intelligence have suggested a need for reevaluation of serial processing models. Now, in increasing numbers, researchers are exploring a different framework for thinking about cognitive processes. These researchers generally accept the computer metaphor as a useful approximation of the macrostructure of human thought, however, they have come to feel that an alternative framework may be more appropriate for characterizing its microstructure.

This alternative is suggested in various parallel processing models appearing in the literature over the past fifteen years. The models are referred to variously as Connectionist Models (Feldman 1981, Feldman and Ballard 1982), Parallel Distributed Processing (PDP) Models (McClelland, Rumelhart and the PDP Research Group 1986) and Parallel Models of Associative Memory (Anderson and Hinton 1981). The term "Connectionist Models" is the most general. It is used to refer to a class of information processing models that consist of a network of simple processing units interacting via a series of connections. PDP models are a type of Connectionist Model that stress the notion that processing activity results from processing interactions occurring among rather large numbers of processing units (Johnson-Laird 1988). Connections allow for interactions between units. Each specific Connectionist Model will make assumptions about the number of units and the

pattern of connections between units. The set of units and their connections is typically called a network.

According to the Connectionist view, the human information processing system is a network operating under a set constraints. Each unit, which may be a neuron or some network of neurons, operates through connections with other units. The number and type of connections define the constraints imposed on the network. Units take on activation values based on a weighted sum of their inputs from the environment and from other units. The connections are also weighted--either positively or negatively--so that a particular input will either excite or inhibit the unit that receives it, depending on the sign of the weight.

The strength or weakness of the constraints is determined by the weight of the connection. Learning is a function of changing existing constraints through modification of weights, or introducing new constraints through new connections. In parallel models units do not represent complex concepts, such as those associated with schemata (Rumelhart, et al. 1986). Rather, units are relatively simple, and "schemata emerge at the moment they are needed from the interaction of large numbers of much simpler elements all working in concert with one another" (Rumelhart, et al. 1986, p. 21).

This brief description suggests that parallel models are substantially different from conventional serial models of human information processing. Parallel models begin with neurophysiological evidence, then build on this evidence to describe the cognitive functions of human thought, learning and intelligence. The assumptions underlying parallel models are also very different from those underlying serial models. The next section discusses two important assumptions that distinguish parallel from serial models.

ASSUMPTIONS OF PARALLEL AND SERIAL MODELS

There are numerous assumptions, beginning at the most basic levels and continuing through complex cognitive designs, which differ significantly between parallel and serial models of information processing. Johnson-Laird (1988) considers each of several aspects of an information processing system, describing the general assumptions parallel models make about these aspects. In this section, only two assumptions which appear to have a direct impact on the appropriateness of different research methods currently designed to evaluate human information processing are reviewed. These assumptions are the most general and cover the nature of (1) the processing model and (2) memory structure. Each is reviewed in turn.

The Nature of the Processing Model

Perhaps the most important assumption distinguishing parallel processing models from serial processing models concerns that nature of the

model. Contrary to Newell and Simon's (1972) suggestion that there are central control units or "executives" required to oversee the operations of various programs or production systems, in parallel processing models the human information processing system is seen to be capable of complex global goal directed processing (Rumelhart and Norman 1985).

Representations in parallel models are patterns of activation over the units in the network. The representations are truly active, in the sense that they give rise to further processing activity directly without any need for a central processor that examines them and takes action on the basis of the results of this examination. Knowledge is stored in the connections between processing units. This assumption works together with assumptions about representations. An active representation of a set of units, together with the knowledge stored in connections, will give rise to new patterns of activation on the same or other units. While the concept of executives was developed for serial models in order to address the need to have some control over the sequencing of the serial processes assumed in the models, parallel models do not require this type of control mechanism.

Neurobiological evidence, as mentioned in the preceding section, strongly suggests that the brain is massively parallel. Parallel models assume that this neurophysiological reality is the basis for construction of memory and, consequently, of knowledge representation (Rumelhart and Norman 1981). In contrast, Newell and Simon (1972) recognize evidence for parallel processing, but contend that "it is possible for an IPS [information processing system] to be parallel for two activities, but not parallel for three or more, since the processor may be capable of carrying along only two independent control sequences" (p. 797). Thus, Newell and Simon's imposition of a control system (a characteristic of serial processing models) excluded the possibility of parallel processing at higher levels of cognition.

Another response to the evidence for parallel processing is that the "computation devices" (e.g., neurons) should not have an impact on how concepts are encoded in memory. However, the underlying configuration of the neurons does impact the way information is processed. The way that computational devices operate influences how higher-level cognitive structures are created and operate. For instance, frames (Minsky 1975) and scripts (Schank and Abelson 1977) employ passive data structures which require explicit default values to explain the creation and operation of higher-level cognitive structures. Any variation in operation of passive data structures would alter the conceptualization of memory structure and knowledge representation (Norman 1986).

The Nature of Memory Structure

The second assumption to be addressed is that of memory structure. In parallel models, information is not stored in a "place." Rather, it is

represented by the relationship among units, and each unit may be involved in the storage of multiple memories (Rumelhart and Norman 1981). Thus, memory is distributed across relationships, rather than associated with a particular place in long-term or short-term memory. Accessing memory requires tracing the relationships or connections between units. This conception of memory allows traces to interact, with the result that memory tends to focus on the commonality of information or experiences. Therefore, individuals are capable of forming generalizations from previous experiences when faced with new circumstances.

In contrast, serial models assume that information is stored in a particular place, distinct from the storage of other information. Retrieval of information from memory requires "addresses" or "pointers" to describe the place where information is stored. Retrieval is characterized by finding the information stored in memory, finding the right schema, or following the appropriate links in semantic networks.

Another major difference between serial and parallel models is the categorization of memory as long-term and short-term. Serial models, which require a problem space and short-term storage of information to be manipulated by the production system, focus on short-term memory. In these models, short-term memory is very small, able to hold only five to seven chunks of information (Newell and Simon 1972). The size of the short-term memory places a major constraint on human information processing capacity. This idea of limited processing capacity has generated the notions of information overload (Jacoby, Speller and Kohn 1974, Malhotra 1982, Jacoby 1984, Malhotra 1984) and distraction (Nelson, Duncan and Frontczak 1985, Petty, Wells and Brock 1976, Venkatesan and Haaland 1968, Wright 1974).

In contrast, parallel models do not make any assumptions regarding divisions in memory. What is termed short-term memory in serial models is essentially the electrical activation of the network of relationships that represents the information. Since short-term memory is based on activation, it decays rapidly and may be rather limited (Feldman 1985). However, it is not specifically limited to between five and seven chunks as cited by Newell and Simon (1972). What appears as long-term memory in serial models involves the actual changing of weights in the relationships between units in parallel models (Feldman 1985).

In summary, the conception of memory in parallel models does not call for separate "places" for short-term and long-term memory. Instead, these types of distinctions are a function of the basic processes occurring in the brain (Anderson 1976, Feldman 1985). Furthermore, the assumptions underlying memory in parallel models are not as restrictive as those for serial models with respect to processing capacity. As the above discussion emphasizes, important differences exist between serial and parallel models of human information processing with respect to the nature of the

processing models and the structure of memory. These differences underlie other substantive differences in the way the models address higher levels of cognitive activity, such as learning, inferences and choice. The differences also impact decisions with respect to the research techniques used in the investigation of consumer information processing. The appropriateness of many current techniques used by consumer researchers studying information processing needs to be evaluated in light of evidence supporting parallel models.

IMPACT OF ASSUMPTIONS ON RESEARCH TECHNIQUES

Process tracing techniques have become dominant in research aimed at describing actual consumer choice behavior (Slovic, Fischhoff and Lichtenstein 1977). A basic objective of the research has been to find alternative models or heuristics that take into account consumers' mental representations of information upon which decisions are based (Tversky and Kahneman 1981). However, these techniques have been criticized on two particular accounts: (1) their static nature (Jacoby, Szybillo and Busato-Schach 1977) and (2) their focus on overt, voluntary behavior (Lynch and Srull 1982). In addition to these criticisms, serial processing is assumed when these techniques are used. More importantly, use of process tracing techniques actually *forces* subjects into describing processing in a serial fashion.

Process tracing techniques include protocol analysis, information monitoring, and eye movement analysis. The assumptions underlying serial processing models are evident in each of these process tracing techniques. Both the task and the output of the techniques reflect serial processing by their very design. The output from the consumer, whether in terms of a verbal protocol or selection of information from a display board, is *restricted* to a serial task. Only one thing can be done at a time, by the design of the research. Consequently, the techniques themselves force participants into a serial processing mode, or at least require them to *represent* their decision processes as serial.

In reference to protocol methods, Bettman (1979) states that "...the subject is theoretically verbalizing thoughts as they occur in the course of problem solving" (p. 195). Thus, research assumes that the subject is thinking in a serial manner. The decision net method of analyzing protocols also assumes seriality by imposing a branching structure and rule-dominated method of judgment. Parallel models, in contrast, would assume that comparisons between attributes are made in parallel, based on global constraint satisfaction rather than application of specific rules (Rumelhart et al. 1986).

Information monitoring methods were originally used in the study of consumer processing by Jacoby (1975). Information display boards, for example, are designed in such a way that subjects must choose one piece of information at a time. This information generally relates to an attribute of a particular brand. The process requires subjects to

make a serial inspection of the information. The researcher then assumes that the sequential selection of information represents the consumer's information processing and choice strategy.

Bettman's (1979, p. 197) analysis of this technique reveals several shortcomings that may be due to the basic assumption of serial processing. First, the external information gathering task may not represent the internal processing of the information. Second, the technique does not investigate the effects of internal information which may affect the search and processing of the chosen information. In contrast, parallel models propose that the subject is activating memory relationships that allow for generalizations between past experience the current tasks (Rumelhart, et al. 1986).

Eye movement analysis (Russo and Rosen 1975) is another process tracing method that needs to be reevaluated in light of parallel processing models. The pattern and sequence of eye movements are assumed to represent information examination and are used to infer details of internal processing. In eye movement analysis, like protocol analysis and information monitoring, the subject is forced into a serial mode of search, this time by the physical separation of the articles to be inspected. Eye movement analysis has been designed to "...guard against ambiguous interpretations due to the subjects' use of peripheral vision (Bettman 1979, p. 197). As a result of this design, subjects are restricted from taking in more than one piece of information at a time.

In contrast to the above process tracing methods, experimental techniques are being developed which allow for examination of parallel processing. Much of this research has utilized computer simulation to assist in development of computational theories of human information processing. For instance, Marr and Poggio's (1976) attempt to model human vision led to the need to incorporate interconnections between processing units in order to explain human vision capabilities. However, some research has adapted more conventional experimental techniques to test parallel models.

For example, response time analysis has already been used to investigate the nature of processing (Jacoby, Speller and Kohn 1974). This method assumes that mean response time is an indication of the amount of processing required for a particular task. Traditionally, researchers have tended to assume serial processing in their analysis of response time results. However, discrete response times, combined with accuracy measures, have been used to investigate parallel versus serial models in sentence perceptions (Marslen-Wilson 1975). The interaction of speed and accuracy in restoration of disrupted words was investigated for various levels of disruption in semantic and contextual constraints. Results showed that "sentence perception is most plausibly modeled as a fully interactive parallel process" (Marslen-Wilson 1975, p. 226).

Another experimental technique, one that has been used in reading research, entails presenting two words to subjects, each located at different sides of the eye fixation (Mozer 1983). The words contain two letters which are the same, such as sand and lane. Through counterblocks of trials the duration of the word display is adjusted to provide a fixed rate of whole word response errors. Errors in the subject's ability to reproduce the specified word are analyzed based on error types produced. This analysis determines the level of connection that exists between the current input, or two word pair, and knowledge structures the subject possesses.

A similar procedure might be used to provide evidence of parallel processing in information display boards and eye movement analysis. For example, information display boards could be reproduced using video terminals. The subject would be shown multiple attributes of various brands for a very short duration, after which the subject would be asked to make a purchase decision. The outcome of this choice might then be compared to a choice made when the subject was able to view attributes or brands in a sequential manner. In the case of eye movement analysis, the researcher might reduce the physical separation of the articles to be inspected. The results of this eye movement analysis might then be compared to the results of the conventional eye movement analysis. There is some evidence to suggest that focusing attention on separate places can be accomplished within a single eye fixation, without eye movement (Posner 1978, Triesman and Gelade 1980, Feldman and Ballard 1982).

In summary, it appears that many research techniques used in consumer information processing are based on the underlying assumptions of serial processing models. Process tracing methods, in particular, have been tied to serial models. Researchers also tend to analyze data gathered from other methods, like response time analysis, under the rubric of serial processing. However, there are similar research methods that do not assume serial processing and, therefore, may be more appropriate.

CONCLUSIONS

This paper has introduced the concept of parallel processing. It has presented some of the differences in assumptions between parallel and serial processing models. The comparisons have been limited to two assumptions: (1) the nature of processing, and (2) the nature of memory structure. In light of these differences, it is suggested that some research techniques used to study consumer information processing may need to be reevaluated. In particular, process tracing methods have been shown to be explicitly tied to serial processing models. Some alternative methods, based on parallel processing models, are suggested for future research. Consideration of parallel processing models in research design and theory or model development may alter the way consumer researchers conceptualize important issues, including issues related to consumer choice strategies.

While research appears to support parallel processing models, there are some distinct problems with this approach. Most of these problems are a result of the relatively short history of research in Connectionist or Parallel Distributed Processing Models. The major problems which will impact consumer researchers are associated with the current level of development of the models. Specifically, research on parallel processing models has been focused on lower levels of cognition. Questions of inference, for example, have yet to be fully addressed. However, the models do provide some insight into problems tied to serial models of information processing. For that reason, parallel models warrant further investigation in the context of consumer research.

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The Effect Of Imagery Processing And Imagery Content On Behavioral Intentions

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ABSTRACT

Imagery processing has been recognized as superior to discursive (or verbal) processing and thus has become an important tool in designing advertising. Evidence suggests that imagery-producing ads result in superior recall and more positive attitudes toward the product. However, there has been limited examination of the relationship between imagery and behavioral intentions. We investigate this latter relationship going beyond other research in the area by examining imagery content. Specifically, we report the results of an experiment which tests the effects of three message-relevant factors on behavioral intentions: (1) self-relatedness, (2) plausibility, and (3) distinctiveness.

INTRODUCTION

Consumer researchers have long recognized the advantage of imagery processing over verbal processing. While imagery has traditionally been linked to visual stimuli, i.e., "thinking in pictures" (Fodor 1981; Lutz and Lutz 1978), MacInnis and Price (1987) point out that imagery processing can entail all of the senses. One can imagine the song of a bird, the crunch of a Dorito, the feel of sandpaper, and the taste of a lemon just as vividly as one can mentally picture these objects. Therefore, consistent with MacInnis and Price (1987), we define imagery as an information processing mode which uses one or more of the five senses.

Several studies have shown that imagery processing can improve recall and enhance attitude toward the brand (see Lutz and Lutz 1978 and MacInnis and Price 1987 for a review). There is even some evidence of a positive relationship between imagery processing and behavioral intentions (BI) (cf., Anderson 1983; Gregory, Cialdini, and Carpenter 1982). Yet, only Gregory, Cialdini, and Carpenter (1982) have shown this relationship to exist in a marketing context. In a personal selling situation, Gregory, et al. (1982) found that individuals who were asked to imagine themselves enjoying the benefits of cable TV had greater intentions to subscribe to the cable service than did individuals who were simply told about these benefits.

In this investigation, we empirically examine the relationship between imagery and BI in an advertising context. In addition, we identify and test the effects of several message factors which may differentially affect imagery's relation to BI.

Why should imagined sensory experiences result in more positive BI? Two prominent theories may explain these effects: (1) the availability/valence hypothesis (Anderson 1983; Gregory, Cialdini, and Carpenter 1982; MacInnis and Price

1987; Mowen 1980; Tversky and Kahneman 1973) and (2) the semantic network theory (Mitchell 1983). Availability/valence hypothesis states that the information which is most available to an individual when making a judgment has the greatest impact on that individual's judgment. Many researchers (Anderson 1983; Gregory, Cialdini and Carpenter 1982; Mowen 1980) have hypothesized that imagery results in more concrete scenarios and greater information elaboration than does discursive processing (i.e., verbal processing). This, in turn, makes information "spring to mind" more easily when judgments are made. These judgments will be positively (negatively) influenced if the available information is favorable (unfavorable).

Semantic network theory (Mitchell 1983) augments availability/valence theory by considering specific elements of the imagined scene, rather than only the valence of the scene. According to this theory, an individual's long-term memory (LTM) is made up of links and nodes. Links represent relationships (positive or negative; strong or weak) and nodes represent concepts (e.g., products, persons, emotions, tastes, sounds). Imagery content may determine which concepts are linked together in LTM. For instance, an ad which asks a consumer to imagine his/her spouse driving a Volkswagen could create links between the consumer's spouse and the Volkswagen in LTM. This direct link may cause the consumer to perceive a greater chance that her/his spouse would purchase the Volkswagen.

It appears that combining availability/valence theory and semantic network theory can aid us when examining the imagery/BI relationship. These theories are not presented as competing explanations of imagery effects, but rather as theories that work hand-in-hand to help explain this potentially important relationship. Based on these two theories, we make the following proposition:

P1: Imagery processing will create greater BI than discursive processing.

Additionally, it is likely that the imagery/BI relationship is affected by many message factors. We discuss a few of these variables in the following section.

FACTORS INFLUENCING THE IMAGERY/INTENTIONS RELATIONSHIP

Extant literature suggests several variables which may affect the imagery/BI relationship. We have classified these variables into two groups: (1) message elements that facilitate imagery processing, and (2) message elements that differentially affect the relationship between imagery and BI. The first

group consists of message elements which researchers have used to "manipulate" imagery processing. These include the use of (1) pictures, (2) concrete words, and (3) instructions to imagine (Lutz and Lutz 1978; MacInnis and Price 1987).

The second variable set is expected to differentially affect BI when imagery processing occurs. In this study we examine three such variables: self-relatedness, plausibility, and distinctiveness. We chose to investigate these variables because several researchers have alluded to their importance (cf., Anderson 1983; Carroll 1978; Lutz and Lutz 1978; MacInnis and Price 1987) and because these variables have direct implications for designing marketing communications.

Self-Relatedness

Self-relatedness deals with the focal character in the imagined scenario (Anderson 1983; MacInnis and Price 1987). A scenario is self-related when the main character is the consumer exposed to the ad. A scenario is other-related if the main character is *not* the consumer him/herself. Semantic network theory argues that direct links will be made between the self and the product advertised when the consumer is the subject of the imagery processing. This link should make the prospect of future interaction with the product seem more likely. If another person (e.g., friend, relative, celebrity) is the focal character of the imagery experience, there will be no direct link between the consumer and the product. Consequently, the relationship between imagery processing and BI may not be as strong.

Anderson (1983) found that self- vs. other-relatedness does indeed affect the relationship between imagery and BI. In a clinical context, he demonstrated that subjects asked to imagine and draw themselves in various scenarios formed BI consistent with the scenarios. However, no changes in BI were found when subjects were asked to draw scenarios involving other people. This leads us to the following proposition:

P2: Self-related imagery will create more positive BI than other-related imagery.

Plausibility

The plausibility of the imagined scenario should affect imagery's relationship to BI (Anderson 1983; Carroll 1978). A plausible situation is one that is consistent with a consumer's lifestyle--a situation in which a consumer could reasonably expect to participate. BI should be greater for plausible situations since links are formed in LTM between the product and a realistic personal situation. Thus, a plausible context should enhance availability of the brand name and increase the consumer's perception that s/he is likely to purchase the product.

For example, an advertisement for a new line of elegant paper plates could ask an individual to imagine him/herself in a multimillion dollar home, using the paper plates while entertaining international dignitaries and movie stars--an

implausible situation. Alternatively, it could ask him/her to imagine using the plates at home while entertaining a few close friends. The latter, more plausible situation, should create direct links in the consumer's LTM which relate the product to a personal situation, thus making future interaction with the product seem more likely. Therefore, we propose that:

P3: Imagery which contains plausible scenarios will create more positive BI than imagery which contains implausible scenarios.

Distinctiveness

A final factor expected to affect the imagery/BI relationship is situational distinctiveness (Lorayne and Lucas 1974; Lutz and Lutz 1978). Distinctiveness takes into account the imagined scenes' uniqueness. It is bounded at the lower end by mundane and at the upper end by bizarre.

Presenting a product in a mundane situation is unlikely to enhance the relationship between imagery and BI. When a consumer has numerous associations with a situation (which is highly possible with a common situation), the association between the brand and the situation may be drowned out and unavailable (Nisbett and Ross 1980). For example, a consumer asked to imagine him/herself waking up, getting dressed, and making a cup of Folger's coffee is likely to have many different images associated with this mundane event. It is possible that the image of drinking Folger's coffee may be drowned out by other images associated with getting ready for the day.

Evidence suggests that bizarre situations (ones with very high distinctiveness) positively influence advertisement and brand recall (Lutz and Lutz 1978). Yet, semantic network theory suggests that marketers should create links between the product and a situation which could actually occur in the consumer's life. This theory implies that a bizarre situation is unlikely to enhance the relationship between imagery and BI.

Note that plausibility and distinctiveness are inherently confounded since a bizarre product-usage scenario is almost certainly implausible whereas a mundane event would be quite plausible. Thus, these two factors, plausibility and distinctiveness will be considered together and lead to:

P4: Imagery which is plausible and moderately distinctive will create greater BI than imagery which is plausible and indistinctive or implausible and highly distinctive.

In the next section of this paper we discuss an empirical test of the following hypotheses. The specific proposition(s) upon which each hypothesis is based is noted in parentheses.

H1. High-imagery ads will create greater BI than the low-imagery control ad. (Proposition 1)

H2. High-imagery self-related ads will create greater BI than high-imagery other-related ads. (Proposition 2)

H3. High-imagery, moderately distinctive, and plausible ads will create greater BI than either high-imagery, indistinctive, and plausible ads or high-imagery, highly distinctive, and implausible ads. (Propositions 4)

EXPERIMENT

Seven radio advertisements were created in order to investigate the effects of imagery, self-relatedness, plausibility, and distinctiveness on BI. Radio was selected as the experimental medium because self-generated imagery should have a greater effect than other-generated imagery (Lorayne and Lucas 1974; Lutz and Lutz 1978). If a consumer is forced to create his/her own images, the mental processing is at a deeper level than if the images are created for him/her.

Focus interviews indicated that popcorn could serve as the experimental product. Its consumption abounds with high sensory experiences (e.g., aroma, texture, taste, sound), and it is popular with the subject population (college students). A fictional brand name was used to control for familiarity with particular brands.

A 3 (plausibility/distinctiveness) by 2 (self/other-relatedness) design with a low-imagery control group was used in this experiment. The first factor incorporates several combinations of plausibility and distinctiveness to create three different situational scenarios. The independent manipulation of these two factors is impossible because they are inextricably confounded.

The first scenario was plausible and indistinctive. Subjects assigned to this treatment listened to an ad which asked them to imagine someone (self or other) lying on a couch, watching TV, and getting a craving for popcorn. The second scenario was still plausible and moderately distinctive. This ad asked subjects to imagine someone (self or other) cooking out on the beach while on vacation and getting a craving for popcorn. The final scenario was implausible and highly distinctive. In this scenario, subjects were asked to imagine someone (self or other) walking through a dark, dusty hall in a haunted house with Scooby-do and Shaggy, the cartoon characters. Pretesting showed that all scenarios were perceived as intended and that subjects held positive attitudes toward all three scenarios.

The self/other factor was manipulated by having students imagine themselves or an eccentric chemistry professor as the focal character in one of the three scenes described above. We chose someone very different from the student subjects so that they would not identify with the "other."

Pretesting showed that subjects were imagining the intended character.

Fully crossing the two main characters with the three situational scenarios resulted in six high-imagery cells. All six ads used concrete words, actionable sentences, present tense, and instructions to imagine to facilitate imagery. Importantly, each ad described the focal person interacting with the product (Lutz and Lutz 1978). The following is a segment of the self-related, plausible, and indistinctive ad:

Imagine this. It's late Sunday night and you're lying on the couch watching TV. Your stomach is growling--you get a craving that only light, fluffy popcorn will satisfy. You go to the kitchen, turn on the stove and grab a shiny silver package of Pop-quick popcorn from the cabinet. You swirl the pan over the red-hot burner. Suddenly, you hear one kernel pop, then another and another until there is a thunderous drumroll of bursting kernels. Imagine ripping open the package--the steam dampens you face. You smell the unmistakable buttery aroma.

The other two situational scenarios used the same popcorn imagery but the first few sentences were changed to incorporate the different scene.

The introduction to the other-related, plausible, indistinctive ad shows how the self/other manipulation was incorporated into the ads:

Imagine this. It's late Sunday night and an eccentric chemistry professor is lying on his couch watching TV. His stomach is growling--he gets a craving that only light, fluffy popcorn will satisfy.

The seventh cell, the low-imagery control ad, differed significantly from the six high-imagery ads. This ad used passive tense, more complex sentence structure, more abstract terminology, and no instructions to imagine. In addition, there was no situational context and no focal person in the ad. Care was taken to ensure that the information given about the product was equivalent in all seven ads and that the brand name was used the same number of times. Pretesting showed that the control ad created less imagery than did the six experimental ads.

Procedures

College students received extra credit in an introductory marketing course for participating in the experiment. Each of the 25 experimental sessions was randomly assigned to one of the seven advertisements. One hundred and forty-two students participated with cell sizes ranging from 17 to 23.

After completing consent forms, subjects were told that they were to evaluate three different radio announcers. This guise was used to account for the three repetitions of the same ad needed for sufficient exposure to the ad. Subjects then listened to one of the seven experimental ads recorded by

three different professional male radio announcers (i.e., three repetitions of the same ad). A questionnaire booklet was distributed and subjects completed questions about the three radio announcers to lend credibility to the guise. Subjects completed imagery, distinctiveness, plausibility, and self-relatedness manipulation checks, then completed BI items. Attitude toward the ad and attitude toward purchasing the brand measures were also taken. Approximately one week later, subjects were orally debriefed.

Measures

Our study differs significantly from previous marketing investigations of imagery in that imagery processing was measured, rather than assumed to occur. Eight items were used to measure imagery processing (three items based on those used by Cartwright, Markes, and Durrett 1978; five items developed for this study). Prior to responding to these eight items, subjects were provided a clear definition of imagery. The first imagery item was a simple yes/no response to, "Did you experience any imagery?" If the subject did, s/he then completed a seven-item imagery scale. The first item stated, "The imagery from the ad was aroused" and was anchored with "great difficulty" and "with great ease." The second stated, "The imagery from the advertisement was" and was anchored with "not at all vivid, a very vague image almost like nothing at all," and "very vivid, image was almost like a real experience." The final five items were seven-point Likert-type items such as, "I had no difficulty imagining the scene in my head," and "All sorts of pictures, sounds and smells came to my mind while I listened to the ad." Coefficient alpha for the seven items was 0.87.

Several items were used to check the message manipulations. The self-relatedness measure was an open-ended question asking, "Who was the main character(s) in the scene that YOU imagined?" Plausibility was measured on two correlated ($r=0.82$), seven-point items which asked subjects whether the situation in the ad could really happen and how likely it was that a typical person might find him/herself in that situation. Distinctiveness was measured as the sum of two moderately correlated ($r=0.44$) items. The first item asked whether the situation in the ad was an ordinary event, and the second asked whether the situation was a special event.

Attitude toward the ad was measured using the sum of seven four-point items ($\alpha=0.90$). Subjects stated the degree to which the ad made them feel good, happy, cheerful, pleased, amused, soothed, and warm. Attitude toward purchasing the brand was measured as the sum of six semantic differential items similar to those used by Ajzen and Fishbein (1980; $\alpha=0.82$).

Three items were standardized and summed to measure BI ($\alpha=0.89$). First, an eleven-point item asked subjects to estimate the probability that they would purchase the advertised brand. Scale responses ranged from "virtually certain, (99 in

100)" to "no chance, (0 in 100)." Subjects indicated the likelihood of their purchasing the advertised brand the next time they bought popcorn using a five-point item anchored with "definitely will buy" to "definitely will not buy." The final item was a seven-point Likert-type item stating, "The next time I purchase popcorn, I will buy the brand in the advertisement."

Manipulation Checks

The three different scenario manipulations were effective. One-way ANOVAs and individual contrasts indicated significant differences in the predicted direction for both the plausibility and distinctiveness manipulations.

Only subjects who experienced some imagery processing responded to the self-relatedness manipulation check. On the surface, the self-relatedness manipulation appears effective ($\chi^2=12.25$, $p<0.01$); however, over half (29 out of 49) the individuals in the self-related treatment did not imagine themselves during the ad. The manipulation was not as strong as we would have liked.

The six high-imagery groups did not experience more imagery than the low-imagery control group. The yes/no item showed no significant differences ($\chi^2=9.60$, $p=0.14$) nor did the ANOVA for the seven-item scale ($F=1.89$, $p=0.09$). Individual contrasts showed no differences between the low-imagery control group and any of the six high-imagery groups. Possible explanations for this result are provided in the discussion.

While the imagery and self-related manipulation checks indicated that these treatments did not create the desired effects in each cell, differences across individuals did occur. Therefore, rather than conducting the hypothesis tests using the experimental cells as planned, we used an internal analysis to explore these hypotheses (Carlsmith, Ellsworth, and Aronson 1976). In an internal analysis, individuals are grouped by their actual responses to the treatment as indicated by manipulation checks rather than by their cell assignment. While this procedure reduces the ability to make causal statements, it does allow researchers to explore some basic relationships.

Hypotheses Tests Using Internal Analysis

H1 was based on the proposition that imagery processing will create greater BI than discursive processing (P1). To test this relationship, subjects were divided into three imagery processing groups based on their responses to the imagery manipulation checks. Subjects reporting no imagery evoked by the ad were assigned to the no-imagery group. Those experiencing some imagery, but scoring below the mean of the summed imagery scale ($M=35.24$, $SD=7.61$) were assigned to the low-imagery group, and subjects scoring above the mean were assigned to the high-imagery group.

A one-way ANOVA was used to analyze the results, with imagery group serving as the

independent variable and BI serving as the dependent variable. The ANOVA showed a significant difference between the three groups ($F=6.78$, $p<0.01$, $M_{\text{high-imagery}}=0.76$, $M_{\text{low-imagery}}=-0.88$, $M_{\text{no-imagery}}=-1.05$, $\omega^2=0.10$). These results support H1; however, it appears that the degree of imagery processing (e.g., high vs. low) facilitates the effect rather than the simple presence or absence of imagery.

H2 was based on Proposition 2 which states that self-related imagery creates more positive BI than other-related imagery. Only subjects experiencing some imagery were included in this analysis. Subjects who indicated that they had imagined themselves were placed in the self-related group; all remaining subjects were assigned to the other-related group. A one-way ANOVA in which BI served as the dependent variable and self/other-relatedness served as the independent variable showed significant differences between the two groups ($F=9.84$, $p<0.01$, $M_{\text{self-related}}=1.53$, $M_{\text{other-related}}=-0.34$, $\omega^2=0.08$). This finding clearly supports H2.

H3 was based on Proposition 4 which states that the plausibility and distinctiveness of the imagined scenario should affect the imagery/BI relationship. We explored this hypothesis using the three scenario manipulations since these manipulations were effective; however, we only included subjects who experienced imagery in the analysis.

A one-way ANOVA in which BI served as the dependent variable and the three scenario manipulations served as the independent variable showed no statistically significant differences ($F=0.16$, $p=0.85$, $M_{\text{TV scenario}}=0.33$, $M_{\text{beach scenario}}=0.05$, $M_{\text{haunted house scenario}}=-0.04$). Thus, H3 is not supported.

After finding that imagery and self/other-relatedness did affect BI, we investigated these two factors further. First, we examined whether the effect of imagery on BI was direct or indirect, i.e., a result of imagery's effect on attitudinal variables. It could be that imagery creates more positive attitudes toward the ad or attitudes toward the product, which, in turn, creates BI effects (cf., Ajzen and Fishbein 1980). A MANOVA model which used attitude toward the ad, attitude toward the product, and BI as the dependent variables and the three imagery groups as the independent variable tested the issue at hand. The overall MANOVA model was significant ($F=6.98$, $p<0.01$), and the univariate F-tests showed significant effects for each dependent variable. A Roy-Bargman stepdown F test was used to assess whether the observed BI effects were direct or indirect. The stepdown F takes into account the causal relationship between the dependent variables and tests for an incremental effect on each dependent variable by controlling for the causal effects of previous dependent variables. This test detected differences in attitude toward the ad, but not attitude toward the brand or BI. Therefore it appears that the observed imagery effect on BI is indirect, a result of imagery's impact on attitude toward the ad.

Could this also be true for self/other relatedness? Could it be that consumers like ads about themselves better than ads about others and that this change in attitude toward the ad creates differences in BI? We explored this question with a second MANOVA model in which attitude toward the ad, attitude toward the brand, and BI were the independent variables and self/ other-relatedness served as the dependent variable. Again, the overall MANOVA model was significant ($F=3.47$, $p=0.02$), but the only univariate test which showed significant differences was the BI test. The step-down F test also detected a difference in BI, but not in the attitude variables. This suggests that a direct relationship exists between the imagery's focal character and BI, as predicted by semantic network theory.

DISCUSSION

This study provides evidence that imagery processing in and of itself can affect attitudes toward the advertisement which, in turn, affect attitude toward the brand and BI. Furthermore, the significant effect of the self/other factor suggests that the content of the imagined experience is important and can directly influence a consumer's BI. While these results are correlational due to the use of internal analysis, they are encouraging and indicate that research in the area should continue.

Why didn't subjects in the six high-imagery cells experience more imagery than subjects in the low-imagery control cell? Recall that we did get significant differences in pretesting, so the experimental situation itself may have reduced imagery processing. Subjects in the experiment (but not the pretest) were asked to listen to the ads in order to evaluate the radio announcers. MacInnis and Price (1987) point out that imagery processing is enhanced when subjects are told to relax and concentrate on imaging. Our subjects processing set was on evaluating the announcers which may have interfered with imagery generation.

There are many directions in which this research could proceed. First, richer marketing-oriented measures of ad-evoked imagery need to be developed. Recall that this study is the first to specifically measure ad-evoked imagery, rather than the propensity to use imagery (e.g., Style of Processing Questionnaire; Childers, Houston and Heckler 1985) or the ability to imagine (e.g., Betts Questionnaire Upon Mental Imagery; Betts 1909; Sheehan 1967). A reliable and valid measure is needed. Another measurement issue is whether imagery is a unidimensional or multidimensional construct. We are currently developing items to tap three potential imagery components--ease, vividness, and quantity. Finally, given the encouraging results from the self-relatedness factor, it appears that consumer researchers may wish to investigate other message characteristics which could directly or indirectly affect recall, attitudes, and/or BI when imagery processing occurs.

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Style of Information Processing Differences in Relation to Products, Shopping and Self-Consciousness

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ABSTRACT

Style of processing information, as measured by the Style of Processing Scale (Childers, Houston and Heckler 1985), was assessed in relation to several product involvement variables, shopping visualization, three self-consciousness variables, and gender. The sample was divided into four groups on the basis of the scale score: "Low Processors," "High Verbals," "High Visuals" and High Processors." Results indicated that there were clear style of processing differences in relation to most of the tested variables. The strategic and research implications of these results are discussed.

As interest in mental imagery has grown, researchers have found individual differences in consumers' preferred styles of information processing, i.e., verbal versus visual processing (Holbrook, Chestnut, Oliva, and Greenleaf 1984; Smith, Houston, and Childers 1984; Childers, Houston, and Heckler 1985). This paper seeks to extend that work by looking at style of processing in relation to products, shopping plans, and various aspects of self-consciousness (Fenigstein, Scheier, and Buss 1975), all of which have salient visual or verbal elements. It will also provide a further test of the usefulness and nomological validity of the Style of Processing Scale (Childers, Houston, and Heckler 1985).

STYLE OF PROCESSING

Interest in style of processing has developed from at least two main streams of research in psychology and consumer behavior. These are (1) mental imagery research and (2) the information processing paradigm. Within each of these areas, research has found that there are individual differences which have an impact on dependent variables within their domain (MacInnis and Price 1986; Childers, Houston, and Heckler 1985). Mental imagery research has assessed the processing of information in a variety of modes including auditory, olfactory, gustatory, and kinesthetic, but most especially the visual mode (MacInnis and Price 1986). A number of aspects of imagery processing have been studied which are conducive to the extrapolation of individual differences including imagery vividness, imagery control and imagery style (Childers, Houston, and Heckler 1985). Of interest here is the assessment of imagery style which Childers et al. define as "the individual's willingness to habitually engage in imaginally versus verbally oriented processing." In order to assess imagery style, they adapted the Style of Processing (SOP) scale from the widely used VVQ scale (Richardson 1977) and demonstrated its reliability and validity.

It has been found in looking at mental imagery and information processing together, that

there is a positive relationship between preference for visual imagery processing and visually oriented print ads (Rossiter and Percy 1978), that the use of pictures in ads which may stimulate mental imagery can make a difference in information processing (Kisielius and Sternthal 1984), and that schematics (experienced consumers) will use mental imagery more than aschematics (inexperienced consumers) (Smith, Houston, and Childers 1985). Childers, Houston, and Heckler (1985) find that differences in individual information processing may stem from two factors: (1) cognitive ability to process information and (2) preferred strategies or styles of processing, i.e., verbal versus visual.

In light of previous research, the present study was conducted in order to further investigate individual differences in style of processing and to see how this might affect some product areas of interest. It is hypothesized that individuals more verbal in style will be more involved with verbal products, such as books and magazines, while highly visual individuals will be more involved with media, such as television, or products which are visually oriented, such as clothes. Music is explored on a more exploratory basis although it is tentatively hypothesized that music will be associated with the visual mode since both have been related to right brain processing (Hansen 1981). Radio is included on an exploratory basis as well, since it may be used for verbal purposes by some, musical entertainment by others, and since, it may involve the use of imaginative imagery by some but not all users.

Self-consciousness (Fenigstein, Scheier and Buss 1975) is also to be considered. With respect to self-consciousness, it was especially felt that one of its three sub-components, public self-consciousness, would be important. Public self-consciousness has been previously used in consumer behavior contexts to assess an individual's awareness of and concern with his or her self-image and self-appearance in public (Burnkrant and Page 1981; Gould and Barak 1988; Stern, Gould, and Barak 1987). In this regard, it was predicted that visually oriented individuals would be more publicly self-conscious, i.e., self-appearance conscious, than others because of the highly visible nature of self-appearance. Social anxiety, which concerns an individual's degree of anxiety in interacting with others, is more tentatively hypothesized to follow public self-consciousness, as is private self-consciousness, which concerns an individual's degree of focus on his/her own thoughts and feelings (Fenigstein, Scheier, and Buss 1975). Finally, it was hypothesized that high visuals would tend to report more visualization in planning for a shopping trip than would low visuals. Gender was included on an entirely exploratory basis.

METHODOLOGY

Subjects

The sample consisted of 138 adults. They were administered the questionnaire by students in a consumer behavior class, who received class credit. The sample was a quota sample in that at least 2 of the subjects, per student, were required to be over 50 years old and at least two were required in the 35-50 range in order to insure a wide spectrum of ages. Verification was obtained by telephone calls of approximately 5% of the sample, by debriefing of the student interviewers, and by inspection of the surveys, themselves. No problems were encountered. The study was conducted in the Northeastern part of the U.S.

Measures

The following measures were used in the survey:

Independent Measure

The Style of Processing Scale (SOP). The SOP is a 22-item scale which assesses the degree to which an individual uses a verbal or visualizing style of information processing (Childers, Houston, and Heckler 1985). An example of a verbal item is "I enjoy learning new words." An example of a visual item is "When I'm trying to learn something new, I'd rather watch a demonstration than read how to do it."

Dependent Measures

Involvement with product measures. The first eleven items were adapted from the Personal Involvement Inventory of Zaichkowsky (1985) to measure the involvement an individual had with the following products: television, radio, magazines, books, clothes, cameras, and music. These products were selected because of their sensual orientation, particularly with respect to the visual sense, (e.g., camera), or because they reflected a relatively verbal orientation (e.g., books).

Shopping visualization. A single question assessing the use of visualization in making a shopping list or planning a shopping trip was also asked as follows: "When I make a shopping list or plan a shopping trip, I usually visualize what I'm going to buy."

The Self-Consciousness Scale (SCS). The SCS assesses the trait of self-consciousness which concerns the degree to which a person focuses on him/herself or on the external environment (Fenigstein, Scheier, and Buss 1975). The 23-item scale, according to its creators, actually consists of the following three subscales: (1) private self-consciousness which looks at degree of internal focus (e.g., "I reflect about myself a lot"), (2) public self-consciousness which concerns the degree to which someone is conscious of his/herself as a public person with an impact on others (e.g., "I'm very self-conscious about the way I look") and (3) social anxiety which measures the degree to which someone is anxious about social interactions with

others (e.g., "I feel anxious when I speak in front of a group").

RESULTS

Style of processing was assessed by taking each of two subscales of the SOP, the verbal and visual subscales, dividing them at the median and combining them to create four categories for consideration: (1) "Low Processors"- low verbal/low visual on the SOP (n = 34), (2) "High Verbals"- high verbal/low visual on the SOP (n = 37), (3) "High Visuals"- low verbal/high visual on the SOP (n = 33) and (4) "High Processors"- high verbal/high visual on the SOP (n = 34). Reliabilities for the two measures using Cronbach's alpha were .67 for the visual component and .77 for the verbal component. This resulting variable is designated "VERBVIS." While Childers, Houston, and Heckler tend to prefer to use the SOP as a single scale, they also point out that the value of using the scale in its two component form was worthy of further research. In fact, most of the items of the scale assess only one or the other component (e.g., "I enjoy learning new words"- verbal style; "I like to "doodle" "- visual style) while just a few actually force a choice between verbal and visual styles (e.g., "I generally prefer to use a diagram rather than a written set of instructions"). Here, it was deemed appropriate to use the scale by assessing the two components, separately, because some individuals are likely to be either more or less active in both the verbal and visual modes together, and also because some product use often reflects the involvement of both modes of processing (e.g., magazines). This approach is analogous to the fact that while many individuals are either more left brain or more right brain, there are some who are less specialized and more whole brained (Hansen 1981; Kosslyn 1987). It is also similar to sex role research in which various types are identified by combinations determined from scores on two separate scales: masculinity and femininity (Bem 1981). This approach allows for the clear identification of types both for researchers and managers.

A multivariate analysis of variance was run to test for an overall effect of the independent variable, the four-level classification by the SOP, i.e. VERBVIS. Results, using the Hotelling-Lawley Trace statistic, indicated that there was such an effect ($F = 2.46, p < .0001$). Next, the univariate analyses for each of the dependent variables were assessed as follows (see Tables 1 and 2):

Product Variables: There were significant univariate effects for these product variables: television, magazines, and books. When the means are examined for television, High Verbals, group 2 and High Processors, group 4, report being less involved with television than others. Based on planned comparisons, High Verbals differ from both Low Processors ($p < .0138$) and High Visuals ($p < .0018$) while High Processors differ from High Visuals ($p < .0291$). Verbal orientation seems to be most salient. Interestingly, Low Processors had the

TABLE 1
Univariate ANOVA Results

Variable	F	Probability	R ²
Television	4.25	.0069	.10
Camera	0.93	.4301	.03
Magazines	3.92	.0104	.09
Books	12.65	.0001	.24
Clothes	0.49	.6877	.01
Radio	0.22	.8799	.01
Music	1.69	.1732	.04
Shopping Imaging	7.49	.0001	.14
Public	5.86	.0009	.12
Private	6.05	.0007	.13
Social	5.54	.0013	.11

TABLE 2
Dependent Variable Least Square Adjusted Means

Variable	Means ¹				Pairwise ² Differences
	1	2	3	4	
Television	4.71	3.91	4.95	4.19	1,2 2,3 3,4
Camera	4.43	4.69	4.85	5.03	
Magazines	4.53	4.23	4.15	4.87	2,4 3,4
Books	5.08	5.75	4.72	6.18	1,2 1,4 2,3 3,4
Clothes	4.78	5.00	4.90	5.13	
Radio	4.88	4.77	4.62	4.77	
Music	4.65	4.72	4.15	4.79	
Shopping Imaging	1.91	1.84	2.66	2.94	1,3 1,4 2,3 2,4
Public	2.15	2.00	2.71	2.58	1,3 1,4 2,3 2,4
Private	2.09	2.10	2.42	2.53	1,3 1,4 2,3 2,4
Social	1.92	1.59	2.37	2.03	1,2 1,3 2,3 2,4

- ¹ 1 = Low Processors
 2 = High Verbals
 3 = High Visuals
 4 = High Processors
- ² Planned comparisons, P < .05

second highest involvement with television possibly for the following reasons: (1) they are clearly low in preference for verbal processing which seems to be most salient in reducing television involvement and (2) it is also possible that they have a tendency to be involved with television in some way not assessed here, such as keeping it on for the sound or for 'company.'

In the case of magazines, individuals who are High Processors tended to report being more involved with magazines than individuals who are High Verbals (p < .0072) or High Visuals (p < .0026), alone. Thus, people who are highly

responsive to both visual and verbal cues are most involved with magazines, very likely reflecting the dual visual and verbal nature of magazines. With books, as with television, verbalness seemed to be salient although in the other direction as both High Verbals and High Processors claimed more involvement with books than others. High Verbals were significantly more involved with books than were Low Processors (p < .0075) and High Visuals (p < .0001) while High Processors were more involved than both of these other groups (p < .0001 for both). The effect sizes for these three product categories, as indicated by R², were .10, .09, and

.24, respectively. These are very reasonable effects considering that there is only one independent variable, i.e. VERBVIS. Finally, none of the other product involvement findings were statistically or behaviorally significant, although camera involvement was in the right direction in that both High Visuals and High Processors were more involved with cameras- indicating at least a probable degree of visual salience.

Shopping Visualization. Results indicated that shopping visualization was clearly related to visualization style as both High Visuals and High Processors were more likely to visualize or plan a shopping trip than were others ($p < .0001$). High Visuals were significantly more likely to visualize their shopping in advance than were Low Processors ($p < .0099$) and High Verbals ($p < .0040$). The same was true for High Processors who reported more shopping visualization than the other two groups ($p < .0005$ and $p < .0001$, respectively). The R^2 for this relationship was .14 which again is very reasonable for one independent variable.

Self-Consciousness Variables. There were significant results for all three self-consciousness variables: private self-consciousness ($p < .0007$), public self-consciousness ($p < .0009$) and social anxiety ($p < .0013$). Examination of the means reveals that, in general, High Visuals and High Processors reported being most publicly and privately self-conscious- the contrasts of groups 3 and 4 with groups 1 and 2 were found to be all be significant ($p < .05$ or better). However, for social anxiety the results varied in that only group 2, the High Verbalizers, differed from High Visualizers and High Processors ($p < .0001$ and $p < .0222$, respectively). The effect sizes, as indicated by the R^2 , were .12 for public self-consciousness, .13 for private self-consciousness, and .11 for social anxiety. Altogether, these results evidence a relationship between visualizing style and self-consciousness which seems to indicate a process of self-visualization. Thus, it is likely that High Visuals and High Processors will tend to visualize themselves more than others when focusing on their self-concept, the target of self-consciousness, as well as being more self-conscious in general.

Gender. An interesting result was obtained when gender was crosstabulated with VERBVIS as shown in Table 3. Women tended to report being more active processors than men ($p < .017$). Particularly striking was the result in which 32.91% of women were High Processors to only 13.56% of the men while just the opposite result was found for Low Processors- 35.59% of men to 16.46% of women. However, about the same percentage of High Verbals and High Visuals occurred among both men and women. These results provide a marker for at least a partial demographic identification of style of processing differences, and also a strong impetus for further gender-related research in this area.

DISCUSSION AND CONCLUSIONS

The results of this study give an indication of the effects of processing style on some relevant

marketing variables and point the way to further research in this area. Several findings emerge on the basis of the present data. First, in general, this study provides further support for the usefulness and nomological validity of the SOP scale, particularly when the four processing groups are considered. The scale has been shown to be related to several consumer-related variables.

Second, the results have indicated that involvement with media types of products has links to style of processing. Although not measured in this study, it is likely that the frequency of media use and within media choice differences (e.g., the choice of magazines, such as *People* versus *Scientific American*) are related to style of processing as well.

Third, style of processing is related to visual planning for shopping which may only be a tip of the iceberg in assessing: (1) how visually-oriented consumers may use mental imaging in the search for, purchase, and use of products, and (2) how verbally-oriented consumers function and make decisions in the same situations. The planning of a shopping trip and list involves the visualization of a future event out of the processing and recall of previous shopping experience. For example, High Visuals and High Processors may form cognitive maps of their shopping trips as they picture their purchases in advance in their minds. This suggests a need for marketers and retailers to develop imagery cues in their advertising, store and mall layouts, and store displays which are likely to stimulate mental imagery in the minds of these visually-oriented consumers as they make shopping plans. On the other hand, High Verbals are likely to respond more strongly to the use of verbal cues, such as store and brand names or key appealing terms (e.g. new, free, unique), although more research is needed to identify what they seek in the way of specific mental cues in planning and engaging in shopping.

Fourth, applying the work of Robertson (1987) in looking at brand names in terms of imagistic content, High Processors are likely to be the most responsive of all the groups to store and brand names laden with imagery (e.g. "White Dove"); High Verbals may respond most strongly to abstract, less imagistic names when forming shopping lists (e.g. such as "EXXON" originally was when it was a new name). However, further research is needed to determine whether imagery laden brand names are still more effective for all groups, including High Verbals, in line with the findings of Robertson, or whether individual differences are strong enough to moderate those findings. Low Processors may respond more strongly to other types of cues altogether, such as sound or kinesthetics, which they recall when putting together their shopping plans. Research into various types of cues in the context of style of processing should be undertaken.

Finally, and perhaps most interesting is the finding that mental imaging seems to be related to self-consciousness. This seems to indicate that the self-concept for visually-oriented individuals has a

TABLE 3
Crosstabulation of Gender with VERBVIS
(by percentage of gender)

	Groups			
	1	2	3	4 ¹
Sex				
Male	35.59	27.12	23.73	13.56
Female	16.46	26.58	24.05	32.91

Chi-Square = 10.16 P < .017

- ¹
- 1 = Low Processors
 - 2 = High Verbals
 - 3 = High Visuals
 - 4 = High Processors

high image content which marketers and advertisers may want to study and address in the future. In other words, when people focus on themselves, reflecting their private self-consciousness, they may literally see themselves in their mind's eye more than others who are not as inclined to engage in such self-focusing. Self-image research and application may take on whole new dimensions not previously considered. For example, in assessing self-image in marketing research through administering semantic differential and Likert scale type questions, it might be useful to have respondents sit in front of a mirror so they can see themselves while they answer the questions- a technique which is often used in self-awareness research to obtain self-focus and attention (Fenigstein, Scheier, and Buss 1975). In the market research situation, seeing oneself in a mirror might stimulate the visually-oriented person to concentrate on self-relevant visual cues although both High Verbals and Low Processors would probably be less affected. For instance, the verbally-oriented person, although being less self-conscious in general, might be better stimulated in self-imagery evaluation relative to the visually-oriented person if asked to write or verbalize something about his or her self-image. On the other hand, Low Processors may respond to other self-relevant cues not considered here. Finally, High Processors might best respond in terms of inducing self-focus to both the types of cues (mirror and verbalizing), administered simultaneously.

Similar techniques might be used for inducing or tapping into public self-consciousness which can be affected by the presence of other people (Fenigstein 1979). Market researchers might want to evoke public self-consciousness to create an audience effect even though they are only surveying or interviewing one person at a time (e.g. investigating product use in social settings such as when a person throws a party). Or they may just need to be aware whether certain types of questions

may induce public self-consciousness effects. In such cases, visually-oriented people are likely to respond to mental cues with visual imagery (e.g. "Imagine an audience in front of you") while verbally-oriented people, although less publicly self-conscious or socially anxious, should respond best to cues which evoke thinking (e.g. "Write down what others think about you"). As with private self-consciousness, the picture is less clear with respect to Low Processors except that they are less publicly self-consciousness than visually-oriented individuals. More research is needed to investigate them and how they function with respect to processing information about self-relevant cues.

In addition, more research with respect to the self-consciousness construct is needed to work out how people develop and recall self-relevant imagery and concepts. Such research might also consider how people link their self-image to product image, concept, and use, if at all. For example, it is more likely that highly visually-oriented and self-conscious people will visualize themselves throughout the prepurchase and actual consumption phases of interaction with products than will less visually-oriented individuals. Such self-visualization may take the form of seeing oneself possessing products, using them, and displaying, and showing them off in a way which reflects the individual's public self-consciousness and social anxiety. Understanding of this self-visualization process can lead to better insight for both copy creation and product positioning. However, for both High Verbals and Low Processors, themes which play less on self-image and appearances may need to be developed.

In moving beyond the dependent variables considered here, future research should extend and elaborate these results by also considering style of processing in relation to other areas of interest, such as media use, other product areas (e.g. fashion), schema (Smith, Houston, and Childers 1985),

attitudes, advertising involvement and response, hemispheric processing and other brain subsystem processing (Hansen 1981; Kosslyn 1987), and the Elaboration Likelihood Model (Petty, Cacioppo, and Schumann 1983). Thus, style of processing is likely to be built into a whole network of these constructs which ultimately can be used to predict advertising and behavioral response. Particularly intriguing would be to investigate how products, and/or particular attributes of products, such as shapes, colors, and names are related to processing style and subsequently to purchase and use. We need to consider whether there are certain product designs or advertising modes, portrayals or themes which appeal to a person of one processing style or another. Likewise, we might consider whether brand differentiation and positioning messages involve the selective perception of cues by people of different processing styles and therefore are amenable to explicit marketing efforts addressing those differences. There also may be situational differences in processing style which vary by setting (e.g. time pressure, more expressive types of situations such as gift giving) that need to be addressed. Future research might also extend the SOP scale to consider other sense modalities: olfactory, auditory, gustatory, and kinesthetic (see Sheehan 1967 for a short version of the Betts' Questionnaire which assesses these modalities).

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Studies in Imagery, Styles of Processing, and Parallel Processing Need Realtime Response Measures

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The three papers in this session provide stimulating contributions to our knowledge of consumer information processing. Ways that each paper could be strengthened are discussed. But these papers have the same limitation: they focused on a static concept, recalled, processed information, not the dynamics of information processing. An example from realtime response research illustrates how these limitations can be overcome.

IMAGERY EFFECTS ON BEHAVIORAL INTENTIONS

Bone and Ellen (1990) make a genuine contribution to the literature in their finding that the degree of self imagery determines attitude toward a radio advertisement, which, in turn, determines subjects' behavioral intentions (BI) regarding the purchase of the advertised hypothetical brand of popcorn. The original hypotheses are well grounded in the current literature to explore the question, "Why should imagined sensory experiences result in more positive BI?" The availability/valence hypothesis and the semantic network theory are very relevant. Their design would have been strengthened, however, by including Heider's balance theory in the semantic network theory (Hughes 1971). It would have provided a very testable model for the examination of attitudes toward self, attitudes toward advertisements, and attitudes toward a brand.

They state their hypotheses clearly and use appropriate rigor in their statistical analysis. But, between these two points, there is considerable ambiguity regarding their working definitions and their measurement procedures, as will be detailed below.

When the authors found that their treatments did not induce the expected imagery effects, they abandoned their causal design and sorted subjects into groups according to their degree of imagery. They were careful to limit their conclusions to those of correlation, not causation.

At this point, however, it would have been helpful to know why individuals differed in their ability to create mental images. Do the authors have any demographic or psychographic profile data that would reveal insightful significant differences between high and low imagers? Perhaps this distinction is a matter of right hemisphere or left hemisphere information processing. The concepts of visual and verbal processors (Gould 1990) could contribute to an investigation of high and low imagers. Or perhaps the low imagers watch more television and have never developed imaging skills. An older group of subjects, raised on radio, may have higher imaging skills. Knowing more about people with low and high degrees of imaging skills is a prerequisite to applying the authors' findings to advertising strategies.

AMBIGUITIES IN DEFINITIONS AND MEASUREMENTS

Sorting out the definitions, variables, scaling techniques, and the hypothesized relationships was difficult. A flow diagram would have been very helpful. The original design was modified halfway into the paper with the addition of the concept of attitudes toward the advertisement. This addition was made without the benefit of relevant citations, so it is not clear why it was added. Some of the ambiguities and recommendations for improvements follow.

Message Elements. The authors examined the impact of three message elements--self relatedness, plausibility, and distinctiveness--on the imagery-behavioral intentions relationships. Self relatedness (not to be confused with self congruity) deals with whether the main character in the imagined scene is the consumer him/herself or someone else. Advertisements that build on self imagery were found to create more positive behavioral intentions (BI).

Plausibility is defined as an imagined scenario that is consistent with the consumer's lifestyle. This concept is different from believability, which is frequently used to test television advertisements. It would be useful to do a study to see if subjects understand the difference and if the difference is relevant to communications strategies.

Distinctiveness is defined as the imagined scenes' uniqueness, which lies between the outer bounds of mundane and bizarre. This definition overlaps their definition of plausibility, and caused problems. These two concepts were then combined into a single treatment, with insignificant results. Because the similar concepts of believability and comparative advantage have produced significant results in commercial testing, it is unfortunate that these concepts were combined. Perhaps a definition of distinctiveness that required a brand choice would have yielded significant results. The authors' design gave no choices of brand, only whether the subject would buy the test brand or not. An information processing design would measure before-and-after changes in brand choice.

Independent Variables. Image processing was measured by first asking subjects if they experienced imagery. If they did, they then answered two semantic differential questions dealing with ease and vividness of the imagery. They also answered five Likert-type scales on the difficulty of imagining. No reasons were given for using two scaling techniques.

Attitude toward the ad was the sum of seven items--good, happy, cheerful, pleased, amused, soothed, and warm--that had been measured along a four-point scale. Even though some of these items have been studied by other researchers, no citations were given in support of their inclusion. It would

have been useful to see how these affect dimensions and their cognitive dimension of plausibility were linked to imagery, to attitude toward the ad, and then to behavioral intentions. The findings could support or refute the arguments that cognition does not need to precede affect (e.g., Zajonc, 1980).

Self relatedness was measured with an open-ended question that asked who the main character was in their imagery. Plausibility used two seven-point scales that asked if the event could happen. Distinctiveness was the sum of two scales that asked if the event was ordinary or special. No reasons were given for the variety in scaling techniques. One can only wonder if the variations in measuring techniques contributed to the insignificant findings regarding plausibility and distinctiveness.

Behavioral intentions were the sum of three standardized measures. One was an eleven-point scale of the probability of purchasing the advertised brand. The second scale used a five-point likelihood of purchasing. The third scale used a seven-point Likert-type scale in response to "The next time I purchase popcorn, I will buy the brand..." No reason for the three scales or their summation was given. It is not clear why attitudes toward purchasing the brand were measured, how these differed from behavioral intentions, and where they fit into the analysis.

The authors could enhance their contribution to the literature by reanalyzing their data with more precisely defined variables. Instead of combining measures that used various scales, they should examine them independently so that they can recommend to other researchers the most appropriate scales and then use them across all concepts. Using a uniform scaling technique can facilitate the selection of statistical methods and reduce respondent confusion.

Because plausibility and distinctiveness were combined in their design, these concepts cannot be separated. But the authors did measure plausibility and distinctiveness for manipulation checks. Perhaps the data from the subjects who were not in the plausibility and distinctiveness cells could be analyzed with these manipulation check variables to determine if future research would benefit from a sharper definition of these two concepts.

The authors could enhance their contribution first by explaining why they used so many different scaling techniques and then by developing more parsimonious measurement methods to facilitate replication by them and other researchers. Such replications are necessary for a field of study to claim that it is a science.

But none of these recommendations overcomes the fact that this research is not measuring consumer information processing. It is, at best, measuring recalled information that was processed. And recall is subject to errors in memory, variations in attending to the stimuli, and a problem that has been called backward filtration, which occurs when a dominant stimulus appears at the end of the stream of stimuli (Hughes, 1990). This late, dominant stimulus overshadows earlier

stimuli. (This effect should not be confused with recency effects.) Finally, subjects' attempts to recall information processes can be influenced by the experimental design either by interrupting the process with a questionnaire or revealing the purpose of the study. The latter could have occurred in this study because the subjects completed imagery, distinctiveness, plausibility, and self-related manipulation checks before completing the behavioral intentions scales. Perhaps the subjects guessed the intent of the study.

To measure consumer information processing we must have methods for realtime response research. A procedure with examples will be shown briefly at the end of this paper.

STYLE OF INFORMATION PROCESSING

Gould (1990) explores the relationships between styles of information processing and involvement with selected products, shopping visualization, and self-consciousness. While Gould's design does not assure directions of causality, the findings provide new insights into processed consumer information and suggest ways to answer questions raised in the Bone and Ellen paper.

For his independent variable Gould used the mental imagery literature and an existing scale that identified verbal and visual processors. He assigned subjects to one of four cells--low processors (low verbal and low visual), high verbals (high verbal and low visual), high visuals (low verbal and high visual), and high processors (high verbals and high visuals). The median scores were used to assign the 138 subjects to one of the cells. The median values and the number of subjects were not reported, which makes it difficult to replicate the study.

The dependent measures included involvement with seven products (television, radio, magazines, books, clothes, cameras, and music), shopping visualization (making shopping lists and visualizing what will be bought), and self consciousness (private-public self consciousness and social anxiety). Gould used existing measuring instruments for these variables.

Because the hypotheses are not stated, the results and discussion are guided by the relationships that were significant. Consequently, the combined "Discussion and Conclusions" section is very difficult to follow and sometimes is not well supported by the findings. But the results are interesting. For example, high verbals and high processors report being less involved with television. Perhaps these individuals like to create their own images. Bone and Ellen may want to add a visual-verbal processing measure to help explain why some persons image and some do not.

There is considerable face validity in the findings. High verbals were more involved in books. High visuals and high processors were more likely to visualize or plan a shopping trip. High visuals and high processors also may tend more to visualize themselves when they focus on their self concept. While the support for this conclusion is

not clear, it could be relevant to the conclusions of Bone and Ellen that self-related imagery creates a more positive behavior intention. The finding that women tend to be high processors could be relevant to copy and media strategies.

This study can also be criticized for not being a study of information processing, but a study of recalled processed information.

PARALLEL PROCESSING

Martin and Kiecker (1990) step back from the details of information processing research and conclude that current approaches assume that the consumer thinks like an old computer, in a serial or sequential fashion, while evidence from neurobiology suggests that the human brain is a massive parallel processor. Evidence of parallel processing requires new definitions of memory structures and knowledge representation, which, in turn, require new means for measuring consumer information processing.

Parallel Distributed Processing (PDP) models stress the concept that information processing amounts to changes in connections between networks of neurons. Information will change the weight and/or sign of these connections as well as create new connections. Thus, information is stored in the form of connections throughout the network, not at a single location to be addressed by a central processor. This model helps to explain how a consumer can combine previous experience and new external information to reach a decision. The authors conclude that information processing research that uses methods such as protocol analysis, information monitoring, and eye movement, restrict the subject to the limited serial task.

Those of us who have been dissatisfied with the present information processing research would like to consider testing parallel processing models, but the paper is limited in its suggestions for implementing the concept. It refers to a study on vision, one on analysis of response times, and one on reading research, all of which assumed a parallel model. It suggests displaying multiple attributes of various brands on a video terminal for a short duration and then asking for a purchase decision. This seems to be a modern variation of threshold research that used a tachistoscope. This design could be implemented very easily with realtime response research technology. It could be done on individuals and groups, which would make it easier and cheaper than the eye movement design that is proposed by the authors. In realtime response research the computer would measure each individual subject's response time, which would be a proxy for the amount of processing that was done.

REALTIME RESPONSE RESEARCH

These three papers share a common need for realtime measures while the subjects are processing the information. The first realtime system was developed at CBS in the mid 1930s to measure audience reactions to programs. It consisted

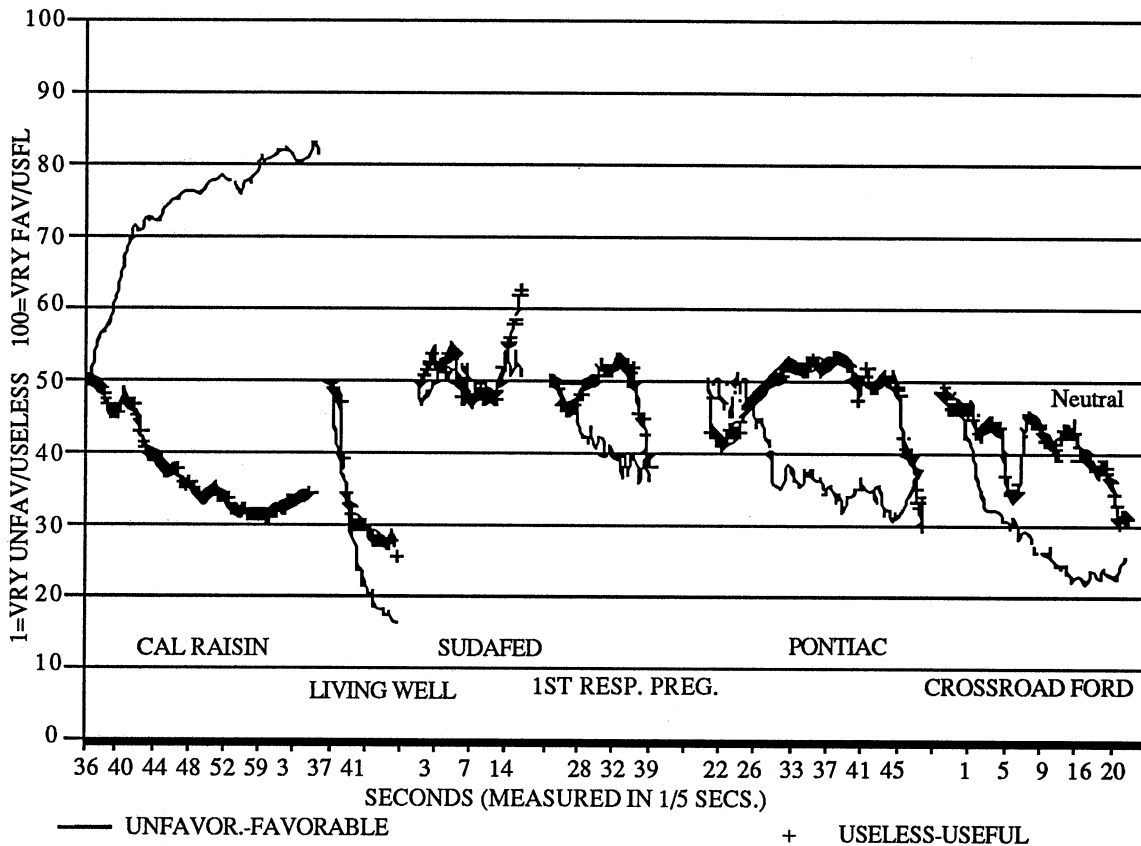
basically of a rheostat for each subject. When dialed, these rheostats controlled pens over a continuous paper strip, like an EKG. Within the last few years new developments in microcomputer and video technology have made it possible to have portable systems that measure responses in a fraction of a second and superimpose the results over the stimulus videotape. This discussant has developed four generations of these systems since 1984 and has conducted hundreds of realtime research projects. His second and third generation response devices were a seven-position dial that had many limitations (Hughes, 1990). The fourth generation subject response device has a 1-100 dial, a full alpha numeric keypad, and a screen that gives subjects immediate feedback as they dial. The system is called SpeedBack(sm). An example will illustrate how realtime measurements can improve on the research that has been reported in this session.

Bone and Ellen had difficulty in defining and measuring variables that reduced to affect and cognitions. Can subjects distinguish between these concepts? Figure 1 shows the results of a small test that was conducted just for this session.

Twelve MBA students watched six television commercials twice. The first time they dialed for affect along a scale of unfavorable(0)-favorable(100). The second time they dialed for useless(0)-useful(100). The California Raisin commercial that featured Ray Charles and used the claymation technique went above 80 in favorability, but dropped to 30 in uselessness. The next commercial, "Living Well," promoted a St. Patrick's Day Special at a local health club. The responses were straight down for both measures. (The company went bankrupt.) Sudafed, a decongestant medicine, hardly moved off neutral (50) for favorability, but ended on a strong up trend in usefulness when clinical proof was mentioned. The First Response Pregnancy Test had a downward trend in favorability, was slightly above neutral in usefulness at the midpoint, but ended on a sharply negative trend at the end. The Pontiac and local Ford dealer advertisements were downward sloping on both dimensions, but the usefulness curve was higher because both ads discussed discounts and some of the subjects were planning to buy a car in the near future.

Each of these patterns can provide useful insights for generating strategies. We are studying the relationships between these types of patterns and successful advertisements to answer questions such as, "Should an advertisement end on an upward trend?" We have noted that the most successful advertisements are not always rated favorably, but they do need to have useful or believable information. When these patterns were played back, the subjects had reasonable explanations. For example, the Sudafed commercial ended with a reference to clinical studies showing that it was effective in 30 minutes, so the useful information measure went upward. Some subjects were about to buy a car, so they found information about discounts useful even though they did not like the commercial.

FIGURE 1
FAVORABILITY VS. USEFULNESS (12 MBAs)



Because we measure in realtime, and in very fine and fast measures, we are able to see patterns of individual styles of processing. We see several different response patterns. We call some subjects "chunkers" because they wait for a chunk of information before making a decision, while the "averagers" respond to every stimulus when it comes. An example of each style of processing appears in Figure 2. The upper curve for the California Raisin commercial is the averager who made small incremental changes with each new stimulus. The chunker happened to go negative, so that is the lower curve. We do not presently know why these two types occur. In some cases we have noted that people who have no need for the product advertised chunk negative quickly and then go flat. Thus, they seem to tune out the commercial. We plan to examine levels of attending in future tests.

We are just beginning to study the individual differences between these two response styles. We will certainly consider the verbal and visual scales that Gould used.

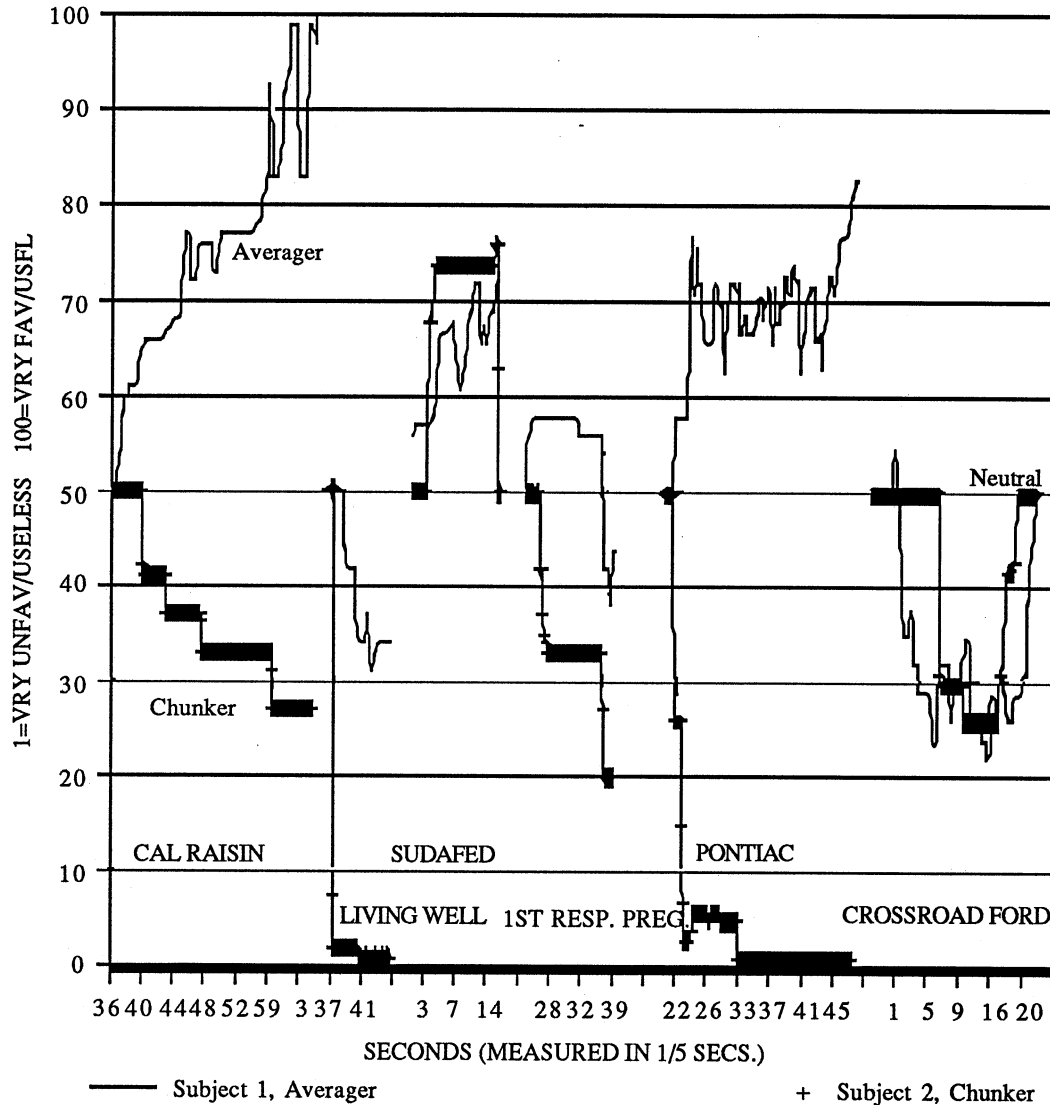
The Martin and Kiecker paper stimulates us to examine the time between the stimulus and the subject's response to see if we can identify parallel

processing. This will be a very easy task with the SpeedBack(sm) system. The response time of the system is very fast because of the smooth, continuous 1-100 dial and the sampling rate of 1/5 of a second. Realtime response research would also make their information display board design a very simple task.

Figures 1 and 2 illustrate another advantage of fast, realtime response research. It is an excellent tool for small group diagnostic studies. A researcher can start with small groups and, if the results are stable, add additional groups, combine data, and use analytical techniques that require a larger sample. We have replicated the shapes of the curves in these figures with other groups of 12 to 20 subjects.

Realtime response research is like clinical studies in medicine in that it should be used early in the research process. It is not instant polling or a substitute for survey research (Hughes 1990). Conversely, in clinical research the subject becomes his/her own control over time, so we know that differences are due to the stimuli. The fine and fast measures allow us to detect subtle, small differences, such as a single word. We have found that we can

FIGURE 2
PROCESSING STYLES -- AVERAGER/CHUNKER



get stable results with sample sizes as small as 40 subjects.

Persons who are concerned about small samples for diagnostic research should refer to articles in the medical journals. During the period from October, 1987, to October, 1989, there were 35 citations in the *Drug Newsletter* that used a single test group of fewer than 20 subjects. Eleven had 5 or fewer subjects, 11 had 6 to 10 subjects, 7 had 11 to 15 subjects, and 6 had 16 to 20 subjects. Included in these publications were prestigious journals such as the *British Medical Journal*, the *Journal of Clinical Psychiatry*, and the *New England Journal of Medicine*.

In conclusion, while there are many ways that these authors could refine their research, we must

acknowledge that theirs were exploratory studies. I hope that these comments will help them to further analyze the data from these studies and to develop more precise approaches in future studies. Realtime research measures can help them in that regard. Their ideas and findings will stimulate new directions for those of us who are researching consumer information processing.

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Cigarettes in the Popular Press, 1930-1960: Preliminary Research

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ABSTRACT

This paper reports the results of a content analysis of articles on tobacco and tobacco related products appearing in *Time*, *Reader's Digest*, *Life*, *New Yorker* and *Saturday Evening Post* from 1930 through 1960. As a percentage of articles published, the issue of smoking and health was most prominent in the 1930s and from 1950 through 1960. On an absolute basis, the number of articles concerned with smoking and health were greatest from 1950 through 1960. The content of articles mentioning smoking and health evolved over time. In the 1930s such articles were concerned with symptoms of health effects (e.g., coughs), while in the 1950s the focus changed to more serious effects such as cancer.

INTRODUCTION

When did smokers first learn that cigarettes were unhealthy? What and when did they learn specifically about the effects of smoking on their health? It is, of course, impossible *ex post* to provide definitive answers to these questions. This is so, despite knowing that conventional wisdom has long held that cigarettes are unhealthy, e.g., the term "coffin nails" dates from early this century (Calfee 1985). A partial answer can be obtained, however, by examining what the popular press was reporting throughout the period when scientific evidence about the effects of smoking on health was first being accumulated and disseminated. By examining what the press was reporting, inferences can be drawn about what the public was being exposed to, if not learning.

The purpose of this paper is to trace what was written in the popular press about cigarettes from the period 1930 through 1960 in order to learn what the American public was being told about the effects of smoking on health. This is of more than academic interest because it is often alleged in cigarette product liability suits that the plaintiff was unaware of the potential adverse effects of smoking on health (Green vs. American Tobacco Co. 1962, Cipollone vs. Liggett Group, Inc. 1984). Others, (Calfee 1985, 1986; Ringold and Calfee 1989), argue that knowledge of the harmful effects of smoking was so widespread some cigarette manufacturers capitalized on the fears of smokers by advertising their product as "less-unhealthy-than" competitive offerings.

Calfee (1985, 1986) and Ringold and Calfee (1989) have shown that claims of the less-unhealthy-than variety appeared in the late 1920s and 1930s, remained fairly stable during the 1940s and increased in frequency in the 1950s. Ringold and Calfee (1989) have also shown that the type of health information being communicated in advertising changed over time. In the 1930s

concerns about the health effects of smoking were reflected in information about symptoms such as sore throats and coughs. By the 1950s this information was concerned with more serious and longer term effects, e.g., lung cancer.

Underlying the Calfee (1985, 1986) and Ringold and Calfee (1989) research is the notion that cigarette advertisers were responding to, rather than initiating, smoker's concerns about the health consequences of smoking. If Calfee and Ringold are correct, information published in the popular press should show the same pattern of dissemination, i.e., articles on smoking and health will be relatively frequent as early as the 1930s, and during the 1930 to 1960 time period, the content will change from mentions of symptoms to mentions of more serious consequences.

METHODOLOGY

We performed a content analysis of all articles published in five popular magazines between 1925 and 1960 and cited in the *Readers Guide to Periodical Literature* under the headings "tobacco," "cigarettes," "smoking" and all related sub-headings. The five magazines were *Time*, *Life*, *Saturday Evening Post*, *Reader's Digest* and the *New Yorker*. Although no articles from these magazines on tobacco, smoking or cigarettes were cited in the *Reader's Guide* between 1925 and 1929, one hundred and thirty-five separate citations were found under those headings for the 1930 to 1960 time span. All 135 articles were located and photocopied. For purposes of this study an "article" is defined as any citation in the *Reader's Guide*.

Codes were developed following an examination of over one-half of all tobacco related titles listed in the *Reader's Guide* from 1950-1960. In addition, all such articles appearing in *Time* between 1950 and 1960 were examined. The coding form was intended to capture general and specific information about the content of the article as well as other descriptive information such as article source, date and length. General information regarding content was measured with eight codes summarizing the "most prominent theme" (MPT) of the article, e.g., agriculture, marketing, regulation, health, etc. This was the only variable in the coding scheme that forced the coders to make decisions that went beyond noting the mere presence or absence of information or other routine categorizations, e.g., percentage of the page occupied by the article.

The MPT information was supplemented with 207 specific codes concerning such potential topics as agricultural methods, crop sizes, quality of crop, product liability suits, smoking and athletes, smoking and children, figures for tar, irritation of eyes linked to smoking, irritation of nasal passages

TABLE 1
Distribution of Tobacco Articles by Periodical and Decade

Periodical:		1930-39	1940-49	Time Period: 1950-55	1956-60	Total
Time	n	8	14	29	26	77
	%	10.4	18.2	37.7	33.8	100.1
Reader's Digest	n	4	6	9	8	27
	%	14.8	22.2	33.3	29.6	99.9
Life	n	0	3	5	3	11
	%	0.0	27.3	45.5	27.3	100.1
New Yorker	n	0	7	5	3	15
	%	0.0	46.7	33.3	20.0	100.0
Saturday Evening Post	n	0	2	2	1	5
	%	0.0	40.0	40.0	20.0	100.0
Total	N	12	32	50	41	135
	%	8.9	23.7	37.0	30.4	100.0

linked to smoking, smoker's hack or cough, quitting smoking, calls to ban the promotion of cigarettes, etc. Consistent with Kassarijian (1977), the sole objective of the 207 specific codes was to categorize the topics contained in the article. A complete list of the codes is available from the authors.

Two training sessions were held with the two student coders to review and explain the coding instructions and to give the coders an opportunity to practice on a set of articles appearing after 1960 in *Time*. Thus, the articles used in the data set were not used in the practice coding. Each coder worked independently through all 135 articles. When the coding was completed, a third trained student coder went through each article resolving coding differences.

The overall inter-rater reliability was .62, which was lower than anticipated. An analysis of the source of coding differences revealed that almost all were due to coding omissions rather than to coding disagreements, i.e., one of the coders found something in an article that the other did not. When a random sample of one-quarter ($n = 34$) of all the articles was examined to determine the source of coding disagreements, 91 percent (261/288) were omissions. It appears that the complexity of identifying the complete content of articles, coupled with the task of assigning the content to 207 specific coding categories, was a difficult task. (By way of comparison the IRR's for the MPT coding was .72 and was .96 for the "type of article" coding.) Because of the low overall IRR, we carefully reviewed the reconciliation results of the third judge. Based on this review, we are quite confident that the final coding was successful. That is, we believe the final set of codes accurately reflects the content of the 135 articles.

FINDINGS

We begin with information describing the 135 articles, including when and where they were published and their main topics. Next, we summarize results regarding the details of the articles including, for example, the specific effects of smoking on health. The key questions are, of course, when did health related information about cigarette smoking begin appearing in the popular press and what specific health effects were mentioned?

Overview of the 135 article data set. Table 1 provides the distribution of articles by four time periods for the five target periodicals. The data are displayed in decades for 1930-39 and 1940-49, while the last eleven year period was split at 1956. The 1950 to 1960 time frame has been divided in an attempt to capture three effects: First, during the early 1950s the first widely disseminated scientific evidence about the health effects of smoking started appearing. Second, it was also during this time that the FTC cigarette advertising guidelines went into effect, (i.e., 1954-55). Third, *Reader's Digest* began publishing tar and nicotine figures in the latter half of the 1950s, setting off the 1957-59 so-called "tar derby." Thus by dividing the analysis at 1956, it was anticipated that the coding scheme would capture changes in the specific health effects being mentioned.

Two points from Table 1 stand out: First, there were very few articles about tobacco, cigarettes and smoking before the 1950s. Overall, of the 135 articles in the data set, approximately two-thirds appeared between 1950 and 1960, slightly less than one-quarter were published in the 1940s and less than ten percent appeared between 1930 and 1939.

TABLE 2
Most Prominent Theme and Whether Health Mentioned by Decade

Most Prominent Theme:		Time Period:				
		1930-39	1940-49	1950-55	1956-60	Total
Agriculture	n	1	5	2	0	8
	%	8.3	15.6	4.0	0.0	5.9
Manufacturing	n	1	5	3	3	12
	%	8.3	15.6	6.0	7.3	8.9
Management	n	1	3	3	0	7
	%	8.3	9.4	6.0	0.0	5.2
Marketing	n	1	8	13	8	30
	%	8.3	25.0	26.0	19.5	22.2
Regulation	n	0	5	5	1	11
	%	0.0	15.6	10.0	2.4	8.1
Health	n	4	2	16	24	46
	%	33.3	6.3	32.0	58.5	34.1
Initiation/ Cessation	n	4	2	8	4	18
	%	33.3	6.3	16.0	9.8	13.3
Other	n	0	2	0	1	3
	%	0.0	6.3	0.0	2.4	2.2
Total	N	12	32	50	41	135
	%	100.0	100.0	100.0	100.0	100.0
Percentage of Articles <i>Not</i> Mentioning Health:						
	%	33.3	68.5	44.0	14.6	40.0
	n	4	22	22	6	54
	N	12	32	50	41	135

Second, *Time* and *Reader's Digest* account for the vast majority of these articles. In fact, *Time* alone accounted for 57 percent (77/135) of all the articles with *Reader's Digest* contributing an additional 20 percent of the citations. It might be noted that in terms of issues per article, *Time* a weekly publication averaged one smoking related article every 7.4 issues while *Reader's Digest*, a monthly, averaged one every 4.9 issues. Taken as a group, the other three publications, all weeklies, averaged one article every 55 issues.

Besides publishing smoking information more frequently than the other periodicals, *Reader's Digest* also published longer articles. All 135 articles were trichotomized into one-third of a page or less, more than one-third but less than a full page and a full page or more. Twenty-six of the 27 articles published in *Reader's Digest* were more than one full page in length. By contrast, 49 of the 77 published in *Time* were one-third of a page or less and only three were more than one page. (Remember, however, *Time* has larger pages than does *Reader's Digest* so the difference in number of words per article is likely to be less dramatic.) For the entire data set, 42 of the 135 articles (31 percent) were more than one page and 55 (or 41 percent) were one-third of a page or less. Length of

article did not vary across the five publications by time period.

The overwhelming percentage of articles were concerned with cigarettes rather than with other tobacco-related topics (e.g., the tobacco crop, tobacco prices, etc). Overall 83 percent (or 112 of 135) articles were concerned with cigarettes. To determine whether there was a trend to cigarette-related articles versus other tobacco-related articles over time, we developed a two-by-two matrix of time period (1930-49; 1950-60) by topic of article (cigarettes; other tobacco-related). The obtained chi-square of 7.20 was significant at beyond alpha = .01 and indicated that there was a shift to cigarette-related articles between 1950 and 1960; i.e., 81 of the 91 articles (89 percent) appearing between 1950-60 were concerned with cigarettes compared to 31 of 44 (or 70 percent) before 1950.

Table 2 classifies the most prominent theme of the article by time period. The theme receiving the most attention by far in the 135 articles was health, (slightly over one-third of all articles), followed by marketing (22 percent) and articles on smoking initiation or cessation (13 percent). The theme of "regulation" accounted for less than ten percent of all articles overall, but was important in two time periods. Regulation was the main theme in five articles (15 percent) between 1940 to 1949,

TABLE 3
Content of Tobacco Articles by Decade

Article Content:	Time Period:				Total
	1930-39	1940-49	1950-55	1956-60	
Tobacco production	1.6%	13.9%	4.3%	3.1%	5.8%
Non-cigarette pmms ¹	3.2	7.1	1.4	3.3	3.5
Cigarette mms ²	28.5	30.9	23.7	24.2	25.9
Advertising regulation	8.9	12.0	13.2	10.2	11.5
Other regulation	4.9	7.4	3.0	5.3	4.9
Health effects	28.5	17.6	33.3	27.5	27.4
Composition of cigarette smoke	8.1	5.2	8.1	9.2	7.8
Research results/methodology	16.3	5.9	13.0	17.2	13.2
Totals	100.0	100.0	100.0	100.0	100.0
N	123	324	507	512	1,466
Citations/article	10.2	10.1	10.1	12.4	10.9

¹pmms = production, manufacturing, marketing or sales,

²mms = manufacturing, marketing or sales.

(but only one of these articles concerned the FTC cases against Lucky Strike, Camel, Old Gold and Philip Morris regarding health claims). Regulation was the most prominent theme in another five (or ten percent) of the articles published between 1950 and 1955; (three of these were concerned with FTC regulation of advertising and another reported on the FTC's advertising guidelines). In the other time periods articles on regulation were rare, as was regulation itself.

After 1949, articles concerned principally with the health effects of smoking accounted for a substantive percentage of all tobacco related articles: 32 percent (or 16 articles) between 1950 and 1955 and 58 percent (or 24 articles) of those published between 1956 and 1960. During the 1930s four of the twelve articles mainly concerned health, while in the decade of the 1940s only two of 32 articles had health as the most prominent theme.

The trend underlying these data becomes even more apparent when the percentage of articles *not* mentioning health are examined (see lower portion of Table 2). In the 1940s over two-thirds of the thirty-two articles published did not mention anything about tobacco and health. In the 1950-55 time period, this figure fell to 44 percent and in 1956-60, it fell again to less than 15 percent. When attempting to identify trends by time period, we must be careful to distinguish the absolute number of health citations from the relative number. During the 1930s two-thirds of the articles on smoking mentioned smoking and health, compared to less than one-third in the 1940s. On an absolute basis, however, this translates into eight articles mentioning health in the 1930s versus ten articles in the 1940s. Thus, readers were exposed to more

health-related content in the 1940s, although the percentage of articles mentioning the health effects of smoking was lower than in the 1930s.

An examination of the eight articles from the 1930s that mentioned health effects of smoking indicates these issues concerned respiratory problems (3), eye irritation (2), negative effects with regard to olfaction (2), fatigue (4), addiction (4) and quitting smoking (5). They did not usually concern more serious health issues such as cancer (1) or early mortality (2).

Overall, these findings are generally consistent with Ringold and Calfee (1989). That is, citations to smoking and health were relatively frequent in the 1930s and the 1950 to 1960 time period. During the 1940s we found that smoking and health was mentioned in more articles, but was mentioned relatively less frequently than during the 1930s.

Reader's Digest was the most consistent in providing information about tobacco and health. In the 1940s five of the six articles it published on tobacco mentioned health and in the 1950 to 1960 time period sixteen of the seventeen *Reader's Digest* articles mentioned health issues associated with tobacco. By comparison, a smaller percentage of articles in *Time* mentioned health in every time period, i.e., health was mentioned in 21 percent of the articles published in the 1940s, 52 percent of those published in 1950-55 and 88 percent of those published between 1956-60.

Content of the 135 articles. Table 3 shows the content of the data set by time period. To aid interpretation the 207 specific categories were aggregated into eight broader groups. Overall 1,466 specific types of content were coded; an average of

TABLE 4
Health Effects Content of Tobacco Articles by Decade

Health Effects Content:	Time Period:				Total
	1930-39	1940-49	1950-55	1956-60	
Effects of Smoking on Circulatory System.	8.6%	12.3%	19.4%	19.1%	17.4%
Fatigue linked to Smoking.	11.4	7.0	5.9	2.1	5.2
Coughs and other Respiratory Effects.	8.6	35.1	14.2	5.0	13.4
Cancer and Smoking.	2.9	0.0	16.6	36.2	19.9
Addictive Properties.	11.4	14.0	7.7	7.8	9.0
Link to Early Mortality	5.7	3.5	7.7	7.1	6.7
Fetal Harm from Smoking.	0.0	0.0	1.2	0.0	0.5
Unspecified irritations.	5.7	0.0	2.4	0.7	1.7
Allergic reactions to Smoking.	11.4	5.3	3.6	0.7	3.5
Quitting smoking	14.3	3.5	8.9	7.8	8.2
Pejorative term such as "Coffin Nails."	2.9	5.3	1.8	5.7	3.7
Other health effects from Smoking.	17.1	14.0	10.6	7.8	10.8
Total	100.0	100.0	100.0	100.0	100.0
N	35	57	169	141	402

slightly less than eleven content citations per article. Health related citations and cigarette manufacturing, marketing and sales citations, each accounted for over slightly one-quarter of the codes. Regulation of cigarette advertising and discussions of research results, calls for more research and discussions of research methodology, accounted for eleven and thirteen percent of the specific citations, respectively. Information about the composition of cigarette smoke represented slightly less than eight percent of the codes. All other categories accounted for five percent or less of the codes. Consistent with data presented earlier on the number of articles published by time period, almost 70 percent, (i.e., 1,019/1,466) of all content citations occurred between 1950 and 1960.

The specific content of the articles over time mirrored the findings presented above regarding the "most prominent theme." That is, health effects were mentioned relatively frequently in the 1930s, infrequently in the 1940s and more frequently than any other topic area from 1950 through 1960. Citations to research results and methodology and other research topics tracked quite closely with the pattern for health effects citations, as did mentions of the composition of cigarette smoke.

The specific types of health effects cited in these articles are shown in Table 4. The most apparent result in Table 4, i.e., that different types of health effects were prominent at different times, is perhaps the least surprising. Of more relevance is that the potentially fatal health effects of smoking specifically, links of smoking to cancer and effects

on the circulatory system (e.g., heart attacks), did not account for a substantive portion of content citations until the 1950 through 1960 time period.

In the 1930s the popular press made reference to smoking and fatigue, addiction and quitting, allergic reactions and the like. During the 1940s smoker's cough and other respiratory effects accounted for 35 percent of the health effect citations. Other health issues of prominence in the 1940s concerned effects of smoking on the circulatory system, (12 percent of cites) and addiction, (14 percent of cites). Interestingly, one of the most prominent health effects of current concern, harm done to the fetus by a mother who smokes, was mentioned hardly at all from 1930 through 1960.

Table 5 breaks down content by periodicals. Because of our focus on health related information, that category is displayed in more detail than the others. In addition, *Life*, *New Yorker* and *Saturday Evening Post*, have been aggregated in Table 5 because each had so few smoking-related citations. As shown in the last line of Table 5, the latter three publications had both the lowest percentage of (18 percent), and fewest health citations. Instead, over 50 percent of the citations in the latter three publications were concerned with production, management, marketing and sales of cigarettes and other tobacco products.

The last line in Table 5 indicates that *Reader's Digest* averaged 7.5 health content mentions per article compared to 2.1 in *Time* and 1.4 in the aggregation of *Life*, *New Yorker* and

TABLE 5
Health and Other Content of Periodicals, 1930-1960

Article content:	Time	Reader's Digest	Life, New Yorker, Sat. Eve. Post	Totals
Tobacco and				
Non-cigarette pmms ¹	8.5%	3.9%	23.0%	9.3%
Cigarette mms ²	31.7	14.4	31.0	25.8
Advertising regulation	12.8	11.5	7.6	11.5
Other regulation.	6.5	2.5	5.1	5.0
Composition of cigarette smoke	6.7	10.5	6.0	7.8
Research results/ methodology	12.8	15.8	8.9	13.1
Effects of Smoking on Circulatory System.	3.2	9.0	0.9	4.8
Coughs and other Respiratory Effects.	1.4	8.4	0.9	3.7
Cancer and Smoking.	6.7	3.9	4.7	5.4
Addictive Properties.	1.6	3.3	3.4	2.5
Link to Early Mortality	1.6	2.5	1.3	1.8
Quitting smoking	1.7	2.8	2.6	2.3
Other cites to health and Smoking.	4.7	11.5	4.6	7.0
Totals	99.9	100.0	100.0	100.0
N	744	487	235	1,466
Total cites to health.	21.1%	41.5%	18.3%	27.4%
Cites to health per article.	2.1	7.5	1.4	3.0

¹pmms = production, manufacturing, marketing or sales,

²mms = manufacturing, marketing or sales.

Saturday Evening Post. Table 5 also shows that over 40 percent of the items coded from *Reader's Digest* were health related, compared to slightly over 20 percent in *Time*. Also, more of the citations in *Reader's Digest* were concerned with the composition of cigarette smoke (10.5 percent) and with mentions of research results or research methodology (15.8 percent) than in *Time*. In addition, there were fewer mentions of cigarette manufacturing, marketing and sales (14.4 percent) in *Reader's Digest* than in *Time* (31.7 percent) or as noted above in the grouping of the three other periodicals.

Regarding specific health effects of smoking, 9.0 percent of the health citations in *Reader's Digest* were to circulatory problems associated with smoking, 8.9 percent were to smoker's cough and respiratory problems and another 2.5 percent were to early mortality. The corresponding percentages for *Time* were 3.2 for circulatory problems and 1.6 for early mortality due to smoking. Conversely, 6.7 percent of the content citations in *Time* were to the link between cancer and smoking, compared to 3.9 percent in *Reader's Digest*.

The information on the specific content of articles in Tables 3, 4 and 5 can be summarized as follows. The health effects of smoking accounted for a substantial percentage of all content citations in the 1930s and the 1950s. Health content in the 1930s was mainly about smoker's cough, fatigue and other such symptoms of health effects. It was not until the 1950s, especially 1956-1960 that health effects such as cancer and circulatory system effects became the modal health content categories. *Reader's Digest* articles mentioned the health effects of smoking to a much greater extent than did the other periodicals.

CONCLUSIONS

This paper reported the results of a preliminary study of the prevalence of tobacco related articles and of the content of those articles in five widely circulated popular periodicals from 1930 through 1960. Our findings are generally consistent with those reported by others (Calfee (1985, 1986, Ringold and Calfee 1989) regarding the prevalence

and content of health-related information in cigarette advertising in the 1930 through 1960 time period.

The nature of the health content changed in each decade. Broadly speaking, during the 1930s the content was not about the potentially fatal effects of smoking but about less serious effects such as smoker's cough, irritations, allergies and the like. A much higher percentage of all smoking and health content citations from the 1950s articles were by contrast concerned with cancer and the effects of smoking on the circulatory system.

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What Would Happen if Cigarette Advertising and Promotion Were Banned?

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We cannot answer to anyone's satisfaction the question raised in the title to this paper. Rather, we have two more limited objectives. First, we hope to demonstrate that a realistic inquiry into the probable effects of banning cigarette advertising is essential before pursuing a ban as public policy. This imperative arises from history, particularly the series of disappointments encountered in past interventions in the cigarette market and in many other markets. Much of this disappointment, we believe, stems from the failure to think in concrete terms about what outcomes the proposed intervention is likely to bring. Second, we will summarize what we think are the most likely results of a comprehensive cigarette advertising ban, in view of the record of the past fifty years of increasingly regulated marketing of cigarettes.

BACKGROUND

Early in 1970, Congress prepared to enact a ban on broadcast advertising for cigarettes. This was regarded as a nearly certain means for reducing smoking because broadcast advertising was the main promotional device for the dominant brands of the day. The special beauty of the ban lay in the appeal that broadcast advertising has for teenagers, who (then as now) watch too much TV and read too little. But support for the broadcast ban was far from universal, and in fact public opinion polls at the time showed only minority support (Roper Center 1970). A particularly interesting dissent came from psychologist Eugene Levitt, a researcher into youthful behavior who served on the board of directors for the Indiana section of the American Cancer Society. In a trenchant 1970 article, Levitt asked a troubling question: why did anyone expect a broadcast ad ban to reduce youth smoking, in view of the universal finding of behavioral research that young persons' decision to smoke was associated primarily with peer and parental influence, plus a short list of other factors, none of which were cigarette advertising? (Also see Levitt and Edwards 1970). Levitt was especially hard on the Federal Trade Commission, which supported the ban without offering any evidence beyond pure intuition as to the likely effects of the ban. Worse, the broadcast ban would also bring to an end the millions of dollars' worth of anti-smoking messages that broadcasters had been required to subsidize under the current version of the FCC's Fairness Doctrine. Levitt thought it likely that the impact of these anti-smoking messages on young persons exceeded the extremely limited impact of cigarette advertising.

The broadcast ban was no sooner implemented than doubts emerged on a larger scale. Industry support for the ban, little noticed before the law passed, became increasingly meaningful to those who wished to limit smoking. By 1977, even a

task force at the Department of Health, Education and Welfare (home of the Surgeon General's office) recommended lifting the ban, at least for low tar and nicotine cigarettes (Warner 1979). That the broadcast ad ban failed in its purpose is now all but an article of faith among students of the cigarette market and of advertising restrictions (Warner 1979; Doron 1979a/b). Numerous studies have failed to show that the partial ban brought a substantial dampening of demand, and most studies have concluded that a substantial increase in demand arose from the end of subsidized anti-smoking messages (Warner 1979; McAuliffe 1987). Commentators have also noted that the ban probably aided the cigarette industry financially (Doron 1979a/b; Schuster, et al. 1987), a conjecture that received support in the one study to address this topic in a rigorous manner (Mitchell and Mulherin 1988).

Other major federal interventions in the cigarette market also regulated information. Most prominent have been the mandated health warnings, which were required on labels by a 1965 law, required in ads by FTC action in 1972, and then reformulated in 1984 legislation as a rotating set of four more specific warnings. Each step has met with disappointment, a declaration that no good had been achieved, and often, plans to improve the method (Drew 1965; FTC 1981; Blum 1988; Richards et al. 1988). As Wilkie pointed out in 1985, even the most recent change, the rotating warnings strongly recommended by the FTC, was undertaken with no particular goal as to consumer awareness. Less prominent regulatory interventions have been received with similar dismay. The 1954-55 FTC Cigarette Advertising Guides probably helped the industry survive the first cancer scare by banning claims that suggested the physical effects of smoking (*Business Week*; *Fortune* 1953 and 1963; Calfee 1985, 1986; McAuliffe 1988). The 1960 FTC ban on tar and nicotine claims encountered severe criticism from such anti-smoking groups as *Readers Digest* and the American Cancer Society and, later, from federal health agencies including the Public Health Service and the Interagency Committee on Smoking and Health (*The New Republic* 1966; *Time* 1966; Miller and Monahan 1966). The 1966 FTC decision to allow tar and nicotine claims was generally applauded (except by the industry) but the FTC's 1972 decision to make tar and nicotine figures mandatory was criticized as conveying no additional market benefit (Posner 1979; Calfee 1985).

WHAT ARE THE GOALS THIS TIME?

The central problem now remains the one so well articulated by Levitt in 1970: a shortage of specific goals that an ad ban is expected to achieve. Several analysts (e.g., Warner et al. 1986) have noted that possible goals fall roughly into two categories: (a) improved consumer understanding of

the health effects of smoking, and (b) reduced smoking. In both cases, possible gains must be balanced against possible losses.

Consider health information first. In 1980, the Surgeon General laid out a series of benchmarks for consumer awareness of smoking and health, to be achieved by 1990. These benchmarks included awareness by 85% of consumers that smoking is a factor in chronic obstructive lung disease, 90% for lung cancer and certain other cancers, and 85% for heart disease. A recent report from the federal Office of Smoking and Health, reviewing survey data collected in 1985, concluded that "in general . . . the 1990 objectives concerning the populations's knowledge of the health consequences of cigarette smoking have been met" (Shopland and Brown 1987). We must ask ourselves what further improvements could be expected from a ban on cigarette advertising. One cannot reasonably require absolute awareness levels exceeding the ones laid out in 1980 for broad illness categories (cf. Jacoby and Hoyer 1982 on "baseline" miscomprehension). Presumably, goals are narrower. One possible goal is to increase awareness of more specific relationships such as those involving smoking and gallstones or cancer of the bladder. Another possible goal, perhaps more interesting, is to increase the degree to which smokers "personalize" information on health effects (Fishbein 1977; Cohen 1989; FTC 1981), but it is not clear what standards would be appropriate for this kind of awareness. Or one could think in terms of increased awareness by young persons of health effects, but young people already have greater awareness of these matters than the population at large (Shopland and Brown 1987).

Thus when we consider consumer information, we are in effect asking, will the ban make things get even better, or more precisely, get even better even faster? A realistic appraisal would advance evidence on how advertising adversely affects these goals, and would take note of what has been achieved in other markets. How do consumer awareness levels in the cigarette market compare with those in markets in which consumers are thought to be reasonably well informed? In the absence of such evidence, one must be cautious in claiming that an ad ban will bring substantial improvements to a market in which awareness of health effects has already surpassed most standards set by the Office of Smoking and Health.

Now consider goals in terms of behavior. Per capita cigarette sales have been declining in this country at roughly one to two percent per year for about fifteen years (FTC, 1967 and later; U.S. Public Health Service 1989). Few large industrial nations, with or without advertising, match this record of reduced smoking (Boddewyn 1986; New Zealand 1989). Would a ban accelerate this rate of decline, or perhaps increase the decline here relative to declines in nations that leave cigarette advertising untouched? Perhaps the ban would suppress smoking initiation among teenagers. To do so, however, the ban would have to improve upon the

strong reduction in teen smoking already seen in the last decade and a half, during which the percentage of graduating high school seniors who smoke daily declined from 27% to 20% between 1975 and 1985 (NIDA 1984 and 1985). Yet the evidence linking advertising and youth smoking remains as weak as it was when Levitt wrote in 1970 (U.S. Public Health Service 1979; Krohn, et al. 1986; Moschis 1989.)

Given this history and current situation, one must ask what if any favorable changes a ban is likely to bring, beyond what is already occurring.

REASONABLE EXPECTATIONS

How is a ban on cigarette advertising and promotion likely to affect consumer information and smoking behavior? We begin by noting the importance of market incentives. One must look beyond the bald fact that cigarette manufacturers wish their advertising to sell cigarettes. When a product is enveloped in adverse health information, sellers have an incentive to emphasize this adverse information in advertising, in order to increase market shares. A substantial body of evidence suggests that such a "fear"-based strategy has often been employed in the cigarette market (Hanley 1929; *Business Week*; *Consumers Report* 1957; Schelling 1978; Calfee 1985, 1986; Ringold and Calfee 1989; McAuliffe 1988). The impulse to follow this strategy moderates or overcomes the offsetting desire to reassure smokers. This impulse, combined with the presence of mandatory health warnings and tar and nicotine information, and stringent regulatory control over positive claims in cigarette advertising, means that it is far from clear that when one eliminates cigarette advertising, one eliminates a factor that suppresses health information about smoking (Schelling 1978). Recent content analysis has in fact found that most specific messages in current cigarette advertising consist of mandated warnings, mandated tar and nicotine information, and voluntary emphasis on tar and nicotine content (Ringold and Calfee 1989).

We offer only a few words on the complex issue of whether cigarette advertising distorts media coverage of smoking and health. It is common to suppose that elementary economic intuition indicates cigarette advertisers are in a position to distort health information in the press, particularly in news magazines (Warner 1985; Weiss and Burke 1986; Whelan 1981). But individual sellers have an incentive to advertise even when the advertising helps subsidize adverse health information about smoking. This is because the adverse health information hurts the entire industry, whereas the advertising aids mainly the brand paying for the advertising. This fact greatly decreases the credibility of threats to withhold ads systematically from publications that report on smoking and health. Thus it is no surprise that cigarette firms continued to advertise in the late 1960s even though their ads subsidized anti-smoking messages that were widely regarded as having a major role in the contemporaneous decrease in smoking. In fact, the industry wished to bring such advertising to an end,

but competitive pressure to advertise was sufficiently strong so that only concerted action (which would violate antitrust laws) could achieve a voluntary ban on broadcast advertising (Schneider, et al. 1982). It is equally unsurprising that advertising continues today on a vigorous scale in major daily newspapers and the dominant news weeklies, precisely the outlets that provide the most comprehensive information on smoking and health. Overall, it seems unlikely that inherent economic forces cause the cigarette industry to have more than the slightest effect on market-wide reporting on smoking and health.

A large literature suggests that advertising plays a weak role in expanding long-term industry demand for mature products (Assmus et al. 1984). This in turn suggests that eliminating advertising is unlikely to have a negative effect on sales in a market that is the embodiment of maturity. Of particular significance is econometric analysis of advertising and sales, analysis that is probably more extensive for this market than for any other. Econometric results suggest little if any negative effect on sales from small decreases in advertising, and similarly find little or no change from huge decreases such as occurred when broadcast advertising was banned in the U.S. (Hamilton 1972; Warner 1979; McAuliffe 1987 and 1988; U. S. Public Health Service 1989, chap. 7). International data are largely consistent with this view. Hamilton's 1975 survey and Boddewyn's 1986 comparison of nations with and without bans, and nations before and after bans, finds little apparent effect from bans. A more recent study by the New Zealand Toxic Substances Board (1989) unintentionally provides supporting data showing little difference between countries with and without advertising bans. A recent study by the federal Office on Smoking and Health of smoking prevalence in six Western nations provides little reason to think that the comprehensive ad ban in Norway has brought smoking reductions exceeding those in less regulated countries (Pierce 1989).

All this strongly suggests that a cessation of cigarette advertising would have little effect on sales. Indeed, it is entirely possible that present-day cigarette advertising, with its plethora of health warnings and incessant reminders that tar and nicotine should be avoided, dampens rather than increases overall sales (Schelling 1978). Moreover, there are reasons to believe that advertising supports a mix of cigarette types substantially lower in tar and nicotine than would be the case without advertising. The history of tar and nicotine advertising in this country is punctuated with both prohibitions of, and governmental support for such advertising. This record strongly indicates that advertising hastens and helps maintain acceptance of lower yield cigarettes (Calfee 1985, 1986). The health benefits of lower tar cigarettes are clear in the case of lung cancer, in the sense that epidemiological evidence linking smoking and lung cancer also manifests a progressively weaker link for lower yield cigarettes (Stellman and Garfinkel

1986; Peto 1985 and references therein).

Correlational evidence on smoking and heart disease does not display a similarly strong link between cigarette yield and heart disease (Kaufman, et al., 1983), but this finding is inconclusive in view of the fact that controlled intervention studies have thus far generally failed to support correlation-based predictions linking smoking and heart ailments (Rose, et al. 1982; Hjermand, et al. 1981; Multiple Risk Factor 1982). Leading experts on smoking and health continue to recommend world-wide use of lower yield cigarettes (Peto 1985; Participants 1985). We believe it likely that an end to advertising would bring a regression in the market toward the much higher yield cigarettes of former years, just as happened when tar and nicotine advertising was temporarily halted during 1955-57 and in the early 1960s (Miller and Monahan 1966; Calfee 1985).

However doubtful the proposition that a comprehensive ban would reduce sales, the immediate effect of such a ban on the financial health of the industry seems clearer. Promotional expenditures would almost certainly decrease substantially, as happened in 1971. Prices are likely to remain stable or increase because the ban would remove the main competitive tool for lower-cost "generic" brands. Thus a ban would probably increase industry profits, as apparently happened after the broadcast ban. Yet the industry opposes the ban, apparently in all sincerity. This is probably accounted for by the fact that a blanket ban on promotion could be the harbinger of more stringent constraints on smoking itself, especially if, as seems likely, the ban itself brings no visible improvement in the market.

One other aspect of the movement to ban cigarette advertising bears mention. Congressional attention has recently turned to the notion of limiting cigarette advertising to "tombstone" ads, i.e., ads that contain brand name, tar and nicotine content (perhaps) and the Surgeon General's warnings. This is not the place for an extended analysis of this approach. But many of the same caveats continue to apply. Whether the tombstone plan could accomplish any well-articulated goal is unclear. If a total ban is unlikely to dampen sales, the same may apply to a ban of all but tombstone advertising. Regulatory history is not encouraging; much the same kind of regulation has been attempted in advertising for stocks and bonds, with extremely dubious effects on the market (Stigler 1964; Jarrell 1981; Shoeman 1986). The long history of affirmative disclosure requirements in FTC advertising regulation is similarly unencouraging (Wilkie 1982). Moreover, tombstone advertising would provide little support for lower-yield cigarettes, because advertising for lower-yield brands must persuade smokers that a given brand offers a favorable trade-off between flavor and yield. This cannot be done through tombstone ads. The resulting constraints on promoting low-yield cigarettes would remove most market emphasis on the advisability of avoiding tar and nicotine. In

general, there seems little reason to think the tombstone device would be superior to what we have now.

Overall, then, we expect that a ban on cigarette advertising and promotion would bring: (a) little if any improvement in consumer information on health effects of smoking, particularly in the many areas in which consumer awareness has already reached nearly the highest imaginable level; (b) little if any change in recent downward trends in smoking behavior, absent striking new health information, exceptionally vigorous anti-smoking campaigns, or major changes in cigarette taxes; (c) some regression toward higher tar and nicotine yield; (d) a possibility of higher cigarette prices; (e) higher industry profits; and (f) possibly, encouragement for greater legislatively created restrictions on smoking itself.

CONCLUSIONS: THE DANGER OF DIFFUSE GOALS

That a total ban on cigarette advertising would be a fateful restriction on freedom can hardly be denied. Such a step calls for persuasive reasons to believe the results would resound decisively to the benefit of smokers and the population generally. Yet one can hardly claim that the benefits of a ban would outweigh its subtle and far-reaching costs without at least specifying approximately how the ban would alter those observable quantities that are routinely invoked when explaining why the cigarette market has failed so completely as to call for extreme measures. What is needed is not a detailed set of predictions, but merely a set of goals and forecasts sufficiently concrete to allow a rough assessment of what is at stake in the ban proposal.

Articulating goals forces one to confront difficult questions. What does cigarette advertising really do (as opposed to what sellers would like it to do)? Is a logical extension of measures tried before likely to produce results strikingly different from those obtained in the past? Are the real goals of a ban even confined to advertising matters—that is, is the ban proposed for what the ban itself will do, or mainly as a prelude for other measures that have nothing to do with advertising and promotion? After all, we are all familiar with regulations designed for one purpose but used for another (see, e.g., "Antitrust and Economic Efficiency," 1985).

The proposal to ban cigarette advertising and promotion has all the signs of high hopes undiluted by realistic assessment. As such, it is likely to bring both disappointment and pressure for progressively "tougher" measures, also unaccompanied by concrete expectations. Those who advocate a ban usually do so without specifying concretely what the ban would do, instead seeing the ban as but one part of a "comprehensive" strategy to reduce smoking (e.g., Warner 1987; Cohen 1989). Such an outlook seems to suggest that expectations for a ban can be held in abeyance until after the ban is achieved and society can move on to other measures. One must ask whether there are specific goals for the ban when considered in conjunction

with other components of this strategy, or is the entire plan supported primarily by good intentions? To suggest embarking on an ad ban without any concrete expectations at all is to invite bad legislation. If the ban were enacted, powerful restrictions would have been imposed on markets without any means for judging whether the restrictions were necessary or even beneficial.

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Banning Cigarette Advertising: A Cure That Will Aggravate the Disease

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I think banning cigarette advertising is a bad idea. I have a variety of reasons for holding this belief, none of which have to do with any emotional or financial ties to cigarettes or the cigarette industry. Indeed, I have never smoked, have always hated being around cigarette smoke, and have never taken a penny from the cigarette industry (or from any anti-smoking groups, for that matter). Moreover, I dislike the idea of an ad ban even though I am convinced that cigarette advertising *does* help to persuade people -- especially young people -- to smoke who would have not done so otherwise. I simply cannot accept the argument that all those millions are being spent merely to take market share away from one another.

So why do I want to permit something to continue that I feel contributes to serious public health problems? Essentially, I dislike an ad ban because I think it is the wrong remedy for the problem. And what bothers me about this remedy goes much deeper than a simple concern about its potential infringement on freedom of commercial speech. Frankly, I don't think the First Amendment protects sellers from saying things that can harm people -- and the courts have recently affirmed this. Instead, what bothers me about an ad ban is that, at best, I think it will have a negligible effect on smoking behavior, while, at worst, it could contribute to significantly higher levels of nicotine addiction worldwide. Let me elaborate on why I reach these conclusions and then present several ideas for alternative remedies that I think would be more effective.

My basic view is that flaws in how consumers process information about cigarettes permit cigarette advertising to help in persuading people to begin smoking. I feel that two kinds of flaws predominate. These are:

1. Some consumers are influenced to value or weight certain attributes of cigarettes like "makes you look sophisticated" or "helps you relax" relatively more than they value health and safety attributes.
2. Some consumers find information about the health and safety attributes of cigarettes confusing, difficult to comprehend, and costly to acquire. They therefore develop inaccurate beliefs about the health and safety attributes of cigarettes.

Young consumers seem most likely to experience these flaws and I doubt whether banning advertising would do much to protect these people from their occurrence.

A ban on advertising would certainly reduce the opportunity for consumers to see and hear messages that tell them directly or indirectly that

they should value attributes other than health and safety. But it would also reduce the opportunity for them to see the current warning disclosures, which may help somewhat in getting consumers to at least keep health and safety a consideration. On balance, the current system clearly tilts things strongly toward valuing sophistication, relaxation, and so forth over health and safety. However, I fear a system without advertising would tilt things even more. Young consumers would decide how to value attributes based on watching peers, admired adults, celebrities, and everything else in the world. I worry that some young people will only be exposed to pro-smoking values, and I also worry about how the cigarette companies might be able to use non-advertising forms of promotion to make a good part of everything else in the world (e.g., sporting events, movies, in-store-displays) be a pitch for pro-smoking values. With the economic incentives for the cigarette companies as great as they are, I don't think we can underestimate how ingenious they might be in finding alternative ways to communicate their values through non-advertising channels.

Let me also stress that the current warning disclosures contain accurate information about health and safety hazards which would not be as readily available to consumers with an advertising ban. Thus, I think there is a good chance that consumers would possess both more pro-smoking values and more inaccurate beliefs about the health and safety hazards of cigarettes under an advertising ban.

An ad ban would also insulate the major cigarette companies from a certain amount of competitive pressure. They would be protected from any upstart company being able to enter the market with a big splash by advertising a truly "safer" cigarette. And they would be protected somewhat from beating on each other. In a sense, an ad ban would cause a truce to their advertising arms race and allow them to pocket millions of dollars while settling into a cozy shared-monopoly situation. Who knows where they would put all this money? Perhaps it would allow them to be even more aggressive in promoting the pleasures of smoking throughout the developing world.

The bottom line could very well be a lot more smokers around the world -- and in the U.S. -- and a lot less revenues for U.S. media. The big winners in all this, other than the cigarette companies, could be the overseas media. But I wonder, if we are so interested in helping the foreign media, why don't we simply leave things the way they are now and provide them with some nice foreign aid grants? Certainly, the cost of this would be lower than the increased health care expenses in the U.S. and elsewhere that I think our government would have to pay for if the ad ban went through.

What would I do instead of an advertising ban to remedy the situation? Maybe I'm a dreamer, but my inclination would be to pursue two policy

directions: better warning disclosures and stronger antitrust enforcement. I think improved and larger warning disclosures in the advertisements can't hurt, unless they actually would encourage the cigarette companies to call a truce on their own and stop advertising altogether. But to prevent this from happening, I think it would be helpful to break the giant companies of this industry into smaller companies. Then they would be less able to capitalize on their old brand equity and be forced to use advertising and other differentiation tools -- including trying to develop safer cigarettes -- to try to build new forms of brand equity. The new, smaller companies might be less efficient than the old ones, and their prices might be higher, but these higher prices might even encourage a few addicts to quit or cut down. This approach would not be the "quick fix" that people are seeking from an advertising ban, but I feel it would work much better in the long run.

The Regulation of Cigarette Advertising in the United States: Some Alternatives

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ABSTRACT

Currently, U.S. Policy makers are considering proposals that could ban all advertising for cigarettes in the United States. A ban is the most severe regulatory action that can be taken with regards to a product's advertising. Before it can be imposed there should be no question that it is the most viable option available. To add clarity to the debate, this paper will examine the role of cigarette advertising (or more precisely, the conflicting roles described by the industry's critics and defenders) in today's marketplace. Next, the need for affirmative disclosure in cigarette advertising will be addressed as well as the effect of those informational remedies already in place. The paper will then propose a set of regulatory objectives to address the public policy concerns regarding cigarette marketing. Finally, a range of alternative solutions will be proposed in terms of those objectives.

INTRODUCTION

There can be little argument that the regulation of cigarette advertising and promotion is one of the most controversial issues currently facing marketers and public policy makers. Defenders of cigarette marketing vigorously assert that there are no harmful consequences to that product's advertising and marketing and that these programs have no effect on the aggregate demand for cigarettes (e.g. Ward, 1989). The critics of the industry's marketing practices point to the nearly \$3 Billion U.S. cigarette manufacturers spend on cigarette advertising and promotion and argue that it is naive and unrealistic to believe that these massive expenditures have absolutely no effect on total cigarette sales (e.g. Warner, 1986).

The debate over proposals to ban or restrict cigarette advertising and/or promotion provides a focus for this controversy. A ban is the most severe regulatory action that can be taken with regards to a product's advertising. Before it can be imposed there should be no question that it is the most viable option available. To add clarity to the debate this paper will, first, examine the role of cigarette advertising (or more precisely, the conflicting roles described by the industry's critics and defenders) in today's marketplace. Next, the need for affirmative disclosure in cigarette advertising will be addressed as well as the effect of those informational remedies already in place. The paper will then propose a set of regulatory objectives to address the public policy concerns regarding cigarette marketing. Finally, a range of alternative solutions will be proposed in terms of those objectives.

THE ROLE OF CIGARETTE ADVERTISING & PROMOTION

At the heart of the current controversy is the role that cigarette advertising plays in the marketplace. Representatives of the tobacco industry have argued that there is no evidence to support the contention that advertising of cigarettes has any effect on the total size of the U.S. market for cigarettes. The support for this argument ranges from econometric studies that show little effect or no effect of advertising on aggregate cigarette demand (e.g. Schmalensee, 1972) to behavioral studies that suggest children's smoking behavior is a function of peers' and parents' smoking attitudes and behavior (e.g. Ward, 1986; Blackwell, 1986). The most extreme advocates of cigarette advertising even argue that the current decline in cigarette consumption among children and teenagers "confirms...that advertising is *not* [emphasis in original] a significant influence on the decision of children to start smoking (Boddewynn, 1989).

Critics of cigarette advertising reject these arguments vigorously. In the words of a founder of FCB Advertising:

"[T]he cigarette industry has been artfully maintaining that cigarette advertising has nothing to do with total sales...[T]his is complete and utter nonsense. The industry knows it's nonsense...I am always amused by the suggestion that advertising, a function that has been shown to increase consumption of virtually every other product, somehow miraculously fails to work for tobacco products (Foote, 1981)".

Others argue that it makes no financial sense for cigarette manufacturers to advertise only for brand share shifts (Tye, Warner & Glantz, 1987) citing industry data that indicates brand shifting is only 10% annually (Marketing and Media Decisions, 1985). At the extreme, the critics of cigarette advertising argue, for example, that "Most cigarette advertisements are deceptive, and many violate the tobacco industry's own code of ethics (Tobacco and Youth Reporter, 1989)."

The actual role of cigarette advertising and promotion falls somewhere in the middle of these extremes. A review of the econometric studies examining the effect of tobacco advertising on aggregate demand for tobacco (Toxic Substances Board, 1989) reveals that many of the studies do show advertising for cigarettes increases aggregate demand. This same conclusion was also suggested by the U.S. Surgeon General who reported "...evidence makes it more likely than not that advertising and promotional activities do stimulate cigarette consumption (U.S. Department of Health and Human Services, 1989)." Further, all of these

studies are likely to underestimate advertising effects since they ignore promotional expenditures and the effect of "quitters" leaving the cigarette market.

The funding of promotional programs has grown to over half of all cigarette marketing communications expenditures in the 1980's (FTC, 1986) while advertising expenditures have remained relatively flat (in constant dollars). Thus, econometric studies that examine only advertising are omitting what has become the predominant form of marketing communications used in this industry and underestimating spending for marketing communications. The task confronting those marketing communications is also underestimated in these studies since they examine aggregate demand without accounting for the effect of substantial numbers of smokers leaving the market. For example, if aggregate demand was level over a period of years but a substantial number of smokers had left the market, the only way demand could have been level would have been for either average consumption level (among the retained smokers) to increase or for new consumers to enter the market (In fact, government data indicate that new smokers are entering the market every year, albeit, at a declining rate. U.S. Department of Health and Human Services, 1989). Those econometric studies that are based on aggregate demand ignore this market replenishment which, absent the high quitting levels, would actually result in increased aggregate consumption.

Aside from increasing aggregate demand, advertising that results in brand switching may be targeting (either explicitly or implicitly) youth. The 1989 Surgeon General's Report (U.S. Department of Health and Human Services, 1989) indicates that most current smokers, started using cigarettes while they were teenagers. The cigarette industry's own data indicate that new smokers switch between brands for the first year they smoke before crystallizing on a chosen brand (MARPLAN, 1957). Given the low rate of brand switching referenced above (10% per year) it is clear that a substantial portion of that switching occurs among teens. Thus, if the function of cigarette advertising is, as the companies insist, to promote brand switching a target of that advertising must be those teens who are new smokers.

A final role for cigarette advertising is a defensive one. Some cigarette advertising presents alternatives for smokers who are considering leaving the market. That advertising presents brands that claim lower levels of tar and nicotine. While such claims could be considered simply to be statements of product construction (as some researchers have claimed), the only relevance the claims could have is if consumers inferred (perhaps incorrectly) that the products were safer and healthier because of the lower tar and nicotine. Aside from claims of low tar and nicotine content, for consumers who are not actively considering quitting smoking, brand image advertising also plays a defensive role reinforcing the product images that are the bases for some smoker's brand loyalty.

In summary, cigarette advertising increases the market for cigarettes, promotes brand switching among both adults and youths, and provides both reasons and alternative products to keep smokers in the cigarette market.

AFFIRMATIVE DISCLOSURE

While there is near unanimous belief in the medical community that cigarettes are remarkably toxic and addictive (U.S. Department of Health and Human Services, 1989) consumers are less unanimous in their awareness of the product's risk. While the majority of consumers are aware of some of the health risks of smoking, a significant portion are unaware. This portion is even higher for smokers (ibid). Thus, many current and potential cigarette smokers are approaching this product category uninformed.

There can be little doubt that information about the health risks of using a toxic product is important and material to a consumer. Using this logic the FTC, in 1981, recommended that more effective cigarette warnings (both on packages and in advertisements) be adopted (Myers, et al., 1981). While, as is the case for most disclosure programs (Wilkie, 1985), there were no objectives formally set for the new disclosures, some objectives can be inferred.

As stated above, the rationale for proposing new disclosures (in format, content, and number) was the relatively low consumer awareness of the risks of smoking. Thus, at the very least, the disclosures were intended to increase consumer information about the risks. If that was the objective, the current cigarette disclosures are unsuccessful.

The 1989 Surgeon General's Report (U.S. Department of Health and Human Services, 1989) indicates that significant numbers of adults continue to underestimate the health risks of cigarette smoking. Further, there is rising evidence that even the current in-ad cigarette warnings are ineffective (Fischer, et al., 1989; Davis and Kendrick, 1989). These studies suggest that the non-warning content of cigarette advertising is the attention focus of the advertising targets. Conversely, there is no research that demonstrates that smokers note the warnings (either on pack or in-ad) or recall them. This would indicate that for the inferred informational objectives discussed above to be achieved either the warnings or the advertising itself must be changed.

How the warnings could be changed to increase their communications effectiveness is unclear. Obviously, increasing the size of the warnings would, at some point, result in increased attention. However, if the size of in-ad warnings is increased by as much as 50%, they still will not increase the warning's communications level (Popper & Murray, 1989). That same research indicated that moderate changes in the warning format are also unlikely to increase communication. Thus, while the warning could be changed to increase communication, the magnitude of change necessary might be so substantial that the warning dominates the ad.

TABLE 1
Proposed Regulatory Objectives

Eliminate Advertising and Promotion that Leads to the Expansion of the Cigarette Market
Eliminate Advertising and Promotion that Would Inhibit Smokers from Quitting
Communicate the Health Risks of Smoking at a Level at Least Equal to the Communication of the "Benefits" of Smoking
Prohibit Advertising Targeted to Youth
Prohibit Deceptive Advertising

An additional issue is the potential for interaction between the warning disclosure and the advertiser's selling message. If the warning is attended to and believed it presents a health problem to a smoker (current or potential). An implied health claim in the advertiser's selling message (such as a statement about low tar and nicotine) presents what could be perceived (inappropriately) as a solution to that problem. Thus, even an effective disclosure could have harmful consequences for the smoker.

Disclosure has been a component of cigarette communication for the past twenty five years. The very presence of the disclosures provides an indication of the policy makers' belief that disclosure is required. That the disclosures are ineffective or have unintended consequences suggests that the underlying policy must be reconsidered. The following section will propose a set of regulatory objectives to be considered when evaluating policy alternatives.

PROPOSED REGULATORY OBJECTIVES

It is a stated public health objective of the United States to achieve a totally smoke free (i.e. no cigarettes used) country by the year 2000 (U.S. Department of Health and Human Services, 1989). Any regulatory objectives should be consistent with that goal. At the same time, no one is realistically proposing a ban (or prohibition) on the *sale* of cigarettes. Thus, the regulatory objectives effecting advertising must be consistent with the joint goals of eliminating smoking and not prohibiting cigarette sales. This results in the following set of objectives (Table 1):

Eliminate Advertising and Promotion that Leads to the Expansion of the Cigarette Market

Obviously expansion of the cigarette market is inconsistent with the policy objective of eliminating smoking. Thus, any marketing program or activity that expands the market for cigarettes is contrary to the stated national public health policy and must be eliminated. Since cigarette

manufacturers argue that none of their advertising and promotion leads to market expansion they should accept this regulatory objective without reservation. Further, given that market expansion would be a violation of public policy, the burden of proof should be on the cigarette marketers themselves to demonstrate (perhaps from the research they already conduct on all of their marketing programs) that their programs (taken separately or as a campaign) have no market expansion effects.

Eliminate Advertising and Promotion that Would Inhibit Smokers from Quitting

Given the public health goal to eliminate smoking, for a company to employ marketing practices that keep people smoking is contrary to that objective. Thus, to be consistent with that public health goal, the regulatory objective must be the elimination of marketing programs that either encourage smokers to keep smoking or inhibit them from quitting. As above it should be the responsibility of the marketers themselves to demonstrate that their advertising and promotion programs neither have the intent nor effect of keeping people in the cigarette market.

Communicate the Health Risks of Smoking at a Level at Least Equal to the Communication of the "Benefits" of Smoking

A basic problem facing disclosures is defining a standard of adequacy. Common sense should dictate that a disclosure designed to modify a claim or a marketer's message have equal "visibility" to the message it modifies (Popper, 1988). This is particularly appropriate when the disclosure deals with a substantial, indeed, mortal health risk. Thus, it naturally follows that information (in cigarette marketing communications) that presents the health risks of smoking (i.e., mandated health disclosures) have the same level of communication as the attribute/benefit information in the ad. Once again, it should be the cigarette marketer's responsibility to demonstrate that parity of communication as a

TABLE 2
Cigarette Advertising & Marketing
Regulatory Alternatives

Increased Mandatory In-Ad Disclosure
Increased Mandatory In-Ad Disclosure With Performance Standard
Counter Advertising Funded By Additional Cigarette Tax
Tombstone Advertising Requirement (Image Ad Ban)
Total Advertising Ban
Total Promotion Ban
Total Advertising & Promotion Ban

natural outgrowth of their ongoing advertising, communications, and marketing research.

Prohibit Advertising Targeted to Youth

The cigarette manufacturer's own Advertising Code prohibits advertising to youth. This objective would simply give their self regulatory standard the regulatory force. To the extent that the self regulatory standard is adhered to, the industry could have no objection to this objective.

Prohibit Deceptive Advertising

This final objective simply reinforces existing regulatory authority. It puts cigarette manufacturers on notice that policy makers expect them to be non-deceptive in their advertising. If a deceptive ad is one that misleads a consumer, acting reasonably, to his or her detriment, than any cigarette advertisement that claims health or benefits (either implicitly or explicitly) without evidence to substantiate the health claim would be deceptive. Given the FTC's guidelines on advertising substantiation (the presence of a claim in an ad requires the advertiser to have proof of the accuracy of that claim *before* it can be included in an advertisement), cigarette manufacturers would be required to have proof (in this case, medical proof), prior to advertising (either explicitly or implicitly) relative health benefits of a cigarette.

This set of potential objectives results in a number of regulatory alternatives.

ALTERNATIVE SOLUTIONS

A wide range of policy alternatives are available to achieve the objectives discussed above. Given that any of the alternatives will represent a constraint on commercial speech, they should only be implemented if there is no less restrictive method to achieve the same policy objective. The following are a range of policy alternatives in

reverse order of severity to achieve those policy objectives (Table 2):

Increased Mandatory In-Ad Disclosure

Obviously this is closest to current practice. It would entail increasing the number, explicitness, size or colors of the disclosures required to appear in cigarette advertisements. One alternative for developing these warnings would be to have them written by regulators or legislators (as is the case for *all* disclosures currently required mandated for any product). Another approach would be to require in-ad disclosures that would be attention demanding (as determined by consumer research rather than regulatory fiat) as well as including the health risk information determined, designed by public health experts, in order to fully inform smokers.

In many ways this alternative is similar to what was actually proposed by the FTC in 1981 (Myers, et al., 1981) but not enacted by the U.S. Congress. It is unclear, however, if such communications-effective disclosures were introduced whether cigarette manufacturers would continue to advertise. Much as they withdrew from television in the face of the fairness doctrine advertisements in the late 1960s (Warner, 1986), faced with powerful and required in-ad anti-smoking disclosures the cigarette manufactures might withdraw their advertising voluntarily.

Increased Mandatory In-Ad Disclosure With Performance Standard

This proposal is similar to the previous one except it acknowledges the historical inability of regulators to craft effective disclosures. Instead, it places the responsibility for disclosure design in the hands of the cigarette companies themselves (whose success in crafting effective communications is unquestionable).

Under this alternative regulators would only define the medical/health risk information that needs

to be communicated. They would not define the manner or even specific wording for communicating this information. The cigarette manufacturers would then be required to demonstrate that the health risk information (disclosures) are communicated as effectively (using predetermined criteria and measures) as are the selling or image messages of the advertisement (i.e. a performance standard). It is likely, for the same reasons described above, that such a requirement would also result in the manufacturers voluntarily withdrawing their advertising.

Counter Advertising Funded By Additional Cigarette Tax

As Warner (1986) demonstrates, the counter advertisements run under the fairness doctrine ruling in the late 1960s, were particularly effective in communicating the health risks of smoking and reducing per capita cigarette consumption in the U.S. This proposed alternative would fund a similar series of anti-smoking messages. Run in paid media (as opposed to PSA placement, as are most current counter advertisements) in high viewership/readership slots and developed according to rigorous (DAGMAR) standards, including copy testing, these messages could be expected to have impacts similar to those that achieved by the fairness doctrine mandated anti-smoking commercials of the 1960s.

Funding anti-smoking commercials with additional cigarette taxes serves two goals. First, the messages are both self-funding and self adjusting. The funding is a function of the level of sales. As the market declines, the need for the messages declines, and the funding declines according. Further, since cigarette consumption has been demonstrated to be price elastic (Toxic Substances Board, 1989), a "Counter Advertising Tax" (a type of user fee) would have the added benefit of reducing consumption in furtherance of the nation's Public Health Goal.

Tombstone Advertising Requirement (Image Ad Ban)

This alternative would limit advertisers to including only product attributes in their cigarette advertisements. It is based on the premises that "image" advertising plays a role in youths' determining which brand to adopt at the end of their introductory "trial" period (MARPLAN, 1957) and that image maintenance is among the reasons why smokers resist quitting.

Given the objectives described above, if the attributes included in these tombstone advertisements represented health claims (either explicit or implicit) the cigarette advertisers would be required to provide prior data supporting the medical validity of their health claim(s).

Total Advertising Ban

This proposal would extend the current ban on broadcast cigarette advertising to all media. While the broadcast advertising ban had an initial

impact on cigarette sales, the cigarette manufacturers quickly increased their expenditures in other media. After just a few years, the level of advertising expenditures (in constant dollars) reached its pre-broadcast ban level. When the broadcast ban was enacted, broadcast advertising represented the overwhelming share of cigarette advertising. The expected effect would, presumably, have been to dramatically reduce cigarette advertising. In turn, this would suggest that the implied regulatory objective of the broadcast ad ban was to dramatically reduce cigarette advertising. This proposal simply extends the current ban to accomplish the ends sought by the broadcast ban.

The experience with the broadcast ban further suggests that if the regulatory objective is to reduce the overall level of marketing communications for cigarettes it is insufficient to merely ban the currently dominant form(s) of marketing communications. Instead, the regulation or legislation has to be crafted to cover potential marketing communications media (perhaps including media that do not yet exist).

The obvious concern over this advertising ban (or the bans proposed below) is that it might not be permissible under the first amendment to the U.S. Constitution. Obviously, this is a precise question of law appropriately left to the courts. However, there is an indication that the U.S. Supreme Court Decision in *Posadas de Puerto Rico v. Tourism Company of Puerto Rico* provides specific support for a ban on cigarette advertising (Devore, 1988).

Total Promotion Ban

An alternative to banning cigarette advertising is to ban consumer promotion (to include sampling, couponing, event sponsorship, premiums, etc.). Currently cigarette manufacturers' promotional expenditures exceed their advertising expenditures (FTC). This reflects a general trend in marketing towards promotion, away from advertising, due to the action-inducing benefits of promotion. Further, cigarette advertising is so intensive that the marginal return for incremental advertising expenditures is declining.

By banning promotion those devices which are most likely to result in youthful trial of cigarettes (such as free sample distribution, concert sponsorship, and sports sponsorship) would be removed. Further, the elimination of sports sponsorship would eliminate the linkage of cigarettes to sports performance (e.g. the Virginia Slims Tennis series), which is, itself, a violation of the industry's own advertising code. This would also remove the opportunity cigarette company's currently have to circumvent the broadcast ad ban through their own sponsorship of events, performers and competitors.

Total Advertising & Promotion Ban

Obviously, the most draconian of steps, this proposal should only be taken if the actions of the cigarette companies violate the objectives presented

above and all other alternatives are either rejected or ineffective.

RESEARCH OPPORTUNITIES

This paper has only presented some of the alternatives available to regulators and suggested some of the relevant issues. It presents no evidence regarding the potential effect of these programs if implemented in the U.S. market. That is because no such evidence is available. While the gravity of the health risks presented by cigarettes is such that the U.S. government may well decide to take action, all parties would clearly benefit from research that evaluates the potential impact of any and all of these programs.

Some of the alternatives available to regulators are dramatically more restrictive than others. To impose a more restrictive policy when a lesser one would accomplish the public policy objectives violates both the spirit and the letter of the Central Hudson guidelines for constraints on commercial speech. Thus there is an opportunity --- indeed, an urgent need --- for researchers to test the effects of these alternatives.

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The Effect of Framing on the Choice of Supermarket Coupons

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ABSTRACT

One of the most interesting implications of Prospect Theory is that choices are affected by whether the alternatives are framed as gains or as reduced losses. The framing of sales promotions should affect whether they are chosen by consumers. This paper presents the results of a field experiment demonstrating that supermarket shoppers presented with redeemable coupons were significantly more likely to choose a test promotion if it were framed as a gain than if it were framed as a reduced loss. Other factors affecting the desirability of sales promotions are discussed.

INTRODUCTION

If consumers evaluated sales promotions in the straightforward way described by multiattribute attitude models (Sawyer and Dickson, 1984), they would ignore the details of the presentation of promotional offers, and concentrate on the computed values of the offers. Two coupons offering identical amounts off of the same purchase would not be evaluated differently. Yet decision making in other domains is affected by variations in the format of the information presented (Payne, 1982). It would be surprising if the evaluation of coupons and other promotions were not affected by presentational factors.

Prospect theory (Kahneman and Tversky, 1979; 1984) is one of the most important descriptive theories of choice under risk. One of prospect theory's interesting consequences is that people's choices of risky alternatives are affected by how the alternatives are framed. When alternatives are framed as gains subjects make less risky choices than when the alternatives are presented as reduced losses.

Kahneman and Tversky originally used civil defence problems to demonstrate framing effects. Subjects took fewer risks when the alternatives were presented as lives saved (framed as gains). They took more risks when the same alternatives were presented as reductions in lives lost. Prospect theory's value function allows the prediction that a gain of 200 lives (saved) feels like it makes more difference than a reduced loss from 600 to 400 deaths.

The framing of alternatives affects choices in other domains. McNeil, Pauker, Sox and Tversky (1982) showed that the framing outcomes in terms of probability of survival or dying affected the hypothetical medical treatments chosen by physicians and their patients. Levin and Gaeth (1988) showed that whether meat was described in terms of percent fat or percent lean made a difference in whether it was chosen by consumers.

Over the past few years, consumer researchers have adopted part of this theory to hypothesize consumer preferences. Thaler (1985) first used

pieces of prospect theory to predict that consumers would prefer segregated gains to reduced losses in their buying decisions. Thaler argued that rebates were valued because the rebate check, separated physically and temporally from the purchase process, was perceived to be a gain rather than a reduction in cost. Thaler also argued that the car purchaser had hedonic motives for thinking of the rebate check as a separate gain. (Consumers may have now learned to integrate rebates with the original price of the item, especially since many retailers emphasize the cost of the item after rebate.)

If we adopt Thaler's perspective, it is straightforward that if two sales promotions have the same monetary value, the promotion which is framed by the consumer as a gain will "feel" more valuable than a promotion framed as a reduced loss. There are no published tests of this hypothesis. The purpose of this paper is to present evidence, from a study of consumers in a shopping situation, that sales promotions framed as gains are chosen more often than promotions framed as reduced losses.

It is not obvious what makes consumers frame a particular promotion as a gain or as a reduced loss. For instance, in early 1989 Payday candy bars were promoted by a message on the wrapper stating "free 5 cents inside". (We can verify that a nickel was included with the candy bar inside the wrapper.) It is our intuition that consumers are more likely to perceive the nickel as a gain than they would be to perceive a promotion offering 5 cents off the regular purchase price. Sweepstakes may also be perceived as (potential) gains rather than mere reductions of the the purchase price of the product.

One factor which has been robust in affecting the framing of sales promotions is whether the promotion is monetary or nonmonetary (Diamond and Campbell, 1988; Campbell and Diamond, 1989). Diamond and Campbell found that subjects in a laboratory simulation integrated monetary promotions (such as discounts) with the reference price to modify the reference price. Nonmonetary promotions (such as free goods or extra amounts of the product) were segregated from the reference price of the product and did not affect it. Campbell and Diamond's subjects rated nonmonetary promotions as making them feel that they are "gaining something extra". In contrast, subjects rated monetary promotions as making them feel that they were "losing less than usual". In short, nonmonetary promotions are framed as gains and monetary promotions are framed as reduced losses. Several other researchers (Klein and Oglethorpe 1987; Monroe and Chapman 1987; Puto 1987; Rowe and Puto 1987) have studied the effects of framing on different aspects of consumer information processing. These researchers do not consider the

implications of differences in the framing of sales promotions.

To determine whether framing affects the choice of sales promotions, it would be useful to test two versions of the same promotion. In one version, the promotion would be described as a monetary promotion (framed as a reduced loss); in the other version the promotion would be described as nonmonetary (framed as a gain). Our hypothesis is stated as follows:

If consumers are given the choice between a test promotion and some other promotion, the test promotion is more likely to be chosen when it is framed as a gain than when it is presented as a reduced loss.

EXPERIMENTAL STUDIES

Experimental Setting and Subjects

To maximize external validity, we conducted the study in a field setting with nonstudent subjects. Subjects were shoppers in an independent supermarket in a college town in the northeast. Subjects in different experimental conditions were asked to choose between different pairs of store coupons and allowed to keep and redeem the coupons they chose.

Stimuli

To understand the stimuli, it is important to consider several variables which could confound the effects of framing. If the nonmonetary promotions chosen utilized extra amounts of product, the offer might be disliked because subjects might not wish to inventory a larger amount of the product; because of concerns for product freshness; or because of boredom with consuming added quantities of the same brand or product. These problems have nothing to do with framing. Similarly, if a nonmonetary promotion utilized a premium, the value of the offer could be diminished if subjects did not value the particular premium. It is not plausible that all subjects would like *all* premiums of a given magnitude more than an equivalent discount (who wants free cat food if they don't own a cat?). Finally, a subject with a tight budget might use the heuristic "maximize cash flow" to evaluate promotions. This would lead subjects to prefer monetary promotions regardless of how promotions are framed.

To remove these potential confounds, we used two versions of a single promotion (see Figure 1). Throughout this paper, this promotion will be referred to as the *test* promotion. In the nonmonetary (framed as gain) version of the test promotion (Figure 1A), the subject obtains a free can of Campbell's soup with the purchase of Prego spaghetti sauce. In the monetary (framed as reduced loss) version of the test promotion (Figure 1B), the subject receives a discount at the cash register with the purchase of *both* the spaghetti sauce and the soup. Shoppers redeeming the two versions of the test promotion spent identical amounts of money, obtained identical amounts of the same products, and

were given identical pricing information. The retail prices of the items, marked on the coupons, were the actual store prices of the items.

The Comparison Offers

Many informally run pilot subjects comparing the two versions of the test offer in Figure 1 rapidly realized that they were equivalent offers. People aware of this were usually indifferent between the two (although they did express how they "might feel" if they had to choose an offer). Therefore, to see if the forms of the offer affected preference, we asked subjects to choose between *one* version of the test offer, and a different offer consisting of a cash discount on Prego spaghetti sauce. These offers will be referred to as *comparison* offers. One comparison offer is presented in Figure 1c.

Preliminary work.

This study was conducted in the lobby of a local independent supermarket. 33 shoppers, who had been paid \$1 for answering a short questionnaire (a different study), chose between two coupons. They were told that they could keep and redeem the coupon they chose.

The study was a two group experimental design. Subjects were randomly assigned to see one of the two versions of the test offer. This was the only experimental manipulation. Subjects were asked to choose between this version of the test offer and a comparison offer consisting of a 35 cent discount on Prego spaghetti sauce. The experimental conditions are diagrammed in Figure 2.

Results and Discussion of the Preliminary Work

Despite the fact that the percentage saving was slightly greater for the test offer (20.6%) than for the 35 cent discount presented in the comparison offer (18.5%), an overwhelming majority (28 of 33 subjects) chose the discount offered in the comparison offer. Not enough subjects chose the test offer to analyze the importance of framing in affecting choice. While the experimenters did not solicit reasons for the choice, the usual reasons spontaneously given were a preference for cash over Campbell's Tomato and Rice Soup, and a dislike of the soup.

According to the theory presented above, the 35 cent discount would be framed as a reduced loss. However, it was chosen far more than the test offer regardless of how the test offer was framed. These preliminary results were consistent with the ideas discussed above, that monetary offers are valued and that the specific premium may affect desirability as much or more than the framing of an offer.

The Main Study

To be able to detect differences in preferences resulting from the framing of the test offer, we "tuned" the stimuli in the preliminary study by reducing the value of the comparison offer from 35 cents to 25 cents. Again, subjects were randomly

FIGURE 1
COUPONS USED IN THE STUDIES

LU-947

**PURCHASE A LARGE JAR OF
PREGO SPAGHETTI SAUCE**
Regularly \$1.89
**AND GET A CAN OF
CAMPBELL'S TOMATO AND RICE SOUP**
Regularly 49 cents
FREE
THIS IS A STORE COUPON WHICH WILL NOT BE DOUBLED

(A) The test offer framed as a gain

LU-947

**PURCHASE A LARGE JAR OF
PREGO SPAGHETTI SAUCE**
Regularly \$1.89
AND
**A CAN OF
CAMPBELL'S TOMATO AND RICE SOUP**
Regularly 49 cents
AND GET 49 CENTS OFF THE TOTAL
THIS IS A STORE COUPON WHICH WILL NOT BE DOUBLED

(B) The test offer framed as a reduced loss

LU-947

**GET 25 CENTS OFF IF YOU PURCHASE
A LARGE JAR OF
PREGO SPAGHETTI SAUCE**
Regularly \$1.89

THIS IS A STORE COUPON WHICH WILL NOT BE DOUBLED

(C) One version of the comparison offer

FIGURE 2
Experimental Conditions in the Preliminary and Main Studies

<u>Gain Condition</u>	<u>Reduced Loss Condition</u>
Choose between:	Choose between:
Free Soup worth 49 cents with purchase of Prego ¹ (version A of test offer)	49 cents off Purchase of Both Prego and Soup ¹ (version B of test offer)
and	and
A smaller discount on Purchase of Prego ² (comparison offer)	A smaller discount on Purchase of Prego ² (comparison offer)

¹paying \$1.89 for \$2.38 worth of merchandise. Saving 20.6%.

²In the preliminary study, the discount was 35 cents (18.5%). In the main study, the discount was 25 cents (13.2%).

assigned to choose between one version of the test offer and the 25 cent discount in the comparison offer. The procedures of the study were otherwise unchanged.

Results of the Main Study

Seventy three shoppers made a choice between a version of the test offer and the comparison offer. Table 1 presents the choices of the subjects in the different experimental conditions.

Different proportions of subjects chose the test offer and the comparison offer in the different experimental conditions, $\chi^2(1) = 6.13$, $p < .05$. More than half of the subjects seeing the test offer framed as a gain chose the test offer rather than the comparison offer. Almost three quarters chose the comparison offer when the test offer was framed as a reduced loss.

DISCUSSION

The framing interpretation of the results.

Kahneman and Tversky presented framing as a factor affecting choice. Here, choices of sales promotions were determined by how they were framed. The results presented here are consistent with the theory that framing affects the desirability of sales promotions. Formally, the two versions of the test offer were equivalent, both in terms of the utility of the coupon and in terms of the information presented to the consumer. Yet the offer apparently felt more desirable and was chosen more often when it was presented as a potential gain in the form of a free good.

Other interpretations of the results. There are other possible reasons why the nonmonetary version of the test promotion was chosen more than the monetary version. One reason invokes an information processing perspective. A second alternative cause of the results is reactance theory.

Both versions of the test promotion contained identical information. To use an information processing perspective to explain why one version was preferred more than the other, one would have to posit reasons why the information had different salience in the two experimental conditions. For instance, one might reason that consumers are most likely to use simple heuristics for evaluating sales promotions in some situations.

One analogy which may help to explain this is Kahneman and Tversky's (1979) description of the "certainty effect". This may be seen as a heuristic leading to the increased preference for risky alternatives with probability 1. Of course, certainty is as good a probability as you can have--it is at the top of the bounded interval from zero to one. Similarly, free goods are at the upper boundary of possible discounts. Therefore, consumers may invoke the simple heuristic that "if something free is offered, the promotion must be good." The explicitly free can of soup offered in the nonmonetary version of the test promotion might trigger this heuristic; the monetary version would not.

This explanation is only subtly different than the hypothesized effects of framing described in this paper. The heuristic might be described as a evaluating the free good positively because it is a clear gain. Johnson, Payne and Bettman (1988) argue that when choice alternatives are complex looking or difficult to process, people are more likely to employ simple decision heuristics for evaluation or choice. Because it may be more difficult to integrate a premium with the reference price than it is to integrate a discount with a reference price, consumers offered a premium may be more likely to employ simple heuristics which positively evaluate the promotion.

TABLE 1
Subject Choices in the Experiment

	Test Offer	Comparison Offer
Test Offer Framed As Gain (Free Soup)	20	16
Test Offer Framed As Reduced Loss (Buy Both)	10	27

Reactance theory (Lessne and Notarantonio, 1988) posits that people become very stubborn and rebellious if they believe that they are being coerced or that their freedoms are threatened. If consumers felt that the nonmonetary version of the test promotion was forcing them to purchase two products in order to get a discount, they might feel reactance and reject the promotion without thoroughly evaluating it. This would not occur as readily when the free can of soup was given with the purchase of a single item. Verbal protocol data might provide a good test of the degree to which reactance causes the results seen in this study. In general, protocol data could be used in future studies to clarify the heuristics which consumers use to evaluate sales promotions.

CONCLUSION

Two conclusions may be drawn from the research reported here. First, sales promotions which are framed as gains do appear more desirable than those framed as (merely) reduced losses. Secondly, the desirability of a sales promotion is determined by factors other than how it is framed. After all, the coupon offering a 25 cent discount on Prego spaghetti sauce offered a substantially smaller percent off than either version of the test offer; and was a "reduced loss" according to the criteria described in this paper. Yet it was chosen more than 50% of the time by the subjects in the main study. It will be of interest and value to determine the strategies and heuristics which consumers use to evaluate sales promotions, and whether different groups of consumers use different heuristics.

There would be value in extending this research by determining other factors which lead consumers to frame promotions as gains or losses. Some determinants of framing, like the nickel packaged with the Payday bar or the sweepstakes discussed earlier, might be the attributes of the promotion itself. Other factors might be motivational or situational. We suspect that when the consumer frames the promotion as a gain, he or she will perceive real value in the offer, and be most satisfied with the purchase.

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The Framing of Sales Promotions: An Approach to Classification

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ABSTRACT

Research on sales promotions has been hindered by the absence of a theoretical approach to categorizing promotions. In this paper, the case is made for categorizing promotions by whether they are framed as gains or as reduced losses. A "cost/benefit" approach suggests that non-monetary promotions are most likely to be framed as gains whereas discounts and rebates will be framed as reduced losses. A perceptual map of promotions, derived from the similarity judgments of two groups of consumers, is consistent with this categorization. Attribute judgments show some heuristics subjects use to evaluate promotions.

INTRODUCTION

Promotions take many forms including coupons, rebates, reduced shelf price, and premiums. Behavioral theories tend to differentiate promotions on the basis of their magnitudes alone. A few of these theories have implications which could distinguish forms of promotion, but these implications have not been explored.

One reason for this is the absence of constructs providing rationales for differentiating promotions. As a result, behavioral researchers have tended to either confine empirical work in this area to one type of promotion at a time or select promotions atheoretically. The tendency toward very narrow categorization of promotions has been reflected in recent articles which deal with only a single type of promotion, such as couponing (e.g. Henderson 1985; Irons, Little, and Klein 1983; Narasimhan 1984; Neslin and Shoemaker 1983; Schindler and Rothaus 1985).

We argue here that a taxonomy based upon theory and consumer perceptual data will be useful in the application and extension of the behavioral theories of sales promotions. There is a close link between theory and practicality in this area.

The first section of this paper outlines a theoretical approach to the categorization of sales promotions. This approach is derived from prospect theory (Kahneman and Tversky 1979, 1984). Specifically, sales promotions can be categorized by whether they will be framed as gains or as reduced losses. This section concludes by discussing how behavioral theories apply differently to promotions framed in different ways.

The second part of the paper sets forth a perceptual map of promotions based upon the judgments of two consumer groups. This provides a taxonomy which is very similar to the theoretical categorization. By labelling the stimulus space with attribute judgments, we explore the heuristics that people use in evaluating types of promotions.

A THEORETICAL CATEGORIZATION OF SALES PROMOTIONS

Prospect Theory and Framing

Recent research (Kahneman and Tversky 1984; Puto 1987; Thaler 1985) shows that when alternatives are presented as gains, subjects choose and judge them differently than when equivalent alternatives are presented as reduced losses. Thaler (1985) argued powerfully that promotions may be framed as gains or losses. The promotion framed as a gain will have benefits which are segregated from the original purchase price, whereas the promotion framed as a loss will be seen as merely reducing the initial purchase price. Thaler presented automobile rebates as a case where a promotion could be perceived as a separate gain rather than a mere reduction of the purchase price. In Thaler's language, a separate "mental account" may be established for the rebate. According to Thaler, an equivalent saving resulting from a sale offer should be seen as a reduced loss rather than a gain. Thaler used the shape of the prospect theory value function to deduce that a promotion framed as a segregated gain should be perceived as more valuable than one framed as a reduced loss. Although several other researchers (Klein and Oglethorpe 1987; Monroe and Chapman 1987; Puto 1987) have studied the effects of framing on consumer information processing, these researchers have not considered the implications of differences in the framing of sales promotions.

Predicting the Framing of Sales Promotions

There are several ways of hypothesizing whether a particular promotion will be framed as a segregated gain or as a reduced loss. One of Thaler's assumptions was that the physical or temporal separation of a rebate check from the price quotation leads to the framing of the rebate as a gain. He did not test this hypothesis.

Thaler and Johnson (1986) hypothesized that situations would be framed in accordance with a hedonic mechanism. Gains would be either segregated from or integrated with losses depending on which form would produce the most happiness for the subject. The general principle of hedonic framing led Thaler and Johnson to postulate several rules of framing. Because sales promotions are small gains presented in the context of a larger loss (the purchase price), the same rule should apply to all of them. This rule, known as the "silver lining effect" is to segregate small gains from larger losses. Accordingly, most promotions should be seen as gains rather than as reduced losses. This principle does not distinguish among types of sales promotions.

A third approach to predicting framing utilizes a "cost/benefit principle" (Beach and Mitchell 1978; Payne 1982). Beach and Mitchell posit that decision makers are motivated to choose the strategy which requires the least investment to achieve a satisfactory solution. From this perspective, the relatively unimportant problem of whether to take advantage of a sales promotion may not be allocated very much attention. The "cost/benefit" approach to predicting framing stems from the amount of effort necessary to integrate gains with losses in different situations.

Tasks are more complex when different pieces of information about an alternative are in different units which may not be commensurable (Abelson and Levi 1985). Klein and Oglethorpe (1987) suggest that it should be more difficult to integrate multiple attributes of purchases if these attributes are in different metrics.

Adapting this to the domain of sales promotions, one might hypothesize that when promotions are in the same units as pricing information, they will be more easily integrated with the price. The promotion will then be framed as a reduced loss. Conversely, when promotions are in units other than money, they will be more difficult to integrate with the price. The consumer may not expend the effort required to integrate these noncommensurable promotions into the price paid, and such promotions should be more often considered as separate gains.

This reasoning presents theoretical grounds for the dichotomy between reduced-cost and value-added promotions recently discussed by Sawyer and Dickson (1984). Price-off promotions, including rebates, are expressed in the same units as price and are most likely to be framed as reduced losses. Value-added promotions, including either bonus amounts of the same product or other products as premiums, are in units other than price. These promotions are most likely to be framed as gains. Thus, the two classes of promotions should have fundamentally different properties if the consumer does not have the time, inclination, or ability to "recode" the nonmonetary benefits of a premium or purchase as a saving on the original product.

It is likely that other factors will influence the framing of sales promotions. For instance, continuity programs like frequent flier programs may be framed as gains because the promotion sets up very obviously separate "mental accounts" for the purchase price and for the promotional benefits. Similarly, promotions where money is contributed to a charity or worthy organization may be seen as gains because of the large segregation of the promotional benefit from the purchaser and the purchase price. The context of the promotion--whether other brands are being promoted--may well affect whether a particular offer is seen as a gain or a reduced loss. Finally, the various aspects of the presentation of a promotion may affect whether it is perceived as a gain or a reduced loss.

Implications of Framing for Behavioral Theories of Promotion

Once sales promotions are categorized in terms of how they are framed, it is possible to extend previous theories of sales promotions. We will examine the implications of this classification for two behavioral approaches to promotion: price perception theories and noncognitive theories of induced behavior.

Price perception theories include theories of reference price and theories of the acceptability of promotions of different sizes. Reference prices, generally, are the amounts consumers expect to pay or will pay for a product or brand. The foundation for most theories of reference price is adaptation-level theory (Helson 1964; Klein and Oglethorpe 1987). The theory posits that consumers integrate all the pricing information they have seen to form adaptation-levels or reference prices. Consumers evaluate a specific price by comparing it with a reference price.

Monetary promotions, which are in the same units as price, are most likely to be framed as reduced losses. These promotions are likely to be integrated with reference price, leading to a downward modification of reference price. Inferences of reduced quality, which may result from a lower reference price (Monroe and Chapman 1987), should more likely result from promotions in monetary units than from promotions in nonmonetary units.

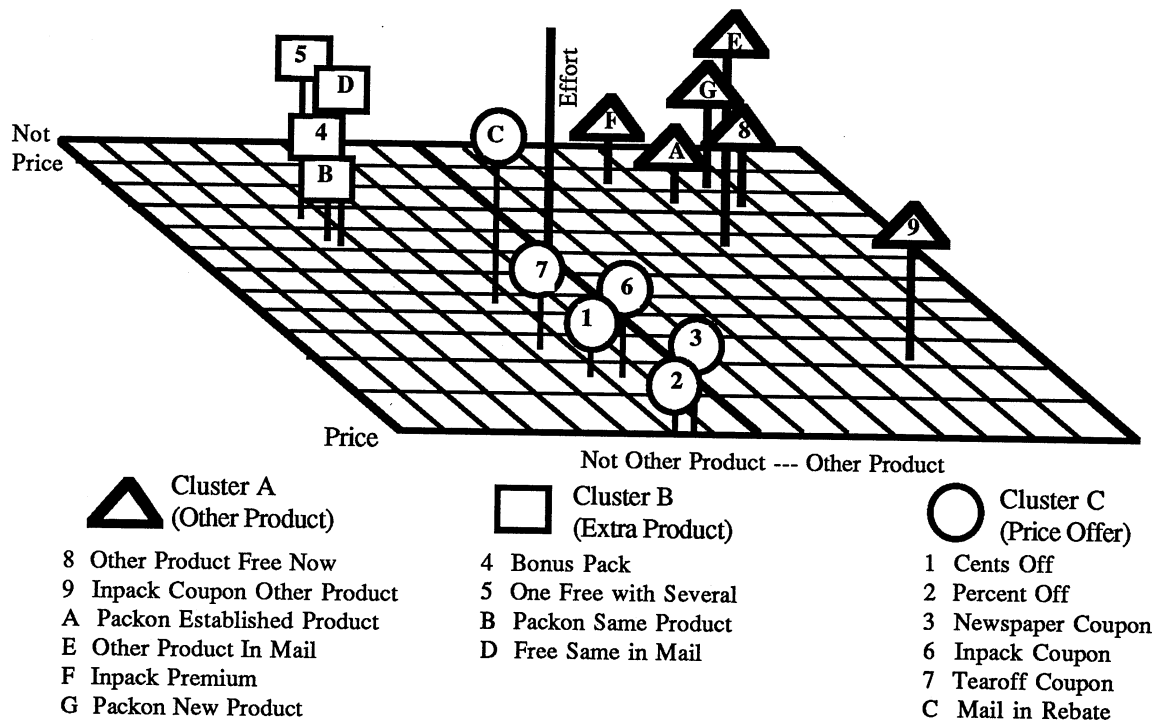
Diamond and Campbell (1988) tested the effect of different promotional forms on reference price in a laboratory simulation. Subjects were exposed to 20 weeks of the pricing and promotional information on a fictitious brand. Discounts, but not nonmonetary promotions, lowered the reference price of the product.

Campbell and Diamond (1989) hypothesized that because nonmonetary promotions are less likely to be compared with the original price of the product, large nonmonetary promotions should be more likely to be within the consumer's "latitude of acceptance" than large monetary promotions. Data from two experiments confirmed this hypothesis.

Sawyer and Dickson (1984) call a second set of behavioral theories of promotion "noncognitive theories of induced behavior." The best known of these is behavioral shaping or operant conditioning. Rothschild and Gaidis (1981) and Peter and Nord (1982) conceived of promotions as rewards or reinforcements, but did not differentiate among promotions. Promotions perceived as separate gains (rather than reduced losses) may be most readily perceived as rewards for a purchase. If this is so, nonmonetary promotions would be the most effective reinforcement, and would be the most effective at increasing purchase rates through operant conditioning.

As the preceding discussion shows, a classification of sales promotions based on framing can have significant implications for hypotheses regarding the effects of promotions on consumers. We now consider whether such a classification is

FIGURE 1
Perceptual Map of Sales Promotions



consistent with the manner in which consumers actually differentiate promotions.

METHOD

The plan of the study was to develop stimulus and subject weight spaces using a weighted multidimensional scaling of similarity judgments of sales promotions. The universe of sales promotions was developed by adding categories found in area supermarkets to those found in previous taxonomies. No references to specific products or prices were made in the sentence-long descriptions of the promotions. This approach has advantages and disadvantages. Specifics are very important determinants of whether a particular promotion is an effective incentive. However, our purpose was to explore the heuristics which people use to classify and evaluate general types of promotions. If the perceptual map were developed from a set of specific promotions, the dimensions of the promotions might be heavily dependent on the specifics of the stimulus set. The effects of specific promotional and contextual attributes on the evaluation of promotions must be examined in subsequent research.

To reduce the number of judgments subjects had to make, and to keep the stimulus space simple, we eliminated sweepstakes and contests from the preliminary list of stimuli. Sweepstakes and contests are complex phenomena which can not be

be described with a simple stimulus. The final list consisted of 16 "generic" sales promotions. Abbreviated descriptions of these promotions (which were not presented to subjects) are listed at the bottom of Figure 1.

Twenty students and twenty non-student women judged the similarities of all pairs of the promotions. Such a small sample size has precedents in the literature. Green and Rao (1971) used 30 matrices to evaluate scaling programs. Jones and Young (1972) used the similarity judgments of 31 subjects to describe the longitudinal development of a social environment. Green and Carmone (1969) used the similarity and preference judgments of four different groups, each ranging from 15 to 20 in size, to scale business school images. These methodological studies generated interesting stimulus configurations with small sample sizes.

The students were juniors and seniors at a northeastern state university. The sample of non-student women was a diverse convenience sample. They ranged in age from 21 to 65 with a median age group of 35-39 years. The subjects were paid \$8.

A personal computer presented all pairs of stimuli in random order to each subject and recorded similarity judgments. Subjects rated the paired promotions from 1 (very similar) to 7 (very different). The similarities data were analyzed using the ALSCAL procedure in SPSS^X. A weighted

TABLE 1
Criteria for the Rating and Classification of the Sales Promotions

Positive Points of the Rating Scales	Regression Weights (Direction Cosines)			Multiple Correlations
	Dim. 1	Dim. 2	Dim. 3	
Other Product as Premium ^A	.970	.242	.020	.99**
Monetary Promotion ^A	.002	-.998	.062	.95**
Very High Effort ^B	.021	-.253	.967	.93**
Makes Me Feel That I am Gaining Something ^B	-.147	.573	-.805	.76*
I Like This Offer ^B	-.252	-.007	-.967	.92**
Saves Me Money ^B	-.634	-.512	-.579	.85**
Feels Like a Reward ^B	-.273	.458	-.846	.86**
A Good Value ^B	-.590	.070	-.804	.89**
For Young People ^B	-.115	.576	-.809	.88**
Takes Much Time ^B	.070	-.201	.977	.90**
For High Quality Products ^B	-.547	-.340	-.765	.38
For Expensive Products ^B	-.261	-.960	.098	.37
For Richer People ^B	-.228	.370	-.900	.62
Gives Me More For My Money ^B	-.657	.213	-.723	.86**

*p<.05 **p<.01

^AStimuli classified by experimenters

^BStimuli rated by Subjects

multidimensional scaling (INDSCAL) model provided stimulus and subject weight spaces.

A second group of twenty undergraduates rated the promotions on 12 attributes. The 16 promotions were presented in random order on a personal computer. The experimenters also classified the promotions according to two criteria suggested by the theory developed earlier in this paper. Promotions were distinguished by whether

the benefits were monetary or nonmonetary and by whether they used another product as a premium. The criteria for classification are presented in Table 1.

RESULTS

At 2, 3, and 4 dimensions, the S-Stress describing the fit of the solution was .351, .282, and .244, respectively. The fit improved far more

from 2 to 3 dimensions than from 3 to 4 dimensions. The three dimensional solution is the most interpretable of these solutions, and is very consistent with the classification based on framing. Therefore, the three dimensional solution is presented in Figure 1.

Attribute Ratings

To label the stimulus configuration, we regressed the mean attribute ratings upon the dimensions of the stimulus space (Kruskal and Wish 1978). These regression results are presented in Table 1. Two types of information must be used to interpret this table. First, the multiple correlation between an attribute ratings of the various promotions and the coordinates of the stimulus space (perceptual map) must be high. For instance, the multiple correlation between the attribute "other product as premium" and the coordinates of the stimulus space is .99. This means that the position on the perceptual map virtually perfectly reflects whether a promotion does or does not use another product as a premium. The second important piece of information is the regression weight of an attribute expressed as a direction cosine. The closer this number is to 1.0 or -1.0, the closer one of the three dimensions of the stimulus space reflects the ratings of the promotions on a particular attribute. The direction cosine of "Other Product as Premium" is nearly 1.0 for the first dimension. Therefore the first dimension almost perfectly reflects whether the promotion uses another product as a premium or not.

The first dimension of the stimulus space correlates most highly with the objective rating of whether or not the promotion utilizes another product (a premium) as an incentive. The second dimension is most correlated with the attribute distinguishing monetary promotions (including discounts and rebates) from all other offers (including extra amounts of product and other product as premiums). The multiple correlations between each of the objective attribute ratings and the positions of the promotions in the stimulus space were greater than .95.

The attributes leading to the easiest interpretation of the third dimension were the ratings of the time and effort required to utilize the promotional offer. This dimension distinguishes promotional incentives which are immediate and low-effort from delayed and high-effort incentives such as rebates and mail-in offers.

The attribute ratings cast light on the subjects' stereotypes toward promotions. Most prominently, the subjects were not fond of rebates or other mail-in offers. Dimension 3 was negatively correlated with liking of promotion, feelings of savings and value, feeling that the promotion is a reward, and ratings that the promotion is for young people.

The attribute ratings also provide evidence about how promotions are framed. Subjects rated promotions on a 7-point scale from "makes me feel that I am losing less than usual" to "makes me feel that I am gaining something extra." Promotions

framed as gains should be rated on the high end of the scale. The regression coefficient relating dimension 3 (high time and effort) and framing showed indicated that promotions perceived as requiring much time and effort were rated as reduced losses ($t(12)=3.6$, $p<.01$). The regression coefficient relating dimension 2 (monetary/nonmonetary) and the perception as a gain was also significant ($t(12)=2.7$, $p<.05$). Nonmonetary promotions (including extra amounts of products and premiums) tended to be perceived more as gains than monetary promotions.

Cluster Solution

To aid in interpretation, the points in the stimulus space were clustered using the centroid method. The dimensions were weighted by the average squared subject weights. The coefficient representing the distance within clusters has the values .52, .23, .16 and .13 for one, two, three and four clusters. The three-cluster solution appears to be helpful in interpreting the stimulus space.

Cluster A (triangles in Figure 1) comprises the promotions which use another product as a premium. Cluster B (squares in Figure 1) contains promotions which provide an extra quantity of the promoted product. Cluster C (circles in Figure 1) includes the price-off or cash rebate offers. Thus, the three-cluster solution distinguishes promotions on the basis of the units of benefit: whether these units are monetary, extra amounts of the promoted product, or units of another product as a premium. (If the two-cluster solution is adopted, the two non-monetary clusters collapse into one cluster. The two remaining clusters, monetary units vs. nonmonetary promotions, is equivalent to the framing distinction presented earlier.)

DISCUSSION

In this paper, we have developed a theoretical classification of sales promotions. This classification is not fundamentally different than some classifications which have been used by managers. However, the theoretical foundation of the present distinction may lead to elaboration and extension of behavioral theories of sales promotions.

The classification is based on the hypothesis that since nonmonetary promotions are more difficult to integrate with the cost of the product, they are more likely to be framed as separate gains. Nonmonetary promotions include extra amounts of the promoted product and premiums using another product. The logic of this hypothesis derives from Thaler's (1985) work on mental accounting.

Consumer similarity judgments produced a perceptual map which strongly resembles the theoretical classification. Subjects did discriminate between monetary and nonmonetary promotions. Unexpectedly, promotions which offered extra amounts of the promoted product were seen as different than promotions offering premiums. Moreover, subjects discriminated and evaluated

promotions on the basis of whether they required much effort and time.

Ratings of the promotions support the basis for the classification based on framing. Subjects tended to rate nonmonetary promotions as gains and monetary promotions as reduced losses. Our research thus supports Thaler's approach. However, it differs in the classification of rebates. Thaler hypothesized that rebates would be framed as segregated gains if they were physically or temporally segregated from the purchase price quotation. Our research found that subjects considered monetary rebates to be reduced losses. This may be due to consumers' increasing familiarity with such offers or the increasing practice of expressing prices as "after rebate." The framing of rebates as gains might re-emerge in future research, when the specifics and context of the promotions are described in more detail.

Other attribute ratings suggest some of the subjects' stereotypes toward promotions. For instance, nonmonetary promotions and immediate incentives were rated as more appropriate for young people. These were also rated as feeling the most like a reward, and may be the most appropriate for behavioral shaping (Rothschild and Gaidis 1981). It may be rewarding to investigate these and other connotations of sales promotions.

Future research in this area should address two limitations of the present work. First, these promotions were "generic." Consumer reactions to promotions may depend on the specifics of the products being promoted, and the magnitude and type of the incentives. Secondly, the samples used here were not large, nor were they necessarily representative of specific populations. The generalizations from these groups must be considered exploratory.

Despite these limitations, we believe that the correspondence between a classification of promotions based on framing and the empirical results reported here is sufficient to encourage the study of the different behavioral properties of promotions the consumer frames as gains and those the consumer frames as decreased costs.

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Overestimating Salesperson Truthfulness: The Fundamental Attribution Error

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ABSTRACT

This study examined consumers' susceptibility to the fundamental attribution error--the tendency to overestimate the importance of internal causes while underestimating the significance of external causes. The results showed that a short product line caused subjects to overestimate the extent to which the salesperson's product claims reflected their true beliefs about the product. Yet, a sales commission prompted subjects to underestimate the extent to which the sales message reflected the salesperson's genuine beliefs.

One of the more pervasive problems encountered in marketing is to establish the perceived trustworthiness of marketing messages. Trustworthiness refers to the extent to which the source is perceived as intending to communicate valid statements about the product. Trustworthy statements are perceived to be objective and furthering no vested interest of the source. The more trustworthy a source, the more believable and effective are his or her persuasive communications. In conjunction with expertise (perceived knowledge regarding the product category), trustworthiness creates the perception of credibility. An untrustworthy source, on the other hand, is one who is insincere, dishonest and is perceived as having a vested interest in the claim. When a source's self-interest can be obviously furthered by acquiescence to his or her's persuasive communication, a target should discount what is said.

Marketing trustworthiness and credibility can be considered from an attributional perspective (Settle and Golden, 1974; Hansen and Scott, 1976; Calder and Burnkrant, 1977). Attribution theory is a collection of theories (Bem 1965; Kelley 1967; Jones and Davis 1965) that seek to explain the cognitive processes involved when an individual infers the causes of another person's behavior. Within the past ten years there have been two major reviews of attribution theory and consumer research. Mizerski, Golden and Keenan (1979) provided an overview of four major attributional theories and reviewed the relevant consumer behavior research from 1971 to 1978. Folkes (1988) has summarized the relevant consumer behavior research since then and has concluded that "attribution theory is a rich and well-developed approach that has a great deal to say about a wide range of consumer behavior issues" (p. 548).

Studies of attribution have dwelt on the conditions which determine whether a behavior is

attributed to inner traits, beliefs or dispositions (internal attribution) or to prevailing social and environmental pressures (external attribution). Consumers are typically confronted with just such an attributional problem. For example, given an opinion expressed by a salesperson, the customer must decide whether the act (stated opinion) was caused by (1) the salesperson's true beliefs about the product (internal attribution) or (2) variable situational contingencies such as the desire to make the sale, the reward for making the sale or the role requirements of the job (external attribution). An attribution to the external situation means that the customer believes that most salespeople would behave in the same way. By contrast, an internal attribution indicates that the customer is assigning traits and opinions to the salesperson that are more important than the situational pressure surrounding the salesperson's behavior.

However, it is not always easy to discern whether a salesperson's verbal statements were caused by internal or external reasons. The cause will be more ambiguous and therefore less revealing about his or her true beliefs to the extent that external pressure exists. For example, customers who encounter a friendly salesperson should not make an internal attribution (i.e., this is a friendly person) because friendliness is perceived to be an important part of an individual's role as a salesperson. In this case, the external constraint (job requirements) can quite easily account for the observed behavior (friendliness). Thus, under these circumstances, it is logical for consumers to regard the sales message with caution (Sparkman, 1982).

However, one of the more significant consequences that has emerged in the investigation of attributional processes is the discovery that people do not always make attributions in this logical fashion. Rather, the attributional process is plagued by a number of systematic errors and biases that distort the judgmental process (Nisbett and Ross, 1980). One of the more common errors is that people are generally biased toward making internal attributions. That is, they tend to see the dispositions of a person as causing that person's behavior. Several investigators (Jones, 1979; Miller, 1976; Ross, 1977) report that people tend to infer that an individual's actions are congruent with their beliefs even when the individual *clearly* had no choice in his or her actions. Logically, observers should discount the diagnosticity of behavior when the person has little or no control over their behavior. Their failure to do so is widely regarded as attributional error in the direction of personal causation.

Although it has been the exploration of attribution error which has shaped much of the attribution research in other disciplines, attributional error has had little impact on the field

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of consumer behavior. The present study examined the extent to which consumers were prone to make internal attributions. A bias toward internal attributions would cause consumers to overestimate the extent to which salespeople believe their own product claims. Since consumers are cognizant of the fact that salespeople operate in a highly constrained environment and that they are not often free to express their true beliefs about the product, one might expect that consumers would be exempt from this error. However, attributional research has shown that the error is a pervasive tendency in the perception of other people. In fact, the error is so impermeable to change that it is often referred to as the "fundamental attribution error" (Ross, 1977).

The purpose of the present study was to determine whether consumers in a sales situation were vulnerable to the fundamental attribution error. Attribution research leads one to speculate that since the error is so robust, consumers too should commit the error, i.e., they should underestimate the extent to which the salesperson's word is a reflection of their job requirements and should be somewhat inclined to take the salesperson's word at face value. This is a rather startling prediction that runs counter to prevailing thought which depicts consumers as highly sensitive to the salesperson's vested interest in the sale and cautious about his or her motives. In this study, a sales situation was chosen to examine the fundamental attribution error because it is *not* a neutral environment. Rather, consumers are likely to question the salesperson's motives and are not likely to automatically assume that the salesperson is trustworthy. Thus, the present study created a stringent test of the fundamental attribution error.

The present study investigated two different variables (length of product line and sales incentive) that could mediate the perception of salesperson trustworthiness. Salespersons who have the luxury of a long product line or who are known to not make a commission from the sale, may be perceived as having more freedom to convey their genuine beliefs about the product than salespersons with a short product line or who make a sales commission. Those with the long product line or no commission may be perceived as having less stake in any single product item, and, as a result, their word may be considered more trustworthy. In the case of a short product line or a sales incentive, the external constraint can quite easily account for the salesperson's behavior. Under these circumstances, it would be logical for the customer to be cautious about trusting the salesperson's expressed opinion.

In this study, it was hypothesized that: (1) When the message was not constrained by external factors (no sales commission or a long product line), consumers would assume that the salesperson's true beliefs about the product were congruent with their verbally expressed beliefs. Thus, a salesperson who speaks highly about the product should be perceived as genuinely believing in that product more than one who speaks unfavorably about the product. (2) Subjects would commit the fundamental attribution error in the no choice conditions (short

product line or sales incentive) by attributing an attitude toward the salesperson that was consistent with their publicly expressed beliefs. A significant difference between the beliefs attributed to a salesperson who speaks favorably versus unfavorably about the product in the no choice conditions would be indicative of attributional error. (3) The same pattern of results was expected when the salesperson's constraint was manipulated by either the length of the product line or by the sales incentive. However, it was predicted that attributional error would be diminished in the sales incentive compared to the product line condition. Knowledge about a sales incentive for sales personnel heightens consumer sensitivity about the salesperson's vested interest which, in turn, diminishes perceptions of salesperson trustworthiness.

METHOD

Overview

The experimental conditions provided for two levels of the salesperson's expressed beliefs toward the product (favorable versus unfavorable), two levels of product line length (long-choice versus short-no choice) and two levels of sales incentive (no incentive-choice versus incentive-no choice). The design was not fully crossed. Subjects were assigned to only one of the levels of either the product line or sales incentive conditions.

Participants

The participants were 49 male and 61 female undergraduate business students who volunteered to participate in the study. Participants were run in small groups ranging in size from eight to fourteen. Participants were randomly assigned to one of the eight cells in the experimental design as they appeared for their experimental session. Sixty-two subjects were assigned to one of the four cells in the product line length condition while 48 subjects were assigned to one in four cells of the sales incentive condition.

Procedure

Stimulus materials were presented in booklet form. Independent variables were manipulated by asking subjects to take the role of observers while reading written scenarios portraying an automobile salesperson's behavior. The cover page of the booklet described the experiment as an investigation of the way in which people make judgments about products and salespeople with limited information. Subjects were asked to imagine a potential customer who had come to an automobile dealership inquiring about the "Austin automobile or, perhaps, some other car of medium price."

Sales Message

Persuasive messages pertaining to the sale of an automobile were composed. The messages were adopted from sets of persuasive messages reported by Pratkanis, Greenwald, Ronis, Leippe and

Baumgardner (1983). The messages were used in 11 previous studies published by those authors and have been found to produce strong, immediate persuasion effects that tend to dissipate quickly.

The sales messages consisted of a brand name and a description of the product attributes. For the brand name, a fictitious name (Austin) was randomly selected from a list of the 72 most common six-letter names in the United States (U.S. Social Security, 1964). The same brand name was used in all experimental conditions. To create a description of the product attributes, paragraphs based on articles appearing in *Consumer Reports* were composed. Three attributes (durability, safety and handling) were chosen because different automobiles should vary among these characteristics. Each sales message contained a separate statement about durability, safety and handling. These product attribute statements provided general information about the meaning and importance of the attribute. The product attribute statements were identical for all experimental conditions.

Independent Variables

Salesperson's Expressed Beliefs.

Salespersons expressed a belief about the Austin that was either favorable or unfavorable. The belief consisted of one sentence for each of the three product attributes that assigned a value of either "poor" (unfavorable) or "excellent" (favorable) to each of the three attributes. In addition, salespersons in the favorable condition began their sales message with an overall excellent assessment of the Austin and concluded by recommending its sale. Salespersons in the unfavorable condition began with a poor evaluation and concluded by not recommending its sale.

Length of Product Line. Subjects in the short product line (no choice) condition were told that there was a short product line of medium-priced cars. In fact, these subjects were told that the Austin was the only medium-priced car on the lot. Because of the short product line, it was emphasized that salespersons were not free to sell the models in which they most believed. If these salespersons thought that the Austin was not a good car, they were not free to express their opinion to the customer.

Subjects in the long product line (choice) condition were told that there was a long product line, i.e., that there were 11 medium-priced cars in addition to the Austin. Subjects in this condition were told that salespersons were permitted by their supervisor to sell any medium-priced car that they wished to sell. These sales persons were described as free to choose models to sell that they saw fit. If the salespersons thought that some models were better than others, they were free to say so to the customer.

Sales Incentive. Subjects in the sales incentive condition (no choice) were told that salespersons received special incentives to sell the Austin. That is, these subjects were told that salespersons would receive a much larger

commission for selling the Austin than would result from selling other cars in its price range. These subjects were told that salespersons were pushed by their supervisor and if they did not think that the Austin was a good car, they were not free to express that opinion.

Subjects in the no sales incentive condition (choice) were told that salespersons were given no special incentives to sell the Austin, i.e., that salespersons received the same commission for selling any medium-priced car. Thus, these salespersons were described as free to choose models to sell as they saw fit. If salespersons thought that some models were better than others, they were free to say so to the customer.

Manipulation Check

In order to assess the effectiveness of the constraint (choice) manipulation, subjects were asked, "How much free choice did the salesperson have to express his or her true opinions about the Austin?" Subjects responded on a 9-point rating scale, 1 = very little choice, 9 = very much choice.

Dependent Measures

As the major dependent measure, subjects attributed an attitude to the salesperson. Subjects were asked, "What do you think is the salesperson's deepest and most genuine belief about the Austin?" (1 = extremely poor car, 9 = extremely good car). The degree of confidence in their attitude attribution was also assessed. Perceptions of the salesperson were measured on 9-point bipolar scales (1 = very little, 9 = very much). Finally, subjects were asked to estimate the monetary worth of the Austin.

RESULTS

Results were analyzed by two 2x2 ANOVAs. Manipulated variables were length of the product line (short versus long), sales incentive (incentive versus no incentive) and the salesperson's expressed beliefs toward the product (favorable versus unfavorable). Since subjects were assigned to one of the levels of either the product line length or sales incentive conditions, separate 2x2 ANOVAs were performed on the product line length and sales incentive data.

Attitude Attribution

First, consider the results for the subjects in the product line length conditions. A significant main effect for expressed beliefs, $F(1,58) = 24.60$, $p < .01$ was obtained. These results indicated that salespersons who spoke favorably about the product were perceived as having more favorable attitudes ($M = 5.09$) towards the product than those who spoke unfavorably ($M = 3.83$). In terms of the central questions of this research, however, the data are best understood in terms of the product line length (constraint) x expressed beliefs interaction, $F(1,58) = 104.84$, $p < .01$. The means are shown in the left-hand panel of Table 1. These results indicated that in the choice condition (long product line), attitudes were attributed in line with the direction of

TABLE 1
Attitude Attribution Mean Scores and (Standard Deviations)^a

Salesperson's Expressed Beliefs	Product Line		Sales Incentive	
	Long (Choice)	Short (No Choice)	No Incentive (Choice)	Incentive (No Choice)
Favorable	6.06 (1.88)	5.47 (1.20)	6.58 (1.62)	4.25 (1.29)
Unfavorable	2.20 (1.42)	4.13 (1.30)	2.00 (1.13)	4.92 (1.31)

^a"What do you think is the salesperson's deepest and most genuine belief about the Austin?" (1 = extremely poor car, 9 = extremely good car).

sales message, i.e., salespersons who spoke favorably about the product were perceived as having more favorable attitudes than those who spoke unfavorably. These results support hypothesis 1. Although this difference was diminished in the no choice condition (short product line), subjects still tended to infer attitudes that were consistent with the direction of the sales message. That is, salespersons who gave favorable messages were perceived as more favorable toward the product ($M = 5.47$) than those who spoke unfavorably ($M = 4.13$), $F(1,29) = 13.94$, $p < .01$. This significant difference in attitudes attributed to targets who spoke favorably or unfavorably in the no choice condition is widely regarded as attributional error in the direction of personal causation and supports hypothesis 2.

The right-hand panel of Table 1 shows the results for the sales incentive conditions. A main effect for expressed beliefs, $F(1,44) = 46.02$, $p < .01$ was obtained. Salespersons who spoke favorably about the product were perceived as being more favorable ($M = 5.42$) about the product than those who spoke unfavorably ($M = 3.46$). However, a constraint (sales incentive) \times expressed beliefs interaction, $F(1,44) = 82.69$, $p < .01$, indicated that this was true only in the choice condition (no sales incentive) thus supporting hypothesis 1. In the no choice condition (sales incentive), a reversal occurred. Salespersons in those conditions were attributed with attitudes in the *opposite* direction for the sales message. Salespersons who spoke favorably about the product were perceived as less in favor ($M = 4.25$) than salespersons who spoke unfavorably ($M = 4.92$), $F(1,22) = 3.67$, $p < .05$. No other effects were significant.

The constraint \times expressed beliefs interaction provided only partial support for hypothesis 2 and 3. As predicted, subjects exposed to the sales incentive conditions were less likely than product line length subjects to commit the fundamental attribution error. However, unexpectedly, a different pattern of results was obtained in the sales incentive condition. Attitudes correspondent to the direction

of the sales message were not attributed to these salespersons. In fact, sales incentive subjects attributed beliefs toward the product opposed to the direction of the sales message. This effect has been observed in previous studies (e.g., Jones, Worchel, Goethals and Grumet, 1971 and Miller and Rorer, 1981) when the extremity, quality and persuasiveness of the constrained behavior has been weak. When a person acting under pressure does a poor job, observers infer that the person holds an attitude in the opposite direction. Weak or ambivalent behavior under no choice conditions is perceived as "foot-dragging" and it signifies that the person is acting under pressure. As a result, perceivers do not believe the spokesperson and they make attributions that are less consistent with the expressed beliefs.

Confidence

Subjects rated their degree of confidence in their attitude attribution (1 = very little confidence, 9 = very much confidence). There was no difference in the amount of confidence that subjects in the different product line length conditions expressed (all means ranged from 4.40 to 5.13). However, for subjects in the sales incentive conditions, a main effect for sales incentive, $F(1,44) = 32.49$, $p < .01$, indicated that subjects were more confident of their attitude attribution when no sales incentive was available to the salesperson ($M = 6.54$) than it was not available ($M = 3.46$).

Salesperson Characteristics

Subjects rated the salesperson's trustworthiness, credibility, believability, sincerity and eagerness to help on 9-point rating scales (1 = not at all, 9 = very much). Results for the product line length and sales incentive conditions were very similar. For the product line length case, subjects in the choice compared to the no choice condition rated the salesperson as more trustworthy ($M = 4.93$ vs. $M = 2.97$), $F(1,57) = 21.50$, $p < .01$, more credible ($M = 4.50$ vs. 3.29), $F(1,57) = 7.38$, $p < .01$, more believable ($M = 4.87$ vs. $M = 3.84$),

TABLE 2
Perceived Product Value Means^a

Salesperson's Expressed Beliefs	Product Line		Sales Incentive	
	Long (Choice)	Short (No Choice)	No Incentive (Choice)	Incentive (No Choice)
Favorable	\$11,094	\$10,726	\$8,950	\$7,790
Unfavorable	\$ 9,020	\$ 9,662	\$8,686	\$8,866

^a"Estimate how much you think that a new Austin automobile is worth?"

$F(1,57) = 4.35$, $p < .05$, more sincere ($M = 5.27$ vs. $M = 3.13$), $F(1,57) = 20.03$, $p < .01$ and more eager to help ($M = 4.32$ vs. $M = 2.08$), $F(1,57) = 6.53$, $p < .01$. No other effects were significant.

Similarly, for the sales incentive treatments, subjects in the choice compared to the no choice condition rated the salesperson more trustworthy ($M = 6.04$ vs. $M = 3.42$), $F(1,44) = 43.04$, $p < .01$, more credible ($M = 6.0$ vs. 3.29), $F(1,44) = 33.36$, $p < .01$, more believable ($M = 5.60$ vs. 3.05), $F(1,44) = 47.24$, $p < .01$ and more sincere ($M = 5.68$ vs. $M = 3.21$), $F(1,44) = 28.80$, $p < .01$. No other effects were significant.

Estimated Product Value

The results for estimated product value are shown in Table 2. A constraint x expressed beliefs interaction was obtained for the product line treatment, $F(1,57) = 3.96$, $p < .05$. The results indicated that in the choice conditions, the estimated value of the product was consistent with the direction of the sales message, i.e., the product was seen as more valuable when the salesperson spoke favorably ($M = \$10,175$) than unfavorably ($M = \$8,871$). Although this tendency was diminished in the no choice condition, subjects in the no choice condition still tended to infer that the product was of greater value when the salesperson spoke favorably ($M = \$10,726$) than unfavorably ($M = \$9,662$).

For subjects in the sales incentive treatment, a constraint x expressed beliefs interaction, $F(1,44) = 4.21$, $p < .05$, indicated that in the choice condition (no sales incentive), the product was perceived as more valuable when the salesperson spoke favorably ($M = \$8,950$) rather than unfavorably ($M = \$8,686$). However, a reversal effect occurred under no choice conditions (sales incentive). The product was seen as more valuable when the salesperson expressed unfavorable beliefs ($M = \$8,866$) than favorable beliefs ($M = \$7,790$).

DISCUSSION

The present study was designed to assess consumers' tendencies to commit the fundamental attribution error. The error is a well-documented

phenomenon whereby observers attribute attitudes or dispositions to another person, even when that person's behavior appears to have been facilitated by strong situational pressures. Researchers manipulating the saliency of situational constraints have had to go to extraordinary lengths to decrease this bias (Miller, 1976; Snyder and Jones, 1974). Yet, even when subjects are aware of powerful situational constraint operating, they are still prone to make internal attributions.

Prior to this study, the fundamental attribution error has never been investigated in a marketing context. A sales environment is one in which the powerful constraints on the salesperson seem quite apparent. In fact, it is reasonable to assume that customers approach this situation with a bias opposed to the fundamental attribution error. They expect to doubt the salesperson's word and expect to regard the sales message as caused by the external situation rather than by the salesperson's genuine beliefs about the product.

These considerations notwithstanding, the present study found evidence for the fundamental attribution error in the product line conditions. Although attributions were consistent with the direction of the sales message in the choice conditions, subjects tended to infer attitudes consistent with the sales message even when the salesperson's lack of choice was emphasized in the experimental instructions. This finding is even more surprising given subjects' perceptions of the salesperson. In all cases, subjects in the no choice conditions perceived the salesperson as less trustworthy, credible, believable, sincere and eager to please than subjects in the choice conditions. In the no choice conditions, subjects explicitly acknowledged that the salesperson's word should be regarded with caution. Yet, an attitude consistent with the salesperson's expressed beliefs were attributed to them by subjects.

Having committed the fundamental attribution error, subjects' perceptions of the product value were compatible with the error. Even when the salesperson clearly had no choice in the views that he or she expressed, subjects inferred that the

product was more valuable when the salesperson spoke favorably compared to unfavorably.

These results suggest that consumers are not exempt from the fundamental attribution error. Although they are more conservative in the attitudes that they attribute to salespersons under no choice conditions, there is still a tendency to think that the salesperson believes what he or she says. Marketers can capitalize on this bias with manipulations that emphasize that the salesperson's behavior is voluntary.

In the sales incentive conditions, salespersons who expressed beliefs in favor of the product were actually perceived as less in favor than those who expressed beliefs against the product. As noted above, this effect has been found in previous studies when the behavior is weak or ambivalent. In the present study, however, the sales message in all experimental conditions was identical in terms of wording, length, quality, extremity and persuasiveness. Only the brand evaluations at the end of the sales message differed. Subjects' perceptions of the message quality ($M = 3.88$), extremity ($M = 5.27$) and persuasiveness ($M = 4.94$, all on 9-point rating scales) were weak to moderate and did not differ from condition to condition. Thus, the reversal effect can not be explained by assuming that the sales message in the sales incentive condition was weaker than the message in the product line condition.

Furthermore, a manipulation check that asked subjects "How much free choice did the salesperson have to express his or her true opinions about the product?" yielded similar perceptions of constraint in the product line ($M = 4.26$) and sales incentive ($M = 4.65$), $F < 1$, conditions. Further subjects in the no choice-product line length condition perceived a similar amount of salesperson free choice in the favorable ($M = 1.80$) and unfavorable condition ($M = 1.40$), $F < 1$. Yet, there was a significant difference between the attitude attributions in these two conditions. Similarly, subjects in the no choice - sales incentive condition perceived the same amount of salesperson free choice in both the favorable ($M = 2.25$) and unfavorable condition ($M = 2.0$), $F < 1$. Yet, significant differences in attitude attribution occurred.

The reversal effect cannot therefore be accounted for by assuming greater constraint in the sales incentive condition. Apparently, then it took a mild sales message combined with subjects' awareness of the salesperson's incentive that yielded perceptions of "foot-dragging." These results indicate that an ineffective salesperson runs the risk of being perceived as untrustworthy. A less than convincing performance under constraining circumstances prompt consumers to think that the salesperson does not believe his or her verbal statements. This perceived "foot-dragging" phenomenon elicits attitude attributions opposed to the verbal statements.

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Halloween: An Evolving American Consumption Ritual

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Halloween is a little studied consumption holiday that is in several significant respects a mirror image of the other major American consumption holiday: Christmas. In the contemporary American Christmas celebration adults wear costumes (of Santa Claus) and extort good behavior from children with threats that rewards of durable goods will be withheld (Belk 1987, 1989). In contemporary Halloween celebrations, American children wear costumes (often of "evil" beings) and extort treats of nondurable goods from adults with threats of property destruction. In Christmas rituals the extended family meets for a day of feasting (on wholesome foods) with a traditionally religious focus. In Halloween rituals children leave home and family to join other children for an evening of pranks in order to obtain unwholesome sweets in a decidedly nonreligious atmosphere. In Christmas rituals gifts are exchanged within the family and each is personally and lovingly acknowledged. In Halloween rituals non-family members provide gifts to masked and anonymous children who pose a vague menace. What accounts for this opposing symbolism? What is Halloween all about? How is it changing? What do Halloween costumes and iconography represent? And what do contemporary celebrations of this holiday tell us about consumer behavior.

In this paper I attempt to answer such questions using a combination of secondary data and both qualitative and quantitative primary data. The paper is a work in progress and is based on primary data collected over the past two Halloweens in a city of one million people in the western United States. Participant observation was used to study a variety of child and adult Halloween practices including fairs, parades, costume contests, trick-or-treating, parties, dances, and a race for costumed runners. Depth interviews were conducted with both children and adults and a written questionnaire was administered to undergraduate university students. The observations and interviews were recorded both verbally (fieldnotes, journals, tape recording) and visually (photography, videotaping). A variety of secondary sources were consulted in popular literature and the literatures of a variety of social sciences. Relevant topics in these literatures include fears, nightmares, play, games, children's stories, sex role socialization, rites of passage, liminality, mysticism, magic, masks, costumes, decoration, legends, myths, fairy tales, horror movies, performance, drama, Halloween history, American holidays, the ritual calendar, and related holidays in different cultures.

Besides relying on multiple sources of evidence, a deliberate attempt was made to avoid a priori theorizing and to continuously cycle between the primary and secondary sources as new interpretive themes emerged. Beginning with participant observation and emersion in Halloween

celebrations, the project has developed via an interactive and continuous process of theory formulation, application, modification, and expansion (see Belk, Wallendorf, and Sherry 1989). What began as a simple investigation of the solicitation, acquisition, and consumption of candies by children, soon became an investigation of the mysteries of a rich and evolving social ritual involving children, adults, and community.

AN HISTORICAL ACCOUNT

Certain aspects of Halloween can be traced, through surviving remnants, as far back as prehistoric Celtic celebrations of Samhain (variants: Saman, Samain, Semuin, Samhuinn). Winkler and Winkler (1970) suggest that Samhain celebrated the harvest and was influenced by Egyptian and Babylonian harvest festivals, but Frazer (1959; original 1890) argues that Samhain was instead a pastoral festival marking the time of bringing the herds back from pastures to their winter stalls. In addition to being a seasonal harvest or herding festival, Samhain was a Celtic new year's festival and a day of the dead involving Celtic ancestor worship (Ward 1981). Samhain was the Lord of the Dead (the term also means "summer's end") and sacrifices made to him included human sacrifice by the Celt's Druid priests (Myers 1972). A survival of this Halloween practice in Europe substituted black cats to be burned in the wicker cages that would have contained criminals or captives before the Romans banned human sacrifices in 61 A.D. (Linton and Linton 1950). On Samhain night the ghosts of the dead emerged and visited their old homes. Witches and hobgoblins with more orgiastic, mischievous, or malevolent intent also roamed the earth. Fires were lit, in part to scare these ghosts and witches away with their purifying flames (Myers 1972). These associations with spirits, the dead, debauchery, and evil remain attached to contemporary Halloween celebrations.

There may also have been precedents for trick-or-treating and Halloween costumes in Samhain celebrations. James (1961) reports that in Gallic celebrations of Samhain, the skins of slaughtered animals were worn as a disguise to invoke the spirits of sacred animals and that this masquerade feature continues to survive in the Scottish Highlands. According to Myers (1972) banquet tables were prepared for visiting ghosts and after the feast the ghosts were led out of town by costumed villagers. Harvest beggars are also thought to have asked for food and traces of a masked procession that asked for contributions in the mysterious name of "Muck Olla" survived into historic periods (Linton and Linton 1950, Ward 1981). In Christian times, this practice became transmuted into souling (in which special soul-cakes were solicited) and eventually into children's begging "a penny for the

Guy" (Fawkes) in England and trick-or-treating for candy in the U.S..

Jack-o'-lanterns are another practice that derives from Irish customs and perhaps those of their ancient Celtic forbearers. Irish children have long hollowed out potatoes, turnips, and rutabagas, made carved faces on them, and placed lighted candles inside (the pumpkin appears to be an American modification). The related folktale involves a trickster figure: a miserly drunkard Irishman named Jack. He twice tricked the Devil into promising not to take his soul. The first time he told the Devil he would accompany him to Hades if he could have sixpence to enjoy one last drink first. The Devil obliged by turning himself into sixpence which Jack immediately pocketed. He only let the Devil out when he promised not to claim his soul for ten years. At the end of ten years he asked the Devil if he would retrieve an apple from a tree for him before they departed for Hell. When the Devil climbed the tree, Jack used his knife to carve a cross on the trunk, thus barring the Devil from descending. This time Jack let the Devil down only after he promised never to claim his soul again. When Jack did die and was barred from Heaven, he appeared at the gates of Hell, only to be refused admittance and doomed to wander the world forever (as an undead figure). As he was leaving, the Devil threw him a live coal which he placed inside the turnip he had been eating, making the first jack o' lantern (Tuleja 1987).

Despite the rise of Christianity, Samhain practices continued for hundred of years in the British Isles. Eventually the Christian church realized that it was more effective to try to take over pagan holidays than to oppose them. In order to co-opt the festival of the dead, in 835 Pope Gregory IV designated November 1st, Samhain, as "All Hallows" ("All Saints") Day. "After all, the saints themselves are dead people" (Sterba 1948). The church also imitated the masquerading by encouraging parades in which people dressed as their favorite saints (Myers 1972). However, this attempt to quash Samhain failed and led to the addition of "All Souls" Day on November 2nd (first created by Abbot Odilo of Cluny in 998) to the Catholic calendar by Pope John XIX in 1006. While more successful, since other dead besides the saints could then be celebrated, remnants of Samhain can still be seen on October 31st, Hallows' Evening or Hallowe'en.

Halloween was known by American colonists, but wasn't celebrated in the United States until after 1840 when the great Irish potato famine resulted in a large number of Irish immigrants (Santino 1983). Some of the Halloween games of the Irish such as bobbing for apples have survived, while others such as roasting nuts and fortune telling have largely disappeared. Linton and Linton (1950) trace the origin of pranks to the Irish belief that the "little people" come out to do mischief on this night and place the height of Halloween vandalism in the late 1800s (similar patterns appear in part of Canada--Walden 1987). They also suggest that Halloween

has since become a degenerate holiday that has lost much of its original significance, a view echoed by Rook (1985). Stone (1959) questions whether the holiday has *any* meaning for children and suggests it may be more for the amusement of adults.

The historical precedents of Halloween explain some icons and historical vestiges of the holiday, but they do not explain why it continues to be a popular American and North American holiday, despite its lack of clear meanings to participants. Nor do these historical precedents seem to account for some of the recent changes in Halloween celebrations. One of the most dramatic of these changes is the curtailment of trick-or-treating due to tales of poisoned candy, razor blades in apples, and hallucinogenic drugs placed in treats (e.g., Ainsworth 1973, Wemhaner and Dodder 1984). In the past two decades such fears have caused parents to prohibit or limit their children's trick-or-treating, have led hospitals to offer free x-rays of Halloween goodies, and has led Brian Sutton-Smith (1983) to suggest that instead of edible sweets, Halloween treats be restricted to "small gifts, small toys, personal parcels, or greeting cards." And yet, such stories of razor blades, poison, broken glass, and pins are urban legends with no basis in fact (Grider 1984, Best and Horiuchi 1985). These tales are spread both orally and by the media (Best 1985), and are fervently believed. But with the exception of one father who was convicted of killing his eight-year-old son by feeding him trick-or-treat candy laced with cyanide, other reports of contaminated treats turn out to be hoaxes and rumors. Best and Horiuchi (1985) found that such stories in the popular press peaked in 1969-1971 and again in 1982. They suggest that the first peak is a reflection of displaced U.S. anxiety due to the Vietnam war and domestic riots, and that the latter was clearly a result of widely reported poisoned Tylenol murders in the Chicago area that year. Besides lessening Halloween trick-or-treating, these rumors may also be causing an increase in institutionalized (i.e., controlled) substitute activities such as parties and "spook houses" (Crader and Wentworth 1984, Magliocco 1985). Beginning with the 1978 John Carpenter film, *Halloween*, several dozen horror films have been produced that attract particularly big audiences and rentals just before and during Halloween. These too represent another institutional alternative or addition to prior American Halloween traditions.

Although an estimated 93% of U.S. households with children under age 12 still participated in trick-or-treating last year (Neuharth 1988), another trend in Halloween celebrations is a shift to more adult activities (Demarest 1983, USA Today 1988). Costume shops report a rapidly growing market for adult Halloween costumes. Clubs, bars, hotels, museums, and other institutions are beginning to sponsor large parties for costumed adults, and Halloween is reported to be the second biggest U.S. adult party night after New Year's Eve. Washington, D.C.'s Georgetown closes down its streets for a wild adult Halloween celebration and

New York's Greenwich Village Halloween Parade draws hundreds of thousands of adult participants and spectators (Miller 1987, New Yorker 1988). Parades like the Greenwich Village and San Francisco Polk Street Halloween events draw substantial participation from the gay community who turn out in drag and flamboyant costume (O'Drain 1986).

Why is the U.S. Halloween changing in these ways? Why does a holiday that seems detached from its historical rationale continue to be celebrated? What functions does Halloween serve and does it serve different functions for males and females, children and adults, and children of different ages? What is the role of Halloween in the family, neighborhood, and larger community? Why costumes, and why particular types of costumes? Why do we frighten ourselves with "Halloween movies?" To begin to answer these questions, it is useful to first consider some of the primary data of this study.

STUDY 1: THE GHOSTS OF HALLOWEENS PAST AND PRESENT

The first study sought descriptive data on Halloween activities from U.S.-born senior undergraduate business students (64 males and 64 females). These students were asked to describe how they spent the most recent Halloween (the data were collected in January), how they spent Halloween when they were teenagers, and how they spent Halloween as pre-teenagers in grade school. There is no room to present verbatim responses (although see others in Ainsworth 1973, Hunter 1983, McDowell 1985, and Mook 1969), but these responses were coded into categories as summarized in Figures 1, 2, and 3 for the three age periods involved in the questions.

Pre-teenage Halloween activities by these students showed little variation. Eighty-five percent of females and 87% of males reported trick-or-treating as their primary activity. Another 7% of each sex reported that they went to parties primarily. And the remaining 8% (females) or 6% (males) reported either no activity or one of a variety of other activities (scary movies, pranks, costume parade, making Halloween decorations, or participating in Halloween activities at school) as the major focus of their Halloweens. As seen in Figure 2, this pattern changed considerably during teenage years. Only 14% of females and 18% of males reported trick-or-treating and only 4% and 6% respectively reported being in costume in some other context. For both sexes partying and drinking alcohol were the dominant activities. Pranks were slightly more common among males (16%) than females (13%) and watching scary movies was slightly more common among females. Less than 10% of the sample reported no Halloween activities. Among the prominent "other" activities (mostly by females) were passing out candy at home, hayrides, visiting "spook houses," and telling ghost stories. For the present period of these young adult's most recent Halloweens, there is another dramatic shift in activities. About one-fourth of each sex now do

nothing special for Halloween. Trick-or-treating, which lingered into teenage years, is almost non-existent among these young adults (but see Hunter 1983 for accounts of adult trick-or-treating for alcoholic drinks). More than one-fifth of females and one-third of males still report partying and drinking, and significantly more than during teenage years--26% of females and 13% of males--report costumed activities. Unlike students on some other college campuses, those studied had no local tradition of street partying. Smaller numbers now give out candy or take children (their own or their siblings) trick-or-treating, and pranks are virtually non-existent. Thus, while some young adults "drop out" of Halloween participation, the majority continue in some way, supporting secondary data of more active adult participation in Halloween. The functions of these activities will be considered in the interpretation section.

STUDY 2: HALLOWEEN COSTUMES

An observational study was conducted of children's and adult's Halloween costumes, with photographs taken of 196 people: 30 below the age of 6, 102 ages 6 to 11, 32 ages 12 to 17, and 32 ages 18 and older. Sex was approximately evenly balanced in each group. The sites in which these costumes were photographed included trick-or-treaters in an upper middle class neighborhood, a costume contest in a middleclass mini-mall, a rural small town Halloween parade, a Halloween running race, and several adult private clubs. Costumes were classified into 40 categories that were collapsed into the 9 shown in Figure 4.

Sex differences were prominent. Females were much more likely to be dressed as a witch/wizard, an inanimate object (e.g., pumpkin, pizza, doll, star) or as a stereotypical female role character (e.g., nurse, Snow White, harem girl, cheerleader, ballerina). Males were much more likely to be dressed as a superhero (e.g., Superman, Batman), monster (e.g., Dracula, Freddy Krueger, zombie), a stereotypical male role character (e.g., hobo, sports player, cowboy), or as a scary animal (e.g., dragon, lion, leopard).

It can readily be seen that these costumes correspond to culturally stereotyped sex roles. The youngest (under age 6) group's costumes were most often chosen by parents who dressed them either in "cute" costumes or in animal costumes (as if the child were a doll or a pet). Girls start at this age to be dressed in "feminine" outfits, while "masculine" outfits for boys become common in grade school. Males of grade school age also begin to wear the aggressive outfits of fierce animals. At older ages they are more likely to be superheroes. Females on the other hand continue in grade school in "feminine" outfits and as witches. As older adolescents (12 to 17) and adults they become inanimate objects or adopt minority ethnic roles (e.g. Gypsy, Chinese coolie). It should be noted however that these data were gathered in a region where traditional sex role stereotyping remains especially strong. Nevertheless, the extent to which

FIGURE 1
Pre-teen Halloween Activities
(U.S. Born Business School Students)

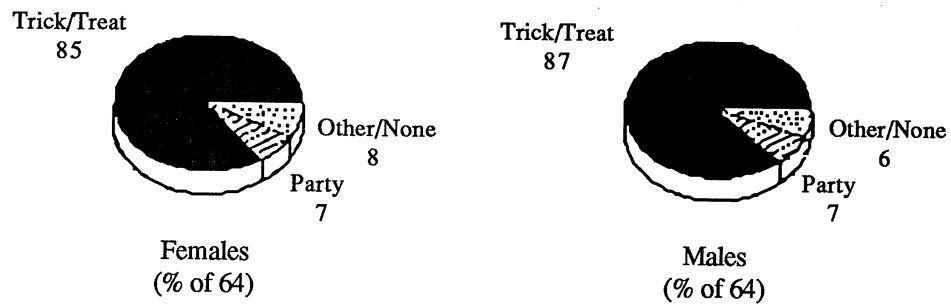


FIGURE 2
Teenage Halloween Activities
(U.S. Born Business School Students)

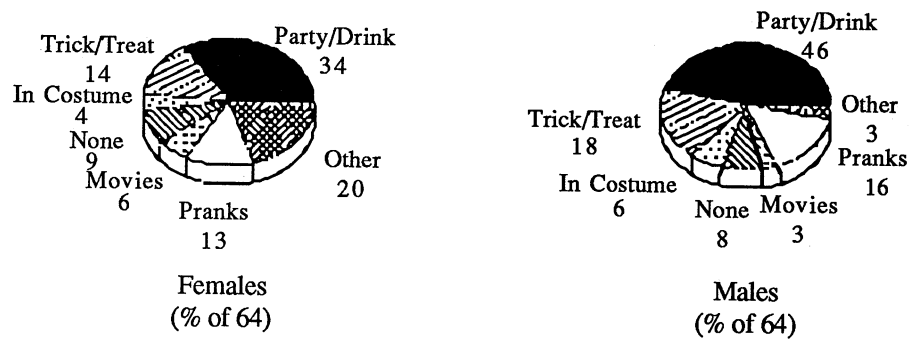


FIGURE 3
Young Adult Halloween Activities
(U.S. Born Business School Students)

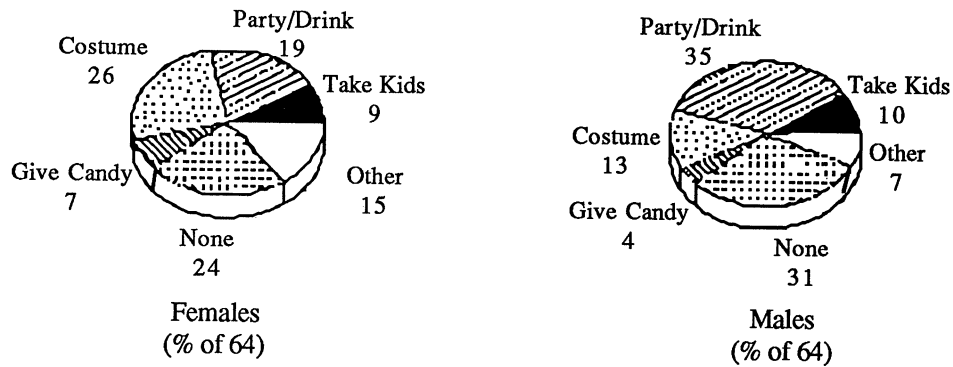
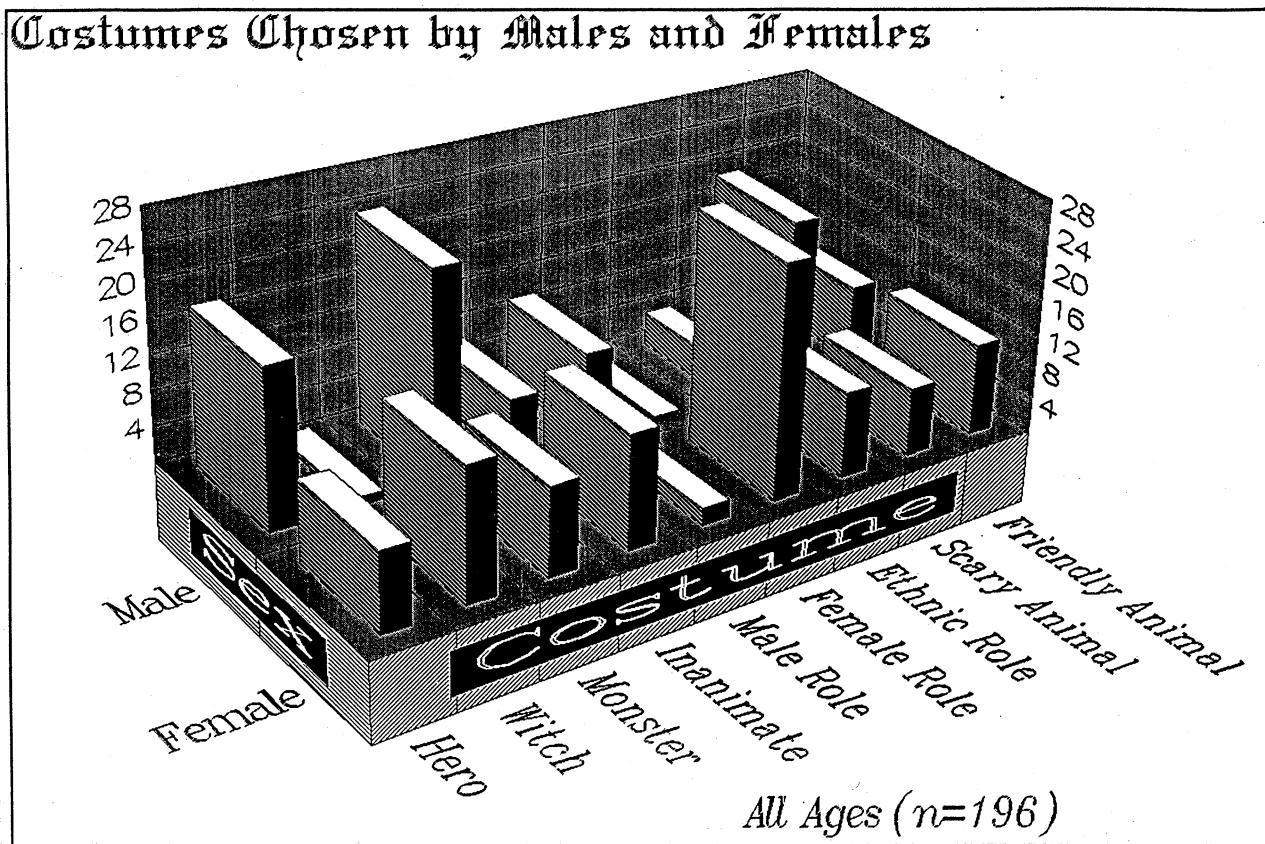


FIGURE 4
Costumes Chosen by Males and Females



children identify with the roles implied by these costumes may be seen in the following quotes from interviews asking other children "What are you going to be for Halloween?"

WM 6--I want to be a wizard 'cause they can do magic like make bats and have their own castles.

WF 5--A fairy princess, because I didn't like the costume that my Mom gave me...a pumpkin all stuffed with towels and not comfy.

WM 3--A bumblebee because the penguin is too big for me to wear.

WF 7--I'm going to be Lady Lovelylocks. It's this girl who has pixie-tails in her hair; she's really beautiful.

WM 6--Dracula...because I like him because he's scary and cool. I like scary things.

WF 5--A bride--because it makes me happy.

BM 3--A dinosaur, because it's on TV. A big dinosaur-Rex. It has sharp teeth.

WF 8--I'm going to be a skeleton. I like them.

INTERPRETATIONS

Some Rejected Prior Interpretations

As has already been noted, historical explanations of Halloween no longer seem very applicable to the American Halloween. In a largely urban society, celebrating harvest and the return of the flocks no longer have much meaning even as nostalgic anachronisms. Halloween is also no longer our New Year celebration as it was for the Celts and has remained for some Celtic descendants until very recently. It could still be that Halloween marks a seasonal change, but it is a quarter-day and not an equinox or a solstice. Furthermore other temporal markers such as Labor Day, the start of School, and Christmas or New Year's are closer to marking seasonal changes and these changes are also less important in a largely industrial society.

Several psychoanalytic explanations of Halloween have also been offered that seem less than compelling. In one view Halloween enacts our repressed fear of death by symbolically sacrificing our children in order to mollify the spirits of the dead (Sterba 1948). While the first part of this argument, that Halloween involves a repressed fear of death, may have some merit, it is not as plausible

that we offer our children as symbolic sacrifices by sending them out dressed in various death masks such as skeletons, ghosts, and zombies. Parents play the greatest role in selecting costumes for preschool children, and are much more likely to select cute or animal costumes than death motifs. In addition, when "real" death threats to these children are perceived, as with the poison candy and razor-blade-in-the-apple legends, parents attempt to protect their children from these threats.

Another set of psychoanalytic interpretations have been offered by Fraiberg and Fraiberg (1950). They suggest that Halloween is a symbolic totem feast which enacts the Oedipal killing and eating of the father by the brother horde. The products of the harvest are sacrifices at this feast and their consumption also represents the possession of the women by the brothers. Another part of their Oedipal interpretation involves the symbolism of the door, at which treats are sought, as a symbolic vagina, the windows that are soaped as symbolic eyes for voyeuristic fetishism, and Halloween pumpkins as pregnant bellies. Even if there were not more plausible explanations for these elements of Halloween celebrations, it seems strange that Oedipal conflicts with parents would be enacted with strangers outside the house.

Emerging Interpretations

The Nature of Contemporary Halloween Celebrations. Caplow, et al. (1982) note that Halloween is in several ways the antithesis of other U.S. holidays. If the witch is the central figure of the holiday, she may be considered the inversion of the American mother figure. Her sex, ugliness, age, nocturnal preference, and malevolence also stand in opposition to the traits of Santa Claus, Cupid, and the Easter Bunny who reign during other major U.S. holidays. They also suggest that Halloween is an *anti-festival* that burlesques Easter by replacing the resurrection with ghosts and skeletons and burlesques Thanksgiving by turning the edible pumpkin pie into a horrific jack-o'-lantern. While Thanksgiving and Christmas celebrate family, Halloween mocks it. Caplow, et al. (1982) conclude that "...at Halloween, nonpersons imitating nonbeings demand and receive nonmeals from nonrelatives in a nonneighborly way" (Caplow, et al. 1982, 232-233). Thus Halloween is an anti-festival, and is specifically anti-home, anti-family, anti-nourishment, and anti-religion.

The only part of this characterization that might be questioned is the "nonneighborly" quality of Halloween. While the pranks believed to be characteristic of Halloween in the late 19th century and the vandalism associated with Devil's night in the Detroit area are indeed nonneighborly, Stone (1959) found that trick-or-treating youngsters had little intention of delivering tricks and indeed did not know what constituted a trick. While the current data suggest some incidence of pranks during teenage years, the extent and severity of these tricks were generally quite limited. While there remain some elements of mischievousness in Halloween

celebrations, it cannot be said that treats are truly extorted from those whose houses are visited. Rather, in an opposite sense, trick-or-treating and neighborhood holiday decoration provide a sense of community (Brown and Werner 1985) and demonstrate to children that the world outside the immediate family is kind and acts as a quasi-family. As Sutton-Smith (1983) observes:

We say to our children, in effect, that your neighbors are to be trusted. They are nice people. If you go up to their scary door along their scary path dressed up as a scary person, nevertheless they will treat you nicely and give you candy and food (p. 64).

As one informant (WM 10) put it, "If we bring up all those scary things at least once a year, maybe they won't scare us as much." Freud (1961; original 1920) also suggested that children use games that involve the things they fear most in order to gain some control of these terrors. Horror movies may serve much the same function.

Functions of Halloween for Young Children.

There is also another sense in which a feeling of community prevails for the child at Halloween. It derives from the adventure of the child leaving family and joining masked friends for a dark foray in search of candy treasure. The spirit of liminality is enhanced because "a touch of sin and evil seems to be necessary tinder for the fires of *communitas*" (Turner 1969, 183). Turner notes that child trick-or-treaters occupy a position betwixt and between the living and the dead and their masks and disguises provide them with the anonymity needed for a rite of reversal in which the weak become powerful, like the highwaymen whom they sometimes imitate. Shallek (1973, p. 16) suggests this reversal is necessary to relieve pressure because children remain the one repressed group that has not yet rebelled in our society. But Turner's brief application of his liminality formulation to Halloween fails to note several additional elements of the process: the chaos of Halloween as anti-structure, the liminal Halloween season bridging summer and winter and allowing witches and demons to slip between this seam (Ward 1981), the archetypal struggle between light and darkness at this time of year (Burland 1972), trick-or-treating with comrades as a pilgrimage and a self-imposed rite of passage, children--like gays, hippies, and freaks--as marginal people, and the adolescent as nonperson hovering betwixt and between childhood and adulthood.

The essential liminal nature of the trick-or-treat pilgrimage is recounted by Ann Mesko (Hunter 1983)--I have added liminal characteristics specified by Turner (1972) in brackets:

Group members were allowed to examine treats between stops, but it was frowned upon to sample them [asceticism]. Members were allowed to remove their masks while in transport because of the discomforts of breathing through them, but were not allowed

to remove the essential costume [uniform clothing]. Facial disguises had to be replaced before entering a householder's property [transition; ritual preparation]. Under no circumstances were members to reveal their true identity to the householder when in his presence [anonymity; obedience]. And the group had to travel as a unit; that is, the male members were not allowed to move ahead of the females [equality; absence of rank; unselfishness]. All of the rules served to reaffirm group solidarity and to ensure an orderly progression through the itinerary [communitas; ritual] (p. 40).

For the young child Halloween may thus be seen largely as a sacred pilgrimage. An implicit function served by children's jointly going out into the night, is mastery of fear. It might seem strange that children would dress up as scary monsters and visit spook houses in order to master fears, but this is the very way these fears are met (Balter 1988; Magliocco 1985). In these contexts fears are met in a controlled situation with safety highly likely; they are bracketed in time and space. For preschool children, both fear mastery and costume-imparted sex roles are generally supervised by parents or older siblings, making the initial experience a pilgrimage with guides.

Functions of Halloween for Adolescents. For adolescent children, one social function of the trick-or-treat ritual is to socialize children to acquisitiveness, possessiveness, and gluttony. One informant (WM 12) explained his Halloween procedures this way:

Get all the candy you can when trick-or-treating. Take the candy home, and dump it all onto the table or floor. Separate the good candy bars (Snickers, Mars, Three Musketeers) into separate piles from the rest. Also separate the other candy into suckers, gum, etc.. Examine everyone's candy and the one with the most good candy has won. Eat the good candy first, and protect your stash from others.

The ethos expressed here was fairly common, especially among grade school age males. Younger children showed confusion between Halloween and Christmas and sometimes spoke of Halloween trees with candy under them and leaving treats out for spirits in the evening (seemingly inspired by leaving treats for Santa, rather than similar Samhain practices, as even older children had only vague and often mistaken ideas about the origins of Halloween). Stone (1959) has also noted this consumer (rather than producer) orientation of Halloween.

Another function of Halloween for adolescent children is to aid in exploring sexuality. While prepubescent children may properly regard themselves as children and postpubescents properly regard themselves as adults, children going through

puberty and menarche are uncertain. One interpretation of the horror films popular in this age group at Halloween is that these films help express these feelings of confused identity (Evans 1975, Hogan 1986). As Evans observes:

The adolescent finds himself trapped in an unwilling change from a comparatively comprehensible and secure childhood to some mysterious new state which he does not understand, cannot control, and has some reason to fear. Mysterious feelings and urges begin to develop and he finds himself strangely fascinated with disturbing new physical characteristics--emerging hair, budding breasts, and others--which, given the forbidding texture of the X-rated American mentality, he associates with mystery, darkness, secrecy, and evil (1975, 126).

Fiedler (1978, p. 28) adds that children wonder "whether they are beasts or men: little animals more like their pets than their parents." With such a view it becomes more understandable that the half-human/half-animal form of monsters like the wolfman and Frankenstein's monster should hold a special fascination as their bodies are contorted and transformed. Similarly, the special fondness of Dracula for blood has been seen as symbolizing menstruation. The monthly timing of these attacks (at full moon) offers further support of this interpretation. Another interpretation that ties more closely to the teenage horror films of the 1970s and 1980s involves cautions against sexual promiscuity. In films like *Halloween*, the heroine/survivor is a teenage female virgin, while those who die are sexually active (Neale 1984).

Besides their sexual significance, horror films evoke Halloween through the use of masks. Adolescents then adopt these same masks and costumes for their own Halloween masquerade--e.g., Michael from *Halloween*, Freddy Krueger from *Nightmare on Elm Street*, Jason from *Friday the 13th*, *The Phantom of the Opera*, and others. The films also involve the boundaries between wakefulness and sleep, fantasy and reality, human and nonhuman--all of which have liminal parallels in both nightmares and Halloween (Hartmann 1984). Horror is also created by creatures that violate taboos through pollution, dirt, ambiguous forms, and other threats to an ordered and clearly categorized world (Prince 1988). The chaos and inversion of these films is very parallel to the chaos and inversion of Halloween, so that the fascination of these films during Halloween (but not during "purifying" holidays like Easter) is not at all surprising. The functions served by these movies are not unlike those more prominently served by fairy tales and ghost stories in the past--they express the collective anxieties of adolescents (e.g., Bettelheim 1976).

Functions of Halloween for Adults. For adults, the increased participation in Halloween celebrations appears to serve still different

functions. The mask and carnival atmosphere of Halloween that allow children to invert the power structure, master fears, and try on different identities, allow the adult to transcend normal rules of propriety and relieve the normal tensions of social order. Some historical carnival celebrations have disappeared or substantially changed their character including the Roman Saturnalia, Hilaria, and the fetes of Kalends, the medieval feast of fools, and Christmas mumming in various locales (e.g., Abrahams and Bauman 1978, Davis 1982, MacGowan and Rosse 1923). Surviving carnival festivals besides Halloween include New Year's Eve celebrations, Carnival in Brazil, Trinidad, and several other predominantly Catholic areas, Mardi Gras in New Orleans, Shrovetide in Finland, St. Peter festival in Columbia, and St. Martin's Day in parts of Denmark and the Netherlands. Reversal rites also survive in certain activities like "monster" car-crushing trucks and demolition derbies (Jewett and Lawrence 1978). There appears to be a widespread and longstanding need for such a festival. The symbolic inversion of carnivals may involve debauchery, drunkenness, homosexuality, transvestism, and generally a spirit of play, tricks, and taboo-breaking rule violation (Babcock 1978, Da Matta 1984, Huizinga 1970 [original 1955]). These traits accord well with the gay drag parades, the adult parties, and the drinking activity associated with the contemporary Halloween.

A part of the license for such activity is granted by the use of costume and mask. The power of masks is to some degree shaped by the audience who assume that the wearer suspends all identity but that of the role (e.g., Hickey, Thompson, and Foster 1988). Although Abrahams and Bauman (1978) note that participants may be those given to bawdiness at other times as well, the mask, the presence of co-celebrants, and the tolerance and sometimes encouragement by the community all enhance such activity during the Halloween carnival.

What remains to be understood is why the current U.S. Halloween celebration seems to be shifting in emphasis from children to adults. Some clues may be found by returning to the razor-blade-in-the-apple legend and the Halloween horror films of the past two decades. Best and Horiuchi (1985) suggest that the poisoned Halloween treat rumors have actually flourished because we felt surrounded by unactionable threats with the U.S. loss in Vietnam, the Arab oil embargo, increased crime, the Tylenol poisonings, and increased reports of various forms of child abuse. By confining our fear to a narrower target (the Halloween sadist) and a single day of the year, the threat is contained and parents are able to take action against it by controlling their children's trick-or-treating. But why the increase in adult Halloween activities? Noting some of U.S. society's other reactions to a felt loss of control, Wood (1986) argues that the resurgence of horror films in the 1970s and 1980s is both an enactment of and a cathartic response to increased political, religious, and sexual repression due to the rise of conservatism, religious fundamentalism, and

AIDs during this period. It seems likely that these same forces could account for the increased adult emphasis on Halloween as carnival release. While these interpretations remain tentative, they are also compatible with the earlier increase in horror films during the Great Depression and accounts that Halloween pranks were also much more in evidence during this period (e.g., Stone 1959).

If these interpretations are correct, the evolving course of the U.S. Halloween celebration may be tied to social forces that are quite volatile. Similar shifts in holiday control due to social forces have been detected in Brazilian carnival (Taylor 1982) and Philadelphia mumming (Davis 1982). Other U.S. holidays also evolve and change (e.g., Belk 1987, 1989), although they may have better articulated mythologies to anchor them, and thus change somewhat more slowly. While current emphasis is shifting in favor of adults, Halloween is multivocal and because of its ambiguity is able to serve children, adolescents, and adults in different ways and with different meanings. Its attractiveness is also shown in its recent infusion into the pre-Columbian Mexican Day of the Dead (El Dia de los Muertos) ritual (Hernandez and Hernandez 1979). It seems clear that with several thousand years of lineage, Halloween is not about to disappear, even though other holidays have taken over some of its earlier functions. As the major non-family holiday, Halloween retains unique characteristics that can not be co-opted.

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Toward Improving Household Consumption Behavior Research: Avoidance of Pitfalls in Using Alternative Household Data Collection Procedures

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James W. Gentry, University of Nebraska - Lincoln

BACKGROUND

This Special Session of the 1989 Association for Consumer Research Conference responds to a need expressed by the participants of the ACR Household Consumption Behavior Session held as part of the 1988 ACR Conference. The 1988 Forum Session relied on a Delphi investigation and revealed critical issues inhibiting research in this area. The only documentation of this session exists in the form of a summary prepared by James Gentry. To help the reader comprehend the issues, views, and general conclusions of this two-consecutive session forum, we have appended the summary to this article. (While parts of the summary are written in jocular fashion, its underlying concern for advancing this area should not be minimized.)

During both sessions, and addressed more explicitly in the second session, participants agreed that the vast majority of household consumer behavior research suffers from cross-sectional survey, positivist methodology bias. It was agreed that since most participants had little experience with alternative methodologies, a sharing of knowledge about them was a logical first step toward resolution of this bias and the ultimate advancement of our understanding of household consumption behavior.

OBJECTIVES OF THE 1989 FORUM

To this general end, the current special session was organized with the following three specific objectives in mind:

1. To provide for knowledge exchange on alternative research methodologies;
2. To create a forum for debate on alternative methodologies; and ultimately,
3. To encourage a broadening of methodological approaches to overcome the positivist methodology bias inhibiting household consumption behavior research.

The general orientation of the special session was intended to be educational. Throughout, it was assumed that intimate experience with an alternative methodology had generated a wealth of invaluable knowledge which needed to be communicated to household consumer behavior researchers who might consider using the methodology. Moreover, because of the special problems of household research (e.g., multiple respondents, divergent perceptions, joint consumption, shared resources, etc.), it was reasonable to believe that pitfalls exist, and that potential users of a method should be made aware to them.

PARTICIPANTS AND THEIR PRESENTATIONS

While the session was intended to be a dialogue between those who have learned the pitfalls of an alternative methodology and those who would consider applying that approach to their own research agendas, this *Advances in Consumer Research* contains abstracts of the various presenters' major points. The participants are listed below as they presented at the 1989 ACR Conference Program.

"Methodological Problems in Survey and Experimental Research on Family Choice Processes"

Kim P. Corfman, New York University

"Pitfalls in Obtaining Family Purchase Research Data"

Ellen R. Foxman and Patriya S. Tansuhaj,
Washington State University

"A Simulation Game as A Family Research Paradigm"

James W. Gentry, University of Nebraska-Lincoln

Jeffery J. Stoltman, Wayne State University

"Information Integration Theory Approach to Husband-Wife Decision Making"

James Shanteau, Kansas State University
C. Michael Troutman, Charles, Charles and Associates

"Longitudinal Methods for Family Consumer Research"

Alladi Venkatesh, University of California, Berkeley

Integrators:

William J. Qualls, Massachusetts Institute of Technology

Michael D. Rielly, Montana State University

The following pages contain abstracts of the various presenters' points. There are some variations from the original slate of presenters apparent with these abstracts. In a few cases, the presenters added co-authors who may or may not have been present at the forum, but who made important contributions to the presentations and abstracts.

APPENDIX

Summary of the 1988 ACR Household Consumption Behavior Sessions

October 14, 1988
Honolulu, Hawaii

Co-Chairs

Al Burns, University of Central Florida
Jim Gentry, University of Nebraska-Lincoln

**SUMMARY OF SESSION ONE:
DOMAIN ISSUES**

The intent of the session was to broaden the research perspectives held by household/family researchers. Given the disparate views espoused by the audience (summarized below), this goal was accomplished. On the other hand, another goal was to reach a consensus as to whom we should study and what topics most need study -- no such closure was reached.

The session started with the question "Why do we have families?" and quickly evolved into discussion about the differences between family and household. Eric Arnould cited Netting, Wilk, and Arnould, *Households* as a source of the dimensions that delineate kinship relationships: co-residence, pooling of resources, transmission of values, reproduction, and production and consumption functions. Becky Holman stressed that the key underlying variable is "relationships," noting that there are dysfunctional families as well as extremely close non-kinship relationships. Liz Wilson (and later C. W. Park) suggested that we incorporate models from small group decision-making and organizational behavior areas. Rich Lutz noted that we should let the phenomena determine our conceptualizations. Mike Reilly pointed out that the basic premise of the family consumer behavior area is that family decision-making processes are quite distinct from those incorporated in general interpersonal influence settings.

Another topic raised is whether we should study "decision making" or "choice." Russ Belk (and later Rich Lutz) argued strongly that the focus should be "choice," as many outcomes are not the result of a decision making process. Russ gave the example of organ donation, which studies at the University of Minnesota indicated really involved "decision avoidance" -- as options for the loved one become more negative sequentially, the family becomes backed into a corner and finally agrees to donate the organ. Mike Reilly mentioned his hypothesis that the "rationality" of the decision process is curvilinearly related to involvement; as involvement becomes very high, the "emotional afterburners" turn on.

A point that followed the choice/decision discussion was that we need to study sequences of choices. Cross-sectional approaches looking at single decisions somehow need to capture prior interactions within the family. Jeff Stoltman earlier had maintained that the construct of role specialization would be sufficiently rich to be used across a wide variety of household types; Becky Holman mentioned that such an emphasis might help capture the household members' expectations

and choice history leading to the current choice task.

Other points raised:

--C.W. Park mentioned that we rely on our spouses as an additional memory bank, thus making our internal information search within the family a joint rather than individual process.

--Russ Belk pointed out that joint decision making is becoming less prevalent, as choices within the family are being made more and more individually.

--Mike Reilly mentioned the importance of shared consumption (as one item differentiating families from other groups). In a truly surprising gesture, Rich Lutz acknowledged that Mike had made an excellent point and encouraged the study of shared consumption as a direction for future research.

--Sandy Grossbart stressed the changing nature of role players in choice events across one's life. These people are often outside the nuclear family and can have major influence on choices; however, the players change over time.

--Bill Qualls suggested that we develop a categorization scheme for households, using "relationship" as one dimension. Al Burns had developed a couple of such schemes, plus a delineation of types of households in the session handout. Sandy Grossbart pointed out that the homeless are a household type not covered in the Burns' diagrams.

Session Two: Methodological Issues

There seemed to be agreement as to the need for longitudinal research on multiple household respondents involving choice sequences using multiple methodological approaches. The focus of the discussion was on how to achieve some of these goals given time and financial constraints. Unfortunately, no quick and dirty yet sufficient approaches were generated. Of the participants, only Venky Venkatesh was currently conducting a longitudinal household study.

Other issues concerned how to obtain the type of observation data that was being promoted repeatedly in the sessions. In the first session, Russ Belk had suggested that respondents could be asked to "tell stories." Don Granbois' suggestion in the Delphi process that we consider using focus groups was raised as a possible means of collection data from the family about choice sequences. Jeff Stoltman and Kim Corfman raised cautionary notes, discussing the potential for conflict (and even physical violence) that can occur as issues which the family typically chooses to lie dormant suddenly surface.

The last part of the session focused on where we should go from here. Al Burns presented his Blue Skies ideas and discussion followed in terms of what might be feasible. Jim Gentry volunteered to continue to develop a list of CB-oriented family researchers in order to improve communication among people in the field. For example, Benny Regaux-Bricmont used the list to announce the Fall 1990 special issue of *Recherche et Applications en Marketing*--the official journal of the French Marketing Association--on family decision making. Ellen Foxman offered to initiate a communication network via BITNET. Jim and Ellen will develop a questionnaire about interest in the area so that we can provide a summary of the sub-areas of household consumer behavior which people in the field are currently studying. The intended outcome will be a crude newsletter going to people in the field and, eventually, the development of a BITNET network for the dissemination of information, questionnaires, data bases, a family/household bibliography, etc.

Al Burns volunteered to work with the ACR hierarchy to increase the likelihood of having a special session at next year's conference that will focus on those issues stressed as being most critical in the current sessions.

Venky Venkatesh offered to try to arrange a Household Consumption Behavior Conference/Workshop at UC-Irvine in early 1990.

METHODOLOGICAL PROBLEMS IN SURVEY AND EXPERIMENTAL RESEARCH ON FAMILY CHOICE PROCESSES

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Research on families in sociology and marketing has a long history of experimentation with a variety of methods for collecting data. Numerous observations have been made concerning the weaknesses of many of these approaches. This paper is an attempt to gather together the pitfalls associated with using surveys and experiments in the investigation of family choice processes.

SURVEY METHODS

Survey research makes use of reputational methods of measuring influence in decision-making. One or more family members are asked for reports on aspects of their joint decision-making through interviews, questionnaires, or diaries.

Because choice processes vary from one occasion to the next due to variations in the topic, the timing and the people involved, researchers tend to restrict their focus to particular types of decisions (Ferber and Lee 1974; Munsinger, Weber and Hansen 1975). While this limits the ability to generalize it does help justify conclusions that are drawn about the chosen topic. When survey methods are used, limiting investigation to specific types of choices makes data collection more difficult. Only a small subset of the typical sample is likely to have engaged in the activities selected, recently enough that they can reasonably be asked to report on them.

Because families make many decisions over the course of their existence some researchers have taken a longitudinal approach and examined the impact of choices made in the past on subsequent choices (Corfman and Lehmann 1987). When this is attempted in the context of a survey, all of the usual panel problems of attrition and reporting error apply.

Most of the problems associated with survey research are related to the fact that subjects are providing influence *perceptions* which may not conform to reality. The norm until very recently, despite 20 years of warnings against it (Bokemeier and Monroe 1983; Safilios-Rothschild 1970; Wilkening and Morrison 1963), was to ask a single family member for information on family members' influence in decision-making. Usually the wife (Blood and Wolfe 1960; Green and Cunningham 1975; Haberman and Elinson 1967) and sometimes the child (Herbst 1952, Hoffman 1960, Straus 1962) was selected for convenience, on the assumption that this individual would provide reasonably accurate data. More recent studies have demonstrated that when more than one family member is questioned there is often considerable disagreement among them (Burns and Hopper 1986; Davis 1970, 1971; Wilkes 1975). In a recent study, Monroe et al. (1985) demonstrated that 24 percent of the couples in their sample would have been substantially misrepresented had only one spouse been questioned. The degree of incongruence and inaccuracy depends upon many factors including the decision topic, the specificity of the question and the actual involvement of the subject, but it can generally be concluded that influence perceptions are biased and should be used with care. Bokemeier and Monroe (1983) reviewed 80 articles on family power drawn from 48 different professional journals from 1965 to 1978 and found that many researchers extended conclusions to family members other than the one(s) from whom the data were collected. At the very least caution should be exercised if generalizations are applied to family members not questioned in the survey.

Few studies have explicitly addressed the sources of error in reporting on relative influence, but several may be hypothesized (Corfman 1989; Davis 1970; Safilios-Rothschild 1970). First, it may be difficult to infer from past encounters and their outcomes who had more influence. Family members do not always enter into joint decisions with completely formed preferences or strong commitments to them. When you add this to the likelihood that both individual and joint learning has occurred in the process of making a choice, it may not be at all clear who was more influential. Second, perceptual and reporting biases may operate. Perceptual biases are likely to result from the desire to preserve a self-image (e.g., dominant, expert, flexible, supportive). Reporting biases occur when a family member wishes to give an inaccurate impression. For example, social norms that dictate right to authority, appropriate family roles and the importance of equality in the relationship may affect

the way a subject perceives or chooses to represent his or her family's choice processes. Finally, even when perceptions are accurate and subjects wish to report them, memories are far from perfect.

Another problem with survey research is related to the specificity with which questions are asked. It has been shown that more specific questions that concern individual decision topics or aspects of those decisions produce more congruence and probably more accuracy than global questions (Davis 1971; Munsinger, Weber and Hansen 1975; Turk and Bell 1972; Wilkes 1975). This is probably related to the issues of validity with respect to global measures. Can families be categorized according to influence patterns or decision-making roles as the use of global measures implies, or is influence specific to the type of decision, the aspect of the decision, the family and other contextual factors such as timing and proximity of potential influencers? The bulk of research in the consumer behavior of families argues for the latter. This means that global measures are not indicators of who always has more influence, but of who, on average, is more influential. Further, abstracting from many specific instances to a global statement is not an exercise to which subjects are likely to be accustomed and it involves the compounding of subjective judgments from many past decisions. Both are likely to result in error.

Experimental Methods

While experimental methods avoid many of the pitfalls associated with survey research, they present another set of problems. Most of these problems fall into the following categories of issues: convenience, task realism, experimental behavior, and situation volatility.

Convenience. Experimental research is considerably less convenient to conduct than survey research. Because the subject burden is greater it is more difficult to conscript a representative sample of family units. Further, because the unit of observation includes more than one individual, the logistics of getting the relevant parties together with the experimenter are complex. (As with survey research, identifying these parties is also an important and non-trivial task.) Once these problems have been addressed, the experimental session imposes a greater burden of effort and time on both the subjects and the experimenter than most surveys.

Task realism. When a similar experiment is being performed on all family units, the appropriateness of the decisions to each unit must be assessed to ensure that conclusions are not drawn from a family's behavior in making a decision they would not normally make. For example, researchers who use interaction-based measures have tended to present contrived situations to their subjects. Kenkel's (1965) method asks couples to decide how to spend an imaginary \$300 and Strodbeck's (1951) method asks family members to resolve differences in values revealed through their answers to a questionnaire. Although studies of consumer

behavior tend to use more concrete tasks, they also run the risk of asking subjects to make unrealistic decisions.

The timing of experimental decisions is also necessarily artificial. Therefore, even if the decision is one the family might reasonably make, the members have not chosen to make it, nor have they chosen the time at which to make it. When a family is asked to make a sequence of decisions the condensed time frame adds an additional element of artificiality. Also related to the issue of timing is the observation that, in their natural settings, families often face several problems concurrently (Davis 1976). When an experimenter presents one clearly defined task at a time, the choice situation is unrealistically simplified.

Further complicating this is the nature of the decisions that tend to be included in an experimental sequence. Even if some effort is made to present a variety of topics, they are not likely to represent the range of decisions families make in a typical day or week. If it is hypothesized that the outcomes of past decisions affect future processes and outcomes, it is important to ask what "counts" as part of a family's decision history. Do all decisions play future roles or are they only relevant to decisions on similar subjects?

Another element of artificiality is imposed by the requirement often made or inferred by subjects that they must make decisions. A very popular option in "real life" is not to decide. Decisions are often put off temporarily or indefinitely. Finally, families participating in experiments face the same unrealistic conditions faced by all experimental subjects. They are working under ideal conditions meaning, among other things, that they are likely to have higher energy levels and face fewer distractions than they would in their natural environments (Davis 1976).

Experimental behavior. A number of researchers have hypothesized that people behave differently when they are being observed than when they are alone (Corfman and Lehmann 1987; Karlsson 1964; Olson 1969; Safilios-Rothschild 1970). One clear reason for this is that in public people prefer conform to social norms and exhibit the behavior they believe is socially acceptable. This may result, for example, in fewer uses of threats and coercion, fewer displays of anger and frustration, and greater assumption of authority by traditional husbands. While some kinds of behavior may be socially acceptable in other settings, they are not appropriate in the presence of an unfamiliar third party (an experimenter or observer). For this reason such potentially influential intimate behavior as displays of affection and sexual negotiations are less likely to be exhibited in experimental settings. The gender of the experimenter may also influence the effect. Kenkel (1961) found that when observers were female, wives were more active and powerful. Conducting experiments in families' own homes may reduce the artificiality. O'Rourke (1963) reported more disagreement, more activity, less decision-making efficiency, and less emotionality when

decisions were made in the lab than when they were made at home. Subjects may also behave differently in experiments because some influence techniques are not available to them within the lab or the limited time frame. Family members cannot wait for the right moment or mood to press for acquiescence. They cannot engage in many reward or bribe activities such as giving gifts and cooking meals. Nor can they nag intermittently over a long period of time. Finally, regardless of the potential importance of the choice topics presented to subjects, they rarely lose sight of the fact that they are participating in an experiment in which they cannot be held to their choices. The result is that preferences are often less intense and positions defended less vigorously.

Volatility of situation. A final problem that may arise in experiments with the potential for conflict is that the session may become more emotionally intense that the observer is equipped to handle. The presence of an observer and the experimental setting reduce this probability (and make responses less representative). However, experimenters should be prepared to redirect or terminate discussions.

PROBLEMS IN COMMON

In addition to those discussed above, survey and experimental methods have a number of problems in common. The following affect the legitimacy of generalizing from the results of one study to other families and situations.

Family researchers tend to use nonprobability samples, especially convenience samples. As observed by Kitson et al. (1982), convenience samples are inexpensive and convenient, but volunteers may have special characteristics or concerns about the topic which make them poor representatives of the population. For example, families who are willing to participate in studies of their choice behavior are likely to be more stable than the average for the population. Convenience samples also tend to omit isolated people who are not tied into social networks. While these samples have obvious shortcomings, they do have value if their limitations are kept in mind. There are ways to reduce the relationship between the topic being studied and subjects' interests and self-selection bias related to the topic. For example, while the task itself should not be misrepresented, the research questions can be obscured until the debriefing. Researchers can also change the reasons for self-selection so that they are not so closely related to the research subject. For example, if large enough financial or gift incentives are offered they will overcome the reluctance of some families to be examined.

Identifying the family members who are involved in the decisions being studied is another difficult task researchers encounter. Involvement varies according to type of decision, product category, decision phase, attribute, time of day, decision history, family characteristics, and probably other factors as well. Most studies focus

on the couple as the relevant unit of observation, although some choices may be made by only one spouse and others may involve children, grandparents, and other members of the extended family.

Even if the involved parties are correctly identified for the particular survey or task, because relative influence (as well as involvement) varies according to the product category, decision phase, attribute, etc., care must be taken not to generalize from the findings to situations which may only appear to be similar.

While the tone of this review is undeniably negative, this does not mean that current methodologies are without value. Despite the many problems associated with doing survey and experimental research on families, awareness of the pitfalls, use of multiple methods, and integration of evidence accumulated over a period of time will undoubtedly lead to interesting and important insights.

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THE USE OF TRIAD DATA TO STUDY FAMILY PURCHASE DECISIONS
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INTRODUCTION

Families are the consumption units for many products purchased in the US and elsewhere, and family members clearly affect the purchase of numerous products by and for the sole use of individuals. Further, families are an enduring social unit, and it can be expected that both their influence on individuals and their own distinctive behaviors as consumption units will exist for the foreseeable future. These facts make knowledge of family purchase processes and behaviors a matter of considerable practical utility and theoretical import, and help explain researchers' continuing interest in studying family consumption. What we know (or think we know) about family purchase behaviors, however, is very much affected by how we try to study them. Family researchers often acknowledge potential methodological weaknesses in their studies. The purpose of this paper is to compare and contrast our approach to study design, data collection and analysis with more traditional approaches. The advantages and disadvantages of using triad data (i.e., responses from father, mother and child) to understand family purchase decisions are discussed. This information may help other researchers avoid problems we have encountered and perhaps lead to the development of alternative approaches to the conduct of family research that present more accurate, complete, and integrated pictures of family purchase decisions. The experience of using triad data also raises some interesting research questions for future research to answer.

AN EMPIRICAL STUDY USING TRIAD DATA

Most family studies have focused on purchase roles and influence relationships between husbands and wives. However, there is increasing evidence in the popular press that children now play a significantly more active role in family purchase decisions (Dagnoli 1987; Graham 1989). The broad purpose of our study was to assess children's influence in family purchase decision processes (Foxman, Tansuhaj and Ekstrom 1989). A series of

questions were raised by the decision to include children in studying family purchasing:

- 1) Which children in the family should be questioned? It was felt to be practically impossible to question all children in the family and thus obtain a measure of all children's combined influence in purchase decisions. In the face of this practical limitation, it was decided to use an adolescent child as a respondent. This choice was supported by research on child development. Adolescents are more likely than younger children to have matured cognitively and to be active in a range of family purchase tasks (Elkind 1968; Mussen 1973; Mussen, Conger, and Kagan 1969).
- 2) Which family members should be asked to assess their perception of the adolescent's influence? Because there is ample evidence that spouses can disagree on purchase-related decisions and perceptions, it was felt to be necessary to obtain data from both mothers and fathers, as well as the adolescent child.
- 3) Which types of influence? Most family purchase studies have focused on particular products and services. Numerous studies have found that purchase influence perceptions differ depending on the product under consideration. It was felt, however, that perhaps a more normative dimension of product influence might also be assessed; that is, it might be useful to tap perceptions of family member participation and influence in family purchasing as a whole. As a result, items assessing both product-specific purchase influence and general influence in family decision processes were included in the study.

WHAT WAS DIFFERENT ABOUT THIS STUDY?

The Foxman, Tansuhaj and Ekstrom (1989) study differed from most other marketing family purchase studies in its use of triad data and adoption of a Euclidean distance measure to represent triad influence relationships. These two aspects are discussed separately below.

Use of Triad Data

In a review of fifteen previous marketing studies related to children's influence in family decision making, it was found that mothers were usually asked to rate their children's influence. In two studies of older children (i.e., college students), children rated themselves (Converse and Crawford 1949; Perrault and Russ 1971). Berey and Pollay (1968) and Atkin (1978) included both mothers and small children in their observational studies. Jenkins (1979) was first to ask the fathers in a focus group of husbands and wives about their perception of children's purchase influence.

Belch. et al. (1980; 1985) and our study were the only studies which included influence perceptions from triads of fathers, mothers, and children. In the Belch studies, however, respondents were asked to rate their own and other family members' influence separately using a scale in which 1 meant "no input" and 6 meant "all of input" -- a measurement approach which permitted family members to overstate their influence. The study also combined the influence ratings as the mean of the father, the mother, and adolescent responses.

Our study avoided these problems by utilizing a relative influence scale (for the product influence items) and agree-disagree Likert scales (for the general influence items) -- and by not combining the influence perceptions of triad respondents. This approach made individual influence perceptions more easily discernible but presented analytic problems in summarizing triad influence relationships. These analytical problems are discussed in the next section.

Analytical Issues

The most critical problem stemming from using multiple respondents from each family (i.e., more than two) is data analysis. It is even more complicated when the aim is to arrive at a single household measure of perceived influence.

In our initial approach to understanding family influence relationships, we used a simple multitrait-multimethod analysis to identify agreement and disagreement between father-mother, father-child, and mother-child dyads. We later were able to obtain a single score representing the extent to which triad member influence perceptions converged by calculating the Euclidean distance among the family members' factor scores. It should be possible to construct an index of families based on this household measure of convergence. In our study, we only tried to identify factors that might help explain convergence or a lack of it.

PROS AND CONS OF USING TRIAD DATA

From the aforementioned section, it is clear that the key advantage of using multiple respondents in family studies is that it potentially helps us obtain a more accurate picture of family decision processes. The key disadvantages involve difficulty in collecting and analyzing the data.

Considering data collection for multiple respondents, our study encountered a severe non-response problem in attempting to obtain data from fathers. We asked over 500 junior high school students to fill out the adolescent version of the questionnaire. The actual data set employed in our study consisted of only 161 triads because, while over 400 mothers responded, less than 200 fathers did.

Although we gained additional information by including the father in attempting to more accurately assess children's influence, we actually gained that information from a much smaller number of families. As we consider including more respondents in family studies, we need to remember that the non-response

problem is likely to increase as the size of the set of individuals to be analyzed as a family unit increases.

Considering data analysis, it is clear that the multivariate methods mostly favored in marketing family studies are poorly suited to the analysis of triad or larger-group data. Methods to deal with this type of data are largely undeveloped or unexplored. Consequently, researchers who surmount the problems associated with collecting data from larger numbers of family members still must deal creatively with the question of what to do with that data once it has been obtained.

FUTURE RESEARCH USING MULTIPLE RESPONDENTS

The obvious issues to be resolved in future multiple respondent family research are the data collection and analysis problems discussed above. However, there are additional matters that deserve concern. For example, including the *relevant* respondents in a particular family study is probably more important than including *a lot* of respondents. If it is possible to gain information somehow on which purchases a family member influences, then perhaps it will be possible to exclude them from those studies of decisions in which they do not participate.

The question of who needs to be considered as a family member is also important in both domestic and cross-national or cross-cultural family studies. Marketing studies for the most part consider the family to consist of a father, mother, and one or more children -- the "standard" U.S. nuclear family. Such a family is increasingly less standard in the U.S., and may never have been the standard in some U.S. subcultures or in other cultures. The point is that the relevant family members in family purchase studies may not be part of the nuclear family.

There is also the matter of possible gender effects associated with family purchase data collection. While such effects have been little investigated in marketing studies, there is some evidence that the sex of the interviewer, contact person, sponsor, or observer in a study can affect the data collected for that study in a systematic way (Warren 1980). While it could be relatively easy to control for such an effect in a single-respondent study, controlling for gender interaction effects between researchers and respondents will become increasingly difficult as the number of respondents (presumably of different sexes) increases.

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A SIMULATION GAME AS A FAMILY RESEARCH PARADIGM

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ABSTRACT

This study discusses the simulation game as a research paradigm. It reviews the general literature

on simulation gaming for research purposes, and then discusses a specific application in which the Bean Game (Yeans and Manning 1984) is used to investigate issues studied previously by Corfman and Lehmann (1987), Davis, Hoch, and Ragsdale (1986), and Park (1982). The game is found to impose an unrealistic structure on the data collection; nonetheless, the paradigm does provide insight into the process issues of interest.

INTRODUCTION

The use of a simulation game as a research paradigm is not a new phenomenon; in fact, Cohen and Rhenman (1961) stated that many of the developers of the early computer simulation games were as interested in using them for research purposes as they were for pedagogical purposes. There are a number of articles available (Bass 1964; Cohen and Rhenman 1961; Nees 1983; Rowland and Gardner 1973) which do a very thorough job of discussing the pros and cons of using a simulation game as a paradigm for investigating substantive issues.

The use of games for family research is relatively rare. While some of the early uses of games in family sociology were for research purposes (Haley 1962; Straus 1966), most of the games in the family area have been used in the area of family counseling/therapy (see Rabin 1983 for an annotated bibliography) or for pedagogical purposes in family economics classes. This paper will discuss the benefits and the methodological weaknesses associated with simulation games in terms of family research.

Advantages. To some extent, the game environment provides a middle ground between laboratory and field research. The simulation provides greater opportunity for control than does field research and yet allows one to study a sequence of decisions over a long period of (simulated) time. The simulation can insure that certain situations occur. The cost of collecting data is far lower in a simulation than in a field study, and the simulated environment removes much of the sensitivity associated with the problem area.

Decision history is extremely important in understanding family processes, with feedback from earlier decisions providing constraints for subsequent decisions. The longitudinal nature of most simulations can enable the researcher to manipulate experimentally a number of situational variables in order to explore the dynamic interaction and impact of these variables on group performance and satisfaction (Rowland and Gardner 1973). The game decision making can be interrupted, dissected, and reconstructed, allowing the researcher to obtain a wealth of information on the decision process itself. Bass (1964) notes that the use of a game provides the ability to replicate studies, a possibility which is lacking in field studies. The game can also provide the stimulus for focused interactive verbal protocols when spouses play the game together.

Disadvantages. A major criticism of games as research paradigms is their artificiality. Tedeschi, Schlenker, and Bonoma (1973) blamed this on the arbitrary rules and trivial outcomes which are provided by the experimenter, thus failing to tap the rich behavioral repertoires of subjects and to elicit powerful motives.

Another disadvantage is that "control" may be largely illusory, as respondent variation will result in vastly different wealth conditions at any given time. Any single manipulation later in the game will be seen differentially because of the different frames of reference generated from prior decision sequences. Consequently, a within-household analysis may be required.

Evaluation of the "Bean Game" as a Family Research Paradigm

We used the "Bean Game" (Yeans and Manning 1984) to investigate spousal decision making in a house buying context. Subjects were required to allocate beans to various housing attributes (individually and then jointly) under varying financial conditions (budgets of 20, 15, and 12 beans).

Purpose. The intent for using the Bean Game in this study was to investigate spousal preference prediction (similar to Corfman and Lehmann 1987; Davis, Hoch, and Ragsdale 1986; Kenny and Acitelli 1988) and the house-buying decision process (similar to Park 1982; Park and Lutz 1982).

Process. Eighteen couples participated in the study. First each individual provided importance ratings for the 18 attributes included in the game and then provided ratings for his/her spouse. Each spouse was then instructed to play the game alone at the 20, 15, and 12 bean levels. The couples then played the game together, making any necessary tradeoffs to arrive at a conclusion satisfactory to both.

Brief Overview of the Analyses. We performed analyses both within and across couples. Within couples, we correlated the spouse's importance ratings with his/her partner's and with the bean allocations in the game. Across couples, we obtained pooled correlations among importance ratings and between the importance ratings and the actual allocations in order to make conclusions as to overall influence. The results support the anchoring and adjustment process suggested by Davis, Hoch, and Ragsdale (1986), as one's predicted ratings are closer to one's own ratings than to one's spouse's ratings. The results also indicate that one can better predict one's spouse's ratings with one's own ratings than with one's predicted ratings for the spouse. In aggregate, it appears that husbands can predict wives' ratings better than wives can predict husbands' ratings. By correlating the differences in the importance ratings with the bean allocations across couples, we were able to see if some were consistently "wife-dominated" while others were consistently "husband-dominated." The majority of the correlations indicated that husbands have relatively more influence.

Park (1982) discussed the relative ease of one spouse's determining the other spouse's preference levels on salient *objective* dimensions as opposed to salient *subjective* dimensions. Further, he suggested that couples would reach early agreement on the salient objective dimensions. Our process allowed us to investigate the relationships between spouses' ratings on the salient objective dimensions. Those objective dimensions rated greater than five on a seven-point scale by at least one spouse were investigated; in general, the correlations on these dimensions were not greater than the correlations on all dimensions. Thus, it would appear that the couples do not come to the task in greater agreement on the critical dimensions than on any other dimensions.

The Bean Game's structure allowed us to examine patterns of individual and joint behavior (in the form of bean allocations) across situations involving different levels of financial constraints. One outcome that could not be observed in the methodologies used by Corfman and Lehmann (1987), Davis, Hoch, and Ragsdale (1986), and Park (1982) is that the joint allocations often were more extreme than either of the individual allocations. For both the 20 and 12-bean conditions, joint allocations for five of the 18 dimensions were more extreme. Further, none of the extreme-shift patterns were the same across the two conditions. Thus the results provide little support for an averaging model, but do support the proposition that situational influences are very important.

Park (1982) also suggested that spouses would make concessions based on preference differences across spouses, a relationship found in the Corfman and Lehmann (1987) study. We investigated those dimensions in which there was a large divergence in the importance ratings within couples, and then looked at the joint allocations. We did not find a pattern of concessions toward the spouse with the higher importance ratings. Further, we found that most couples were largely unaware of the existence of the discrepancies.

OVERALL EVALUATION OF THE BEAN GAME

Our observation is that the Bean Game, while somewhat incomplete in its structure, can be used to provide insight. The data collection process for the game (where couples went through the task in the privacy of their own homes) required far less effort than that in the Park (1982) and Park and Lutz (1982) studies. Had we required subjects to do this in the laboratory and then recorded the process, we would have been able to develop decision nets as in the Park studies. An alternative to obtaining protocols for the whole process (each spouse individually and then the joint data collection) would be to have focused discussions of their predictions of each other's preferences, about those dimensions for which there were discrepancies between their importance ratings, and about the final joint bean allocations.

Tedeschi, Schlenker, and Bonoma (1973, p. 197) noted that "like other experimental paradigms, games constrain what the subjects can do." We found this to be true in terms of the attributes selected for consideration in the selection of a house. The game dealt with 18 such criteria, which did not include commonly considered attributes such as resale value, school district, or size of kitchen. The comprehensive nature of the 18 criteria included in the Bean Game was investigated by having 100 respondents (mostly older students) rate 40 housing attributes which had been compiled from a survey of studies dealing with the home purchase and from discussions with realtors. The attributes were factor analyzed; the results indicated that the game seemed to cover factors such as quality of construction and size quite well, but not factors such as neighborhood and extras. One positive note may be interjected, though. To the extent that the focus of the study is the investigation of the *process* involved, even a somewhat incomplete framework such as the Bean Game seems to provide insight.

The game's structure can also be questioned on other grounds. The game was developed by consumer economists for pedagogical purposes in mind. The resulting normative structure may be bothersome to subjects. The budget is set by the bean level, and subjects are required to allocate all of the beans. The implied notion is to get the best house possible given the constraints. Some subjects, upon realizing that they were going to end up with a disappointing house in any event, might have chosen to spend less than the total number of beans on the house and used the remaining beans for other consumer goods. In other words, tradeoffs outside the housing decision may exist in the real world. Allowing couples to choose between (1) a 20-bean house and their deteriorating car and (2) a five-bean car and a 15-bean house would provide a richer context and allow the study of non-comparable alternatives.

The preliminary study reported here does indicate that the game environment can be used to investigate issues studied earlier through the use of more elaborate procedures. The Park (1982) study required a tremendous amount of effort on the part of the subjects and the investigators. Adding the collection of protocols to the use of the game would have made data collection much more difficult, but it still would have been simpler than the procedures used by Park. Further, the game environment makes it feasible for the subjects to go through the process individually before doing it jointly; dealing with actual consumers did not allow this luxury. As in the study using the information integration methodology used by Troutman and Shanteau (1989), the individual- then-joint process allowed the discovery of instances where the joint decisions were more extreme than either of the two individual decisions, indicating that the simple averaging model may not explain the joint decision-making process.

The bean allocations provide an easily quantifiable dependent measure not available in the

Park (1982) and Corfman and Lehmann (1987) studies. Concessions could be seen on an attribute basis, allowing analysis of more than just a dichotomous (choice-based) measure.

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INFORMATION INTEGRATION THEORY APPROACH TO HUSBAND-WIFE DECISION MAKING

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ABSTRACT

The approach described in this presentation addresses husband-wife decision making by focusing on the relation between spouses' individual and collective judgments. The purpose is to illustrate a new method for examining how spouses make joint decisions. Before considering the proposed approach, a methodological review is offered of prior approaches to dyadic decision making. This is intended to show the need for an alternative framework. A new perspective is then suggested to examine how spouses make joint decisions. This method is illustrated in three experiments of couples' collective decisions about medical services.

BACKGROUND

Research on family decision making has traditionally focused on the influence that each spouse has on consumer choices (Engel, Blackwell, & Miniard, 1986). Although various research procedures have been used, the measurement of social power has proved difficult (Turk & Bell, 1972). Moreover, there is a fundamental question about the role of social power in couple decision making. A discussion between husband and wife, for example, may involve both power issues and an exchange of information (Park, 1982). Thus, these methods may have been blind to important processes in collective decision making.

When spouses interact to make a decision, the outcome seems simple--they either agree or disagree. Even a casual analysis of husband-wife interaction, however, indicates that matters are more complicated than that. Whether the spouses agree or disagree is not so important in the present view as the sharing of information. To understand how collective decisions are made, it is necessary to examine simultaneously the husband's and the wife's individual decision processes as well as the collective decision processes. In this way, it becomes possible to analyze in detail how joint decisions relate to individual decisions.

ALTERNATIVE APPROACH

The proposed approach derives from Anderson's (1981, 1982) information integration theory (IIT). This theory assumes that there are two fundamental processes involved in making decisions. The first is the evaluation process by which psychological value is attached to information. The second process involves the integration of separate pieces of information into a unitary judgment. The former is reflected in the estimation of weight and scale values, while the latter is reflected in an algebraic integration model.

One advantage of IIT is that it can be applied at the level of a single subject/couple. This means

that both the parameter estimates and the model form can be determined and compared for each individual and/or couple. As shown by Troutman & Shanteau (1989), this provides important advantages over previous approaches (also see Anderson & Armstrong, 1989).

The research described here appears to contradict Sheth's (1974) assertion that the area of couple decision making has been researched sufficiently so that a comprehensive theory can be developed. The present findings suggest that the critical cognitive component remains to be understood.

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LONGITUDINAL METHODS FOR FAMILY CONSUMER RESEARCH

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INTRODUCTION

Longitudinal analysis is particularly suited for studies that are designed to assess the effects of variables over time. The value of such research addresses issues relating to changes, impacts and cause-effect relationships (Nicosia 1965; Bucklin and Carnan 1967; Eckland, 1968; Crider et al., 1973; Winer 1983). In spite of their appeal, longitudinal designs present several problems which need careful attention (Nicosia 1965; Crider, et al., 1973). In general, the problems may be classified as those relating to (a) attrition of the sampling units; (b) the diminishing relevance of certain research issues over time, (c) response biases and (d) high cost. These problems are in addition to those

faced in the standard cross-sectional survey designs. In this paper, a review of longitudinal methods as appropriate to household research will be presented. The Paper will also include an empirical study of U.S. families conducted during 1984-86 using CATI (Computer Assisted Telephone Interviewing) technique and time diary data collection procedures.

A GENERAL OVERVIEW

Longitudinal studies may be classified in two ways, according to the nature of sampling scheme, or according to the data collection procedures.

Nature of the Sampling Scheme: Based on a survey of different behavioral and social science disciplines, we identify four types of studies: (a) medium-term (1-3 years), qualitative studies of a limited number (about 25-50) of families, (b) long-term (5-10 years), qualitative studies of a limited number of families, (c) multivariate, quantitative studies of a small sample of families (about 50-150), and (d) multivariate, quantitative studies of medium to large sample of families. Types (a) and (b) research are usually undertaken by anthropologists, medical sociologists, applied researchers in family therapy, and development psychologists. Types (c) and (d) studies are found among demographers, family sociologists, applied economists, and marketing researchers.

Data Collection Procedures: We have identified different studies based on data collection procedures. Longitudinal research can utilize primary data or secondary data. Some researchers would add a third category, namely, field experiments or quasi-experiments, to identify the collection of longitudinal context where some type of intervention is examined via a pre-post, or multi-period data collection procedures or measures.

In this paper our major emphasis is on primary data collection as it pertains to household research. Since much of the family research in Economics and Demography uses secondary data, a small section of the paper will be devoted to it towards that end.

SELECTED ISSUES IN FAMILY RESEARCH

An Overview of Longitudinal Family Studies: We find that different disciplines have different orientations in the way they conduct family studies. Some examples are given below.

Family Development research theorists use life cycle models for their research. Most recently, there has been an emphasis on using family life events as markers of family life change. In this type of research, the researchers are less concerned with representativeness of their sampling schemes and more interested in abnormal samples as the basis for theory generation in family development.

Marketing researchers use *panels* of families for studying consumption patterns. Panel studies of purchase behavior of grocery products have undergone revolutionary changes in the last ten years. The Berkeley panel studies of the sixties used extensive time diaries for recording weekly grocery shopping. In the last ten years the scanner data

technology has completely altered the nature of this type of research. The methodological considerations in these two types of research are quite different and there are other interesting issues of contract that need to be reviewed.

Anthropological studies of family behavior are based on developing family ethnographies over a period of time. Because of the intense nature of these studies and the fact that most anthropological research is carried out in cultures other than that of the researcher, there are extensive cost constraints in conducting this type of research. There are also other research issues which do not surface in the standard survey type of research. Ethnographic research involves the use of informants, recording of oral histories, and pursuing of observational techniques. It is not uncommon for anthropologists to return to their sites to observe changes etc., and continue where they left off.

Researchers of time-budget studies perform extensive analysis of family time allocation patterns across different activities. Time-budget studies are carried out in different parts of the world and much comparative data are now available for performing research using a multi-cultural perspective. An important issue in time-budget studies refers to the data collection procedures and the validity of the reported data.

Some Research Issues: In contrast to individual oriented research, research on families presents some special kinds of problems. In typical family research, we are concerned with both structural (e.g. family composition) variables and individual family member variables. Specifically, in longitudinal studies, both the structural issue in family research relates to the definition of a continuing or longitudinal family, taking into account the fact that a family's composition may change from one period to another. The paper will give an example of the Reciprocal Rule Model as a way to determining family composition appropriate for longitudinal studies.

A general problem in longitudinal analysis is the attrition bias, that is, bias due to the dropping out of families from one wave to the next. While replacement of families is a solution, we now have procedures available to estimate biases due to attrition which utilize a combination of probit/OLS techniques.

In typical survey type situations family data are collected from a single member within the family (e.g. husband or wife). Because of the inherent biases in such reporting, researchers have been arguing for collecting data from both husband and wife. Such data are still not accurate because we now have bias from two sources instead of a single source. We will illustrate a method of data collection to minimize dual bias.

AN EMPIRICAL STUDY

For this paper, data collected from a national sample of 614 households, between 1984 and 1986, will be used to provide examples of the issues discussed above. The data pertain to the adoption

and use of personal computers at home. The project was funded by the National Science Foundation.

(Interested parties should contact the author regarding references cited in this paper.)

Message Framing Effects on Product Judgments

Joan Meyers-Levy, Northwestern University
Durairaj Maheswaran, New York University

ABSTRACT

The purpose of this paper is to provide a summary of a special topic session organized to address recent developments in framing research in consumer behavior. The papers presented in this session examined both how and when consumers' judgments vary as a function of the way message information is framed. In addition, they explored the theoretical and empirical implications of such framing effects.

OVERVIEW

Recent research has shown that people's choices and judgments can be influenced not only by the content of communicated information but also by the way the information is described or framed (Kahneman and Tversky 1979; Meyerowitz and Chaiken 1987; Puto 1987; Tversky and Kahneman 1982). Two paradigms have prevailed in framing effect investigations. In consumer research that assumes a decision theory approach, people typically are presented with two discrete options to a problem, one representing a risky outcome and the other a certain outcome. People's choice of option is compared when these same two options are expressed as either as gains or losses (Kahneman and Tversky 1979, 1982; Puto 1987; Thaler 1985).

A second paradigm prevails in research that examines consumers' response to persuasive communications. Here consumers' overall product judgments are examined after being presented with one of several sets of message claims that are alternatively framed by presenting positive versus negative attribute labels (e.g., "ground beef described as "75% lean" or "25% fat", Levin and Gaeth 1988", positive versus negative consequences (e.g., "... women who [do/do not do] breast self examination have an [increased/decreased] chance of finding a tumor in the early, more treatable state of the disease, Meyerowitz and Chaiken 1987", or nonverbal versus verbal descriptions, "35 grams of protein" versus "excellent protein content" Scammon 1977). This session focused on research that pursued this latter approach to investigating framing effects.

Each of the four papers presented in the session report the findings of empirical research which explores the extent to which the effectiveness of alternative message framing manipulations is contingent on situational and/or individual difference variables. Thus these papers add significantly to our theoretical understanding of framing effects by attempting to go beyond just simple demonstrations of framing effects and clarifying when a particular framing effect is likely to be observed, reversed, or eliminated.

The first paper by Gary J. Gaeth, Irvin P. Levin, Deborah A. Cours and Susan Combs explores the interactive effects of personal experience and

framing where framing is manipulated in terms of positively versus negatively phrased product attribute labels. The subsequent framing effect study by Joan Meyers-Levy and Durairaj Maheswaran explores whether some of the conflicting outcomes observed in framing effect studies in the literature can be accounted for by differences in people's use of detailed versus more cursory processing. The study reported investigates how the effectiveness of a message that focuses on either benefits received ("positive framing") or benefits foregone ("negative framing") varies as a function of product risk and personal relevance. A third paper by Nancy Artz examines framing effects of a different sort. The effect of numeric versus verbal message framing is explored as a function of source expertise and individual's predisposition to favor quantitative versus qualitative information. Finally, the last paper by Carolyn Yoon, Joan Meyers-Levy and Alice Tybout investigates yet another type of framing effect. This paper explores the extent to which simply framing a hypothetical event as having occurred in the past or as to take place in the future leads people to engage in alternative search processes in memory and thus results in the generation of event descriptions that vary in the degree of detail they contain and their predictability. More detailed abstracts of the papers provided by the authors are presented next.

ABSTRACTS

Framing of Attribute Information in Product Description

Gary J. Gaeth, Irvin P. Levin, Deborah A. Cours and Susan Combs
University of Iowa

Consumers' evaluation of products are influenced by the manner in which information about key attributes is labeled or "framed". In prior research we found that ground beef was judged to be of higher quality when it was labeled "75% lean" rather than "25% fat". However, the difference in response to "75% lean" and "25% fat" meat was attenuated when consumers actually tasted the meat (Levin and Gaeth 1988). Furthermore, both theory and research suggest that the temporal sequencing of information provided by outside sources (e.g., ads) and information gained from personal experience is a crucial factor affecting consumer impressions.

A recent study in our laboratory extends earlier work by examining the interactive effects of information frame and personal experience within a dynamic and realistic temporal sequence of information acquisition. College students were asked to evaluate the usefulness of a word processing system at different points in the following sequence of information and experience: basic introductory

literature about the system and description of available features; observations of the system in use; hands on experience with the word processor. These three phases were spaced one week apart. Subjects also received a "frame" which was a written summary of the effects of using the word processor on a previous class of students. This information was framed positively (% of students who improved their grade) for some subjects and negatively (% of students who did not improve their grade) for others.

Consistent with prior work, evaluation tended to be more favorable in the positive condition than in the negative condition, but the magnitude of this effect differed depending on when in the sequence the framed information was introduced and how often subjects were required to update their evaluations. When subjects were asked to re-evaluate their opinions following each new phase of information, a transient recency effect was obtained. That is, framed information presented at an early phase affected judgments at that point in time but not judgments made at a later date. By contrast, when subjects were asked to respond only at the end of the sequence of information (in some cases three weeks later), even early information had a long-term effect. This set of findings fits current theorizing on the role of response mode on belief updating (Hogarth and Einhorn 1989).

This study illustrates the value of using a well-established cognitive phenomenon, in this case the information framing effect, for discovering the influence of information introduced at varying times during the formation of product impressions. Our long-term goal is to use studies of this type to develop a comprehensive model of product impression formation based on varying amounts, source and sequences of product-relevant information.

Investigating Message Framing Effects on Consumer Judgments: The Influence of Personal Relevance and Product Risk

Joan Meyers-Levy, Northwestern University
Durairaj Maheswaran, New York University

Research by Meyerowitz and Chaiken (1987) found that positively framed messages, which noted the positive consequences of using a product, were more effective than were negatively framed messages, which highlighted negative consequences. However, Levin and Gaeth (1988) observed reverse framing outcomes when they described a product using positively or negatively phrased attribute labels. The current research attempted to reconcile these disparate findings by positing that the direction of framing effects may depend on whether message information is processed in a detailed or cursory, heuristic manner.

In an experiment, subjects received manipulations intended to vary the degree to which they would use detailed or heuristic processing in comprehending message information that was positively or negatively framed to highlight either benefits gained or benefits foregone by

buying/failing to buy a product. More specifically, subjects were presented with materials that discussed the role of cholesterol in the development of heart disease. The degree to which subjects engaged in relatively detailed or heuristic processing was manipulated in two ways. First, the extent to which concern over cholesterol was portrayed as personally relevant to subjects was varied. Second, the tradeoff of product benefits and risk was varied by informing subjects that the advocated product involved a fairly high risk (i.e., a nine month test of the product by the American Heart Association showed that product use resulted in a significant reduction of cholesterol for 80% of test participants but 20% of participants evidenced enhanced cholesterol levels) or a relatively low risk (i.e., the corresponding percentages were 98% and 2%).

It was expected that detailed processing would be greatest in the high personal relevance/high product risk condition. As a result, negatively framed information, which was highly diagnostic and consequential to subjects, would receive disproportionate weight and impact relative to positively framed information and produce greater compliance. However, heuristic processing would be greatest in the low personal relevance/low product risk condition. Here it was anticipated that subjects might use the valence of the message frame as a heuristic cue for determining their disposition and the result would be greater compliance when the message was positively rather than negatively framed.

Results were consistent with the expectations. Indeed it appeared that negatively framed messages were more effective when people processed the message in a predominantly detailed manner, whereas positively framed messages were superior when the message was heuristically processed.

Individual Differences in Preference for Numeric/Verbal Framing

Nancy Artz, Northwestern University

A variety of researchers (e.g., Holbrook 1978; Scammon 1977; Yalch and Elmore-Yalch 1984) have examined the effects of numeric and verbal advertising claims (e.g., "3 grams of fiber" versus "high in fiber"). The mixed results these researchers observed are difficult to interpret because the numeric and verbal claims were not clearly designed to convey equivalent information. A study was undertaken with numeric and verbal claims that conveyed equivalent information to examine numeric/verbal execution as a framing device.

Subjects were presented either numeric or verbal claims about a cereal from either an expert or novice source. For example, the verbal claim included the phrase "contains average amount of protein" while the corresponding numeric claim was "contains 3 grams of protein average cereal has 3 grams."

Thus the numeric and verbal claims conveyed equivalent information but were framed with either

numeric or verbal execution. Subjects indicated their beliefs about the product's nutritiousness, and these responses served as a dependent measure in an ANOVA.

There was a significant three-way interaction between numeric/verbal frame, source expertise, and an individual difference variable of whether a person's undergraduate training was quantitative or qualitative ($p < .01$). Specifically, source expertise influenced product beliefs only when the numeric claim was presented to quantitatively oriented individuals.

Overall, the pattern of results suggests that there are individual differences in preference for numeric frames and this preference may play a motivational role in message processing. Individuals favorably predisposed to a particular frame appear to process claims using that frame versus the alternative one differently.

Exploring Temporal Perspective Framing Effects

Carolyn Yoon, Duke University

Joan Meyers-Levy, Northwestern University

Alice Tybout, Northwestern University

A somewhat tenuous observation that has emerged in the social cognition literature is that people's descriptions and judgments of hypothetical events differ depending on whether the events are retrospectively framed as having already occurred or prospectively framed as to occur in the future (Bavelas 1973; Webb and Watzke reported in Weick 1979). It appears that when individuals are asked to look backward and describe a hypothetical event, they write longer, more detailed, concrete, and conventional descriptions of it; when they look forward and describe this same event, their descriptions tend to be briefer, more abstract and they mention more unusual, unconventional features.

We hypothesized that such temporal framing effects might occur because of differences in the memory search processes and cognitive elaboration these temporal frames stimulate. Events that are situated in the future are by definition considerably undetermined or uncertain, and such uncertainty may prompt a broad search of memory. This broad search may absorb considerable processing time, thereby leaving less time for writing a description of the event. This broad search also is more likely to uncover unusual, less predictable outcomes that might be associated with the event. By contrast, hypothetical events that are situated in the past may be regarded as more certain, even if they are unknown to the individual. Accordingly, people may engage in a more constrained memory search, focusing on a most likely or representative (Kahneman and Tversky 1982) outcome given the situation. Thus people may report a familiar, prototypical event and this is likely to be elaborated on in considerable detail.

A study was conducted to explore the existence of such temporal perspective framing effects as they might relate to a consumer relevant situation and to investigate the plausibility of the

proposed explanation. Subjects were given a priming task intended to encourage either a narrow or broad search of memory. Then they were asked either to look forward or to look backward in time and describe the purchase behavior and situation that a hypothetical individual will confront/confronted when buying a gift for a parent.

Some evidence supported the prediction that relative to prospective framing, retrospective framing resulted in descriptions that were more detail specific (e.g., greater specification of the gift, more adjectives that described the gift, greater number of brands mentioned, etc.). Some evidence also suggested that such framing effects may stem from the breadth of memory search and elaboration stimulated by the temporal perspective frame.

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The Effects of Music in Conditioning Brand Preference: Replication and Extension

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The role of music in influencing brand preference has been examined in Marketing/Advertising with varying paradigmatic orientations. Of the two dominant approaches, one is based on presumed characteristics of communication processes (i.e., the hierarchy of effects, or information processing), and the other, on classical conditioning. In the first, music is viewed as a peripheral cue in advertising or some brand-related message, and its effects traced through viewers'/customers' information processing stages. The emphasis here is on the potential effects of music on recipients' attention, as well as attitude towards an ad, either by itself, or in combination with other executional aspects.

Classical conditioning approaches, however, focus directly on the impact of music on brand preference or choice, without necessarily examining intervening cognitive mechanisms (i.e., comprehension, elaboration or evaluation). The classical associative relationship between an unconditioned stimulus (e.g., music), and the target conditioned stimulus (i.e., brand) is examined experimentally, focusing on design characteristics that alleviate demand characteristics and allow reliable and valid interpretation of findings.

Despite the potential for such a direct relationship between music and brand preference (Gorn 1982; Nord and Peter 1980; Allen and Madden 1985; McSweeney and Bierley 1984; Shimp 1989), the effect awaits replication and extensions that cover the range of the phenomenon.

STUDY

Subjects were asked to participate in a market research project to evaluate the quality of a boom box. They were exposed to a neutral (i.e., unfamiliar) brand of boom box (conditioned stimulus), in the context of music (unconditioned stimulus) played through its speakers. Four experimental conditions were created, with different musical pieces played to each group, each followed by an ad for an unfamiliar low-involvement product. The musical pieces were pretested to elicit very positive, positive, negative and very negative reactions. It was expected that subjects' evaluations of the speakers would be affected by their level of liking towards the music played on the speakers.

Results of the study were discussed with attention to both persuasion as well as demand assessment indices.

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Classical Conditioning of Negative Attitudes

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ABSTRACT

Consumer researchers in recent years have displayed growing interest in the classical conditioning paradigm. Published efforts to this point, however, have focused exclusively on testing positive attitudinal conditioning. The present research program departs from this pattern by examining the possibility of conditioning negative attitudes toward consumer goods. Results from five experiments--all utilizing multiple trials with forward conditioning and random control groups--provide consistent albeit modest support demonstrating the conditionability of consumer goods to negative stimuli.

WHY STUDY NEGATIVE CONDITIONING?

While marketing communications efforts typically are aimed at persuading consumers to purchase a particular brand and thus seek to generate more positive attitudes toward the brand, there also are a number of situations in which marketing activities may be classified as attempts at demarketing. For instance, advertising is frequently used in public service campaigns to dissuade consumers from participating in a variety of activities that are harmful to their health including the use of tobacco, illegal drugs, and the excessive use of alcohol, especially when driving.

In addition to these proactive demarketing campaigns, negative conditioning, or some other form of associative learning, may occur unintentionally in the marketplace when a consumption object (product, brand, or store) finds itself in a contiguous relation with an undesirable stimulus. For example, random advertising placements on television or in a magazine may result in a food product being advertised beside a noncomplimentary item. Or specific brands may be shown in conjunction with revolting, gruesome, or grotesque scenes in movies or television programs. Another form of negative conditioning may occur when the consumer spots an especially unappealing person wearing a particular brand of apparel or using some other product. Rumors represent still another form of negative-like unconditioned stimulus that can wreak untold damage on a brand's reputation and image.

Happenstances in the marketplace are not always kind to the images marketers most prefer for their brands. It is for this reason that negative conditioning--along with negative information in

general (cf. Scott and Tybout 1981; Weinberger, Allen, and Dillon 1981)--is worthy of serious consumer scholarship.

PRIOR RESEARCH

There is ample evidence of negative conditioning in the basic classical conditioning literature. Most notable is the rich line of research into aversive conditioning, especially to taste, through the use of such negative USs as electric shock and nausea induced through chemical injection or radiation. Many may remember the classic film "A Clockwork Orange" in which the conditioned aversion to violence, women, and accidentally to Beethoven's "Ninth Symphony" was so strong that the subject Alex subsequently attempted to end his life rather than listen to the "Ninth."

Studies have supported negative conditioning of attitudes either through the use of electric shock (e.g., Zanna, Kiesler, and Pilkonis 1970) or through pairing with negatively valenced words (e.g., Moore, Moore, and Hauck 1982). Gorn's (1982) seminal conditioning experiments in the marketing literature included one experimental group that was exposed to positively evaluated music from "Grease" and a second group where the CS, a pen, was paired with what amounted to a negative US, i.e., classical Eastern Indian music. Gorn's results, although the research was not designed for this purpose, evidenced negative conditioning: subjects in the undesirable music group selected the color pen shown in the experiments only 30 percent of the time, somewhat less than might be expected by chance.

The current research program includes five experiments that attempt to demonstrate a downward change in attitude through the multiple-trial presentation of negatively valenced unconditioned stimuli. These stimuli are either systematically paired with consumer goods (in a forward conditioning pattern) or, for comparison purposes, are presented the same numbers of times but in random order with respect to the consumer goods that serve as conditioned stimuli. The research paradigm in all five experiments follows successful procedures established previously in our series of positive conditioning experiments, especially the previous Experiment 4 (Stuart, Shimp, and Engle 1987).

EXPERIMENT 1

In adapting Stuart et al.'s (1987) positive conditioning procedures, this initial negative conditioning experiment sought to condition negative attitudes toward fictitious Brand L toothpaste using four distasteful, unpleasant scenes that served as a negatively valenced US composite.

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Method

Brand L toothpaste, the conditioned stimulus (CS), was operationalized by the visual presentation of a green and yellow tube presented via a color slide presentation. The unconditioned stimulus (US) was operationalized similarly through the slide presentation of four unpleasant scenes. These four scenes, selected through pretesting as eliciting strong negative responses included (1) a trash dump with rusty cans, (2) a trash dump with old cardboard boxes, (3) leaking chemical storage drums, and (4) a large black mound of decomposing vegetation.

The experiment included forward-conditioning and random-control groups. The forward-conditioning group received 10 conditioning trials in which a 7.5-second presentation of Brand L toothpaste, the CS, was always followed by a 7.5-second presentation of one of the four unpleasant US scenes. Two seconds of down time (a darkened screen) followed each trial, the purpose of which was to alert subjects to the subsequent trial rather than having each trial merge into the next. Strict timing of all presentations was accomplished through the use of a programmable dissolve unit, a sync-pulse recorder and multiple projectors. Also included in the presentation were filler trials that paired products other than Brand L toothpaste with affectively neutral scenes, the purpose of which was to reduce hypothesis guessing (see Stuart et al. 1987 for further explanation). In comparison to the forward-conditioning group, the random-control group received the same number of presentations of the CS, the US, the down times, and the filler material but in random order with respect to each other. In other words, the relationship between CS and US in the random control group was entirely nonsystematic, hence preventing the formation of a predictiveness relationship between CS and US (Rescorla 1967).

In order to prevent excessive boredom and to maintain attention during all ten conditioning trials, the presentation was broken into three intervals. Following each of the first two intervals subjects completed attitudinal measures pertaining to two filler products (although these results are not of interest). Following the third and final portion of the slide presentation, subjects rated Brand L toothpaste on various attitudinal scale items. Subjects were then advised that a written statement explaining the study would be mailed at a later date, cautioned not to discuss the study, and thanked for their participation.

Measures

Four measures of attitude toward the Brand L toothpaste served as indicators of a conditioned attitudinal response: (1) a summated score of seven 7-point semantic differential items (good-bad, high quality-poor quality, like very much-dislike very much, superior-inferior, attractive-unattractive, pleasant-unpleasant, and interesting-boring); (2) a 7-point global evaluative item ("Overall my feeling about Brand L toothpaste is favorable-unfavorable");

(3) an 11-point measure of purchase intentions ("All things considered, if you were to purchase toothpaste on one of your next several trips to the supermarket, what are the chances in 10 that you would purchase Brand L toothpaste if it were available?"); and (4) a graphic rating scale consisting of a 120-millimeter line on which subjects placed an "X" to indicate their feelings toward Brand L toothpaste from very positive to very negative.

Results

Forty-seven subjects participated in Experiment 1, 24 in the conditioning group and 23 in the random-control group. The Table presents means, standard deviations, and t-values. While the behavioral intentions item is the only one to reach statistical significance ($t = -1.84$; $p < .05$, one-tailed), expected directional differences were evidenced for the other scales as well. That is, for all measures the means of the forward-conditioning group were predictably lower (less positive) than for the random-control group.

It is informative to compare the mean scores in this experiment with scores obtained in our earlier positive conditioning experiments using Brand L toothpaste as the conditioned stimulus (Stuart et al. 1987). The best comparison with the present experiment, due to the use of identical procedures, is the "forward 7.5/7.5" group in Stuart et al.'s Experiment 4. On the semantic differential, overall, behavioral intentions, and graphic rating scales, the positive conditioning (random control) groups in the prior experiment had means of 38.8 (24.3), 5.6 (3.33), 6.76 (2.33), and 94.28 (45.74). These averages compare with the present means (see Table) in the negative conditioning (random control) groups of 18.33 (20.13), 2.29 (2.87), 1.08 (2.13), and 26.83 (32.0). It is apparent that the negatively valenced USs in the present forward conditioning trials had a dramatic impact in reducing attitudes toward Brand L toothpaste in comparison to the positive USs in the earlier experiment. However, as to be expected, the differences in the two experiments between the positive and negative random control groups' mean scores are relatively trivial.

EXPERIMENT 2

A number of different negative scenes were pretested and four of these were selected for inclusion in Experiment 1. However, two of the scenes that had ranked very low (lower, in fact, than three that were included in the first experiment) were not used in Experiment 1 because of their rather gruesome nature. One included a large number of human skulls stacked on a shelf (reminiscent of a scene from the Cambodian killing fields) and the other was of a shrunken human head. Because Experiment 1 exhibited directional effects but did not reach statistical significance for three of the four attitudinal measures, it was felt that the use of these more negative USs might elicit stronger negative results. Thus the US in Experiment 2 included these

TABLE
EXPERIMENTS 1-5: MEANS, STANDARD DEVIATIONS, AND T-VALUES

	Semantic differential ^a	Overall rating ^b	Behavioral intentions ^c	Graphic rating ^d
<i>Experiment 1</i>				
Conditioning group (n=24)	18.33 (7.13)	2.29 (1.30)	1.08 (1.66)	26.83 (31.23)
Random-control group (n=23)	20.13 (7.90)	2.87 (1.55)	2.13 (2.22)	32.00 (26.89)
t-values	-0.82	-1.39	-1.84*	-0.61
<i>Experiment 2</i>				
Conditioning group (n=23)	17.67 (7.57)	2.33 (1.46)	1.50 (1.77)	27.25 (27.85)
Random-control group (n=22)	21.14 (6.74)	2.90 (1.30)	2.05 (1.86)	41.95 (24.71)
t-values	-1.62	-1.38	-1.01	-1.86*
<i>Experiment 3</i>				
Conditioning group (n=18)	18.43 (9.26)	2.64 (1.60)	1.29 (2.09)	30.36 (31.38)
Random-control group (n=18)	22.09 (8.49)	3.00 (1.38)	1.45 (1.63)	41.41 (26.99)
t-values	-1.22	-0.71	-0.27	-1.12
<i>Experiment 4</i>				
Conditioning group (n=38)	25.93 (10.97)	3.67 (1.79)	3.61 (2.91)	59.45 (40.42)
Random-control group (n=31)	27.63 (11.69)	3.89 (1.71)	3.53 (3.07)	68.97 (39.79)
t-values	<1	<1	<1	<1
<i>Experiment 5</i>				
Conditioning group (n=24)	27.41 (10.72)	3.79 (1.97)	3.18 (2.87)	66.36 (42.04)
Random-control group (n=23)	31.35 (12.04)	4.69 (1.85)	4.15 (3.40)	78.35 (45.46)
t-values	-1.32	-1.80*	-1.19	-1.05

^aPossible range of scores from 7-49; higher scores indicate more positive attitudes.

^bPossible range of scores from 1-7; higher scores indicate more positive attitudes.

^cPossible range of scores from 0-10; higher scores indicate more positive attitudes.

^dPossible range of scores from 0-120; higher scores indicate more positive attitudes.

*p < .05, one-tailed.

two scenes plus the scenes of the trash dump with rusted cans and the trash dump with boxes. Brand L toothpaste again was the CS.

Method

Forty-five subjects participated in Experiment 2, 23 and 22 respectively in the forward-conditioning and random-control groups. As in Experiment 1, the conditioning group was exposed to 10 pairings of CS followed by US, while the random-control group viewed 10 separate showings of CS and US not systematically paired with one another. The same four measures of conditioned attitude were again obtained in the same three-part fashion.

Results

The Table shows the means, standard deviations, and t-test results for the two groups included in Experiment 2. Again, for all measures the differences between the forward conditioning and random control groups were in the right direction but only the graphic rating scale revealed the conditioning group to have a significantly less favorable attitude toward Brand L toothpaste than did the random-control group ($t = -1.86$; $p < .05$, one-tailed).

EXPERIMENT 3

While the largest amount of conditioning typically occurs during the first few conditioning trials, bringing the conditioned response to asymptote may require a substantial number of trials (Domjan and Burkhard 1985). Therefore, Experiment 3 was designed to replicate Experiment 2 but with 20 instead of 10 conditioning trials. Brand L toothpaste again was paired with the same four affectively negative scenes used in Experiment 2. Experimental conditions and procedures are otherwise identical to those in Experiment 2.

Results

Thirty-six student subjects, 18 per group, participated in Experiment 3. The Table again shows the means, standard deviations, and t-test results for the forward-conditioning and random-control groups. Results present the expected directional differences but none of the four measures of attitude toward the brand reached levels of statistical significance.

EXPERIMENTS 4 AND 5

The first three experiments offered modest demonstration that systematic pairing of a fictitious brand of toothpaste with negatively valenced visual scenes leads to less favorable attitudes toward that brand. However, the inability to obtain stronger effects was possibly due to two aspects of our experimental procedures. First, it may be that the US scenes and the CS object, Brand L toothpaste, may not have been sufficiently similar to engender stronger negative conditioning. There is evidence in the basic conditioning literature (e.g., Schwartz

1989) that CS and US similarity, or belongingness, is a requisite for strong conditioning effects. Conditioned and unconditioned stimuli are said to be similar to one another when they share common physical features or sensory properties. For example, in conditioning experiments with animals, it is fairly simple to condition aversive behavior to taste but more difficult to condition such a response to odor alone (Holder and Garcia 1987). A second possible problem with Experiments 1-3 was the possibility of floor effects. That is, an already unfavorable attitude toward Brand L toothpaste (as evidenced by the random-control groups' low mean scores) would have made it difficult for the conditioning procedure to further attenuate the forward-conditioning group's mean attitude.

Therefore, Experiments 4 and 5 sought to examine negative conditioning using a different CS. It was thought that a cola brand might be more sensitive than toothpaste to the negative visual scenes employed previously as USs. Cragmont Cola, a red and white can of cola possessing no distinctive features other than the somewhat sophisticated-sounding brand name, was selected. Cragmont is a real regional brand of cola that was unknown to our subjects due to its unavailability in the study region. However, in some of our other conditioning experiments (unrelated to the present experiments), we had found that Cragmont is rated very favorably by similar student subjects. Hence, the use of Cragmont Cola prevented the floor-effect problem and also was thought to provide a better "fit" with the unpleasant US scenes. This possibility is purely speculative and remained an empirical issue until the experiments were performed.

The US included in Experiment 4 included the four negatively valenced scenes included in Experiments 2 and 3, that is the shrunken head, shelf with human skulls, trash dump with rusty cans, and trash dump with old cardboard boxes. Experiment 5 was identical to Experiment 4 with the exception that leaking chemical storage drums and a large black mound of decomposing vegetation were substituted for the shrunken human head and shelf with human skulls. To enhance the possibility of obtaining significant results, subjects were exposed to 20 conditioning trials. Again, all experimental sessions included small groups of student subjects and measurement was divided into three separate administrations.

Results

The Table presents means, standard deviations and t-test results for the forward-conditioning and random-control groups included in Experiments 4 and 5. Experiment 4 again reveals the expected directional differences between the two groups but an absence of significant effects for any of the four measures. The differences between the two groups are more pronounced in Experiment 5, but only the overall rating scale obtained statistical significance ($t = -1.80$; $p < .04$, one-tailed).

DISCUSSION

Although statistically significant differences between the conditioning and random-control groups were isolated, the consistent replication of directional results in five separate experiments provides plausible support that attitudes toward consumer goods are susceptible to negative conditioning. Indeed, the replication of results in five separate experiments may suggest far stronger support for theory in general than significant differences found in a single empirical test.

Why our experiments did not evidence stronger results remains problematic. One possibility may lie in the measures used. It has been suggested that positive and negative affect are essentially two separate dimensions (Abelson, Kinder, Peters, and Fiske 1982; Allen and Madden 1985). The use of single adjective scales such as those employed by Abelson et al. (1982) and Allen and Madden (1985) may have provided better measures of negative affect and allowed differences between the conditioning and control groups to reach levels of significance.

A second possible explanation lies in the belongingness between the CS brands and US scenes. As described previously, an important requirement for classical conditioning is that conditioned and unconditioned stimuli be similar or share a belongingness relation (Domjan and Burkhard 1985). This suggests that a variety of appropriate CS-US relationships must be present for an associative mechanism to be activated and thus permit learning to occur (Testa 1974). This is not to say that conditioning is not possible with less related CS-US combinations but that some are learned more easily. Unfortunately, little is known about requirements for CS-US belongingness, only that certain combinations are better. Stronger effects may have obtained had other types of pictures or possibly semantic stimuli, i.e., negatively valenced words, been utilized.

Quite obviously, these modest results warrant caution in concluding that classical conditioning of negative attitudes occurs in actual marketing communications situations. Still, these results suggest that organizations seeking to engage in demarketing activities may consider including the sort of stimuli in their messages which would provide some approximation of negative US-CS pairings. Likewise, advertisers and other marketing communicators must be cautious and avoid, where possible, having their brands shown in conjunction with undesirable objects, events, or people.

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Order Effects in Consumer Judgment, Choice, and Memory: The Role of Initial Processing Goals

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ABSTRACT

Consumer information processing is a dynamic process that unfolds over time as information is encountered. However, little research exists on the effects of order of presentation on consumer judgment, choice, and memory. A new procedure was developed to permit the detection of order effects in choice as well as in judgment. The results revealed that strong primacy effects in judgment and choice occur when consumers do not expect a final evaluation or choice task. When the choice task is anticipated, however, these primacy effects are eliminated. The results also indicate that the relationship between judgment and memory depends on the pattern of order effects observed in judgment and memory.

PRIMACY AND RECENCY EFFECTS

The order in which information is encountered has a strong impact on judgments of products. Sometimes information appearing early in a sequence has a stronger effect on judgment than does subsequent information (a primacy effect), whereas at other times, later items dominate earlier items (a recency effect). Although a rather extensive literature exists on order effects (for reviews see Anderson 1981, 1982; Dreben, Fiske, and Hastie 1979; Einhorn and Hogarth 1987; Jones and Goethals 1972; Lichtenstein and Srull 1987; Wyer 1974; Wyer and Carlston 1979), it is still difficult to predict whether primacy or recency will occur in a given situation.

The present experiment differs from previous research in several ways: (1) we focused on judgments of products rather than on judgments of people, (2) a two-object paradigm was employed, (3) recall and judgment were measured in a choice context instead of an impression formation context, and (4) order effects were investigated in choice as well as in judgment. Moreover, the present study is a continuation of a program of research on context effects in judgment and choice (Kardes, Herr, and Marilino 1989).

Jones and Goethals (1972) suggest that judgment primacy effects are likely when new information is integrated with previously encountered information. When this continuous, on-line, judgment-updating process occurs, earlier information is likely to color the way subsequent information is interpreted (the change-in-meaning hypothesis). Judgment recency effects, on the other hand, are likely when new information is processed independently from earlier information (and when an attention decrement over time is unlikely). Hence, when consumers are motivated to integrate information to form a coherent overall impression of a product (an impression set), judgment primacy should occur. In contrast, when the information

integration process is disrupted by instructions to memorize information (a memory set), judgment recency should occur.

It is unclear how a choice set should influence order effects in judgment. Choice processing is complex because it often involves integration and differentiation (Tetlock and Kim 1987). Consumers often integrate information within alternatives and differentiate (e.g., compare and contrast) information between alternatives. Tetlock's (1989) program of research has shown that when people reason about political issues in a cognitively complex fashion, they are less likely to exhibit overconfidence and other judgmental biases (e.g., Kahneman, Slovic, and Tversky 1982; Nisbett and Ross 1980). If a choice set encourages cognitively complex reasoning, and if complex reasoning reduces the magnitude of judgmental biases, then primacy and recency effects in judgment might also be diminished when choice processing occurs.

THE RELATIONSHIP BETWEEN JUDGMENT AND MEMORY

Although primacy or recency tend to occur in judgment, primacy and recency tend to occur in recall (Anderson and Hubert 1963, Dreben et al. 1979, Lichtenstein and Srull 1987). Early items are memorable due to greater levels of rehearsal (Rundus 1971), middle items are poorly recalled, and later items are readily recalled if they are still active in working memory (Wyer and Srull 1986). When judgment order effects differ from recall order effects, weak judgment-recall relationships should be observed. Weak relationships are likely when on-line processing leads to separate evaluation-based and attribute-based representations in memory; strong relationships are likely when judgments are computed on the basis of information retrieved from memory (Hastie and Park 1986; Lichtenstein and Srull 1985, 1987). However, Chattopadhyay and Alba (1988) argue that weak judgment-recall relationships are not observed when sensitive judgment and recall measures are taken in a choice setting. Moreover, they obtained data inconsistent with the two-process model. We examined the judgment-recall relationship using both an unweighted recall index and the Chattopadhyay and Alba weighted recall index.

METHOD

Pretest

Twenty-four undergraduates rated the attractiveness of 28 features of 14-inch color televisions on a scale from 1 (Extremely bad) to 10 (Extremely good). These features were described as features of 14-inch color TVs in general and were

not associated with any one particular brand. The attributes were presented on less than two pages in the questionnaire to minimize order effects. Two sets of 14 attributes (seven favorable and seven unfavorable) were selected to represent Brands A and B in the main experiment. Brand B ($M = 5.53$) was significantly superior to Brand A ($M = 5.21$), $t(23) = 4.00$, $p < .001$. Henceforth, Brand A will be referred to as the inferior brand and Brand B will be referred to as the superior brand.

Procedure

An independent sample of 84 undergraduates participated in the main experiment. Subjects received a booklet containing instructions, attribute descriptions, and measures. Half of the subjects were told that their task was to choose between the two brands (choice set) and half were instructed to memorize the attributes for the two brands (memory set). The attribute information and measures were the same for all subjects.

Each page of the booklet contained descriptions of one inferior brand attribute and one superior brand attribute. Order of presentation was held constant across subjects and subjects were asked to evaluate each attribute on a semantic differential scale ranging from 1 (Extremely bad) to 10 (Extremely good). Subjects rated each attribute after each description before proceeding to the next page.

The early attributes were favorable for the inferior brand and unfavorable for the superior brand. Thus, if primacy effects were found, subjects would actually prefer the inferior brand over the superior brand. Again, this effect should be found in memory-set but not in choice-set conditions even though all subjects received the same information presented in the same order. Favorable (+) and unfavorable (-) attributes were presented in the following order:

Inferior brand: + + + + - - - + + - - -
 Superior brand: - - - + - - + + - - + + +

Imbalanced sequences were used to prevent subjects from detecting the relationship between the two brands. Nevertheless, the favorable-to-unfavorable (inferior brand) and the unfavorable-to-favorable (superior brand) sequences were preserved. This design enables us to examine order effects in choice as well as in judgment.

After completing the attribute ratings, overall evaluative judgments of the two brands were assessed on scales ranging from 1 (Extremely bad) to 10 (Extremely good). Finally, all subjects were asked to choose between the two brands and to freely recall as many attributes as possible.

RESULTS

Order Effects in Judgment

Attitudinal judgments as a function of initial processing goals and brand are presented in Table 1. A 2 (choice or memory set) x 2 (inferior or superior

brand) analysis of variance, with one between-subjects factor (Set) and one within-subjects factor (Brand), was performed on brand attitudes. This analysis yielded a significant Brand main effect, $F(1, 82) = 17.89$, $p < .001$, and a significant Set X Brand interaction, $F(1, 82) = 8.16$, $p < .005$. The set main effect was not significant ($F < 1$). Simple effect tests were used to interpret the Set X Brand interaction while controlling for the compounding of alpha. As Table 1 indicates, in choice set conditions, subjects tended to evaluate the inferior brand more favorably than the superior brand ($M_s = 6.37$ vs. 6.07), but this tendency was nonsignificant ($F < 1$). In memory set conditions, however, more favorable brand attitudes were formed towards the inferior brand than towards the superior brand ($M_s = 6.98$ vs. 5.47), $F(1, 82) = 25.72$, $p < .001$. Even though all subjects received the exact same information presented in the same order, primacy effects were found when subjects were motivated to memorize attribute information but not when they were motivated to select one alternative. Thus, consistent with the hypothesis that cognitively complex reasoning reduces the magnitude of judgmental biases, judgment primacy effects were eliminated in choice set conditions.

Order Effects in Choice

The probability of choosing the inferior brand was .61 in choice set conditions and .81 in memory set conditions. The observed choice probability did not differ from chance in choice set conditions, chi-square = 1.98, *n.s.* In contrast, a strong primacy effect in choice occurred in memory set conditions, chi-square = 16.96, $p < .001$. Primacy effects in judgment and in choice are diminished when choice processing occurs.

Order Effects in Memory

The proportion of attributes correctly recalled as a function of initial processing objectives and serial position is presented in Table 2. Serial position was divided into three categories: the first three items, the middle eight items, and the last three items. As Table 2 indicates, primacy and recency effects in recall were observed across brands and across set conditions. Recall was poorest for the middle items, as predicted.

The Judgment-Recall Relationship

Previous research has shown that the relationship between judgment and recall depends on the manner of judgment formation (Hastie and Park 1986, Lichtenstein and Srull 1985, 1987). When evaluations are formed on-line as judgment-relevant information is acquired, overall evaluations and the specific attribute information used to form overall evaluations are stored independently in memory. Consequently, under these conditions, judgment and recall are not necessarily related. In contrast, when evaluations are formed after information acquisition, the attribute information that is retrieved from memory serves as a direct input for evaluative

TABLE 1
Brand Attitudes

Processing goals	Inferior brand	Superior brand
Choice set	6.37	6.07
Memory set	6.98	5.47

TABLE 2
Probability of Recall

Processing goals	Serial position		
	First items	Middle items	Last items
Inferior brand			
Choice set	.27	.13	.30
Memory set	.30	.20	.30
Superior brand			
Choice set	.25	.14	.23
Memory set	.37	.12	.21

judgments. When recall serves as a direct input for judgment, a strong judgment-recall relationship should be observed.

However, Chattopadhyay and Alba (1988) provide recent empirical evidence that is inconsistent with this model. They maintain that a strong relationship between judgment and recall is always obtained when sufficiently sensitive measures are used. Hastie and Park (1986) and Lichtenstein and Srull (1985, 1987) used the "preferential recall index" (PRI), which is the ratio of the number of positive attributes recalled divided into the number of positive and negative attributes recalled: $P/(P+N)$. Chattopadhyay and Alba (1988) used the more sensitive Luce (1959) index, which is similar to the PRI except that each attribute recalled is weighted by its evaluative rating. Hence, the Luce index contains information about degree of positivity and degree of negativity rather than a

simple tally of the number of positive and negative features recalled. Both indices were employed in the present study.

Judgment-recall correlation coefficients as a function of initial processing goals, brand, and recall index are presented in Table 3. As Table 3 indicates, judgment-recall relationships tended to be stronger in memory set than in choice set conditions. No significant correlations between judgment and recall were found for the superior brand. For the inferior brand, a stronger judgment-recall correlation tended to occur in memory set ($r = .33, p < .03$) than in choice set ($r = .25, p = .12$) conditions when the PRI was used. When the Luce index was used, a somewhat stronger relationship was found in memory set ($r = .31, p < .04$) than in choice set ($r = .28, p < .08$) conditions.

A correlation coefficient between two measures is greatly reduced when the variability in

TABLE 3
Judgment-Recall Correlations

Processing goals	Inferior brand		Superior brand	
	PRI	Luce	PRI	Luce
Choice set	.25	.28	-.02	.07
Memory set	.33*	.31*	.14	.10

* $p < .05$

TABLE 4
Standard Deviations

Processing goals	Inferior brand	Superior brand	Inferior brand		Superior brand	
			PRI	Luce	PRI	Luce
Choice set	1.37	1.23	.35	.38	.36	.39
Memory set	1.24	1.53	.30	.31	.30	.34

the two measures is not equivalent. To determine if range restriction can account for the observed pattern of coefficients (see Table 3), standard deviations were examined. Standard deviations in the judgment and recall measures as a function of processing objectives, brand, and index are presented in Table 4. As Table 4 indicates, standard deviations tended to be lower in the recall than in the judgment measures. However, this pattern was consistent across set conditions, brands, and indices. Although a restriction in range partially contributed to the overall low levels of correlation that were observed, range restriction cannot account for the pattern of coefficients found across set conditions, brands, and indices.

DISCUSSION

Several interesting findings emerged from the present study. First of all, strong judgment primacy effects were found in memory set conditions, but these effects disappeared in choice set conditions. Secondly, primacy effects were observed in choice as well as in judgment when subjects' initial processing goal was to memorize attribute information.

However, primacy effects vanished in choice set conditions. Finally, different patterns of serial position effects occurred in judgment than in recall. As a consequence, relatively weak relationships were found between judgment and recall even when the sensitive Luce recall index was employed.

Initial processing goals clearly influence the manner in which information is interpreted and used by consumers. Extensive research has shown that people are often "cognitive misers," and little effort goes into examining, analyzing, and using relevant information (e.g., Alba and Hutchinson 1987; Cialdini 1988; Langer, Blank, and Chanowitz 1978; Petty and Cacioppo 1986). Under these circumstances, important information is often overlooked or underutilized and people are susceptible to a variety of judgmental biases (Kahneman et al. 1982, Nisbett and Ross 1980). In contrast, when involvement is high as opposed to low, more cognitive effort is allocated to analyzing information and the magnitude of these biases tends to be reduced. However, an increase in effort does not always guarantee an increase in accuracy in judgment (Fischhoff 1982, Kruglanski (1989),

Kruglanski and Freund 1983) or in choice (Klein and Yadav 1989; Payne, Bettman, and Johnson 1988).

The results indicate that attribute information is more extensively analyzed in choice set than in memory set conditions. When consumers have an initial processing objective of choosing between two brands, relatively complex comparison and reasoning processes occur. As a consequence, primacy effects, and perhaps other biases as well, are reduced. In contrast, when consumers have an initial processing goal of memorizing attribute information and later receive a surprise choice task, primacy effects occur in judgment and in choice. Hence, the timing of goals is critical. Primacy effects are reduced when a choice set is operating prior to information acquisition (an initial processing goal), but not when consumers switch to a choice set after information acquisition (a final processing goal). This finding suggests that a choice set can *prevent* biases but cannot *reverse* them.

We also tested diverging predictions about the effects of a memory set on sequential information processing. Jones and Goethals' (1972) model predicts that judgment recency effects should occur in memory set conditions (because the integration process is disrupted), whereas Lichtenstein and Srull's (1987) model predicts that judgment primacy effects should occur in memory set conditions. When recalled attribute information is used as a direct input for judgment, primacy effects in memory should lead to primacy effects in judgment. This is precisely what we found.

Finally, the present study addressed an inconsistency in the literature on the relationship between judgment and memory. Hastie and Park (1986) and Lichtenstein and Srull (1985, 1987) argue that weak relationships between judgment and memory should occur in impression set conditions, whereas strong relationships should occur in memory set conditions. Chattopadhyay and Alba (1988) maintain that a strong relationship between judgment and memory should always occur and that measurement problems are primarily responsible for low correlations. The present data are more consistent with the former model, even though the sensitive Luce recall index was used in a choice context. Judgment and recall should not always be strongly related. When different patterns of order effects occur in judgment versus recall, low judgment-recall correlations should be observed. On the other hand, when similar patterns of order effects occur in judgment and recall, strong relationships should be more likely.

In conclusion, the present study demonstrates that initial processing objectives play an important role in determining how information is interpreted and used over time. By influencing the manner in which information is processed, goals affect judgment, choice, memory, and the relationships between these constructs. A clearer understanding of these complex relationships can be achieved only by integrating motivation and cognition.

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Selective Attention in Consumer Information Processing: The Role of Chronically Accessible Attributes

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ABSTRACT

Understanding the determinants of selective attention and elaboration in consumer information processing is important since the outcomes are crucial to product evaluation and memory for information which, in turn, impact brand preferences and choice behavior. This study focused on an individual difference factor shown to facilitate information processing, namely the *chronic accessibility* of an attribute in memory. Subjects were classified as "Chronics" or "Nonchronics" based on a card-listing method. They were then presented with attribute information in the context of a product judgment task; two different rates of information presentation were utilized in a between-subjects design. Most importantly, the results showed that in the rapid presentation condition "Chronics," as compared to "Nonchronics," exhibited enhanced recall of target attribute information and made more positive judgments. Implications of the study are discussed and suggestions are made for future research on chronically accessible attributes.

INTRODUCTION

An important issue in consumer information processing is the manner in which environmental information is *selected* for deeper or more elaborative processing from the vast amounts potentially available. On a daily basis, consumers confront a barrage of information about products and brands from media advertising, packaging, point-of-purchase displays, etc. Given the widely accepted model of a capacity-constrained information processor (cf. Bettman 1979), *attention* serves as an important "tuning" mechanism in the active selection of information for additional processing (Bargh 1982; Broadbent 1977; Kahneman 1973; Neisser 1976).

The issue of information selection is particularly significant when one also considers the contexts of everyday information processing. For a variety of reasons, purchase decisions are often made very quickly. Research has shown that as time pressures mount, consumers are likely to reduce the dimensions they consider during brand choice (Wright 1974). Moreover, some information is delivered at rates the consumer cannot control, such as television and radio commercials. Faster rates

have been shown to decrease attention and disrupt cognitive elaboration (Moore, Hausknecht, and Thamodaran 1986). These and other readily conceivable examples underscore the fact that information reception conditions are usually far from ideal. Given this fact, two conclusions may be drawn from a research standpoint. First, understanding the determinants of attention and elaboration processes is critical to a comprehensive theory of consumer behavior. Second, from a methodological perspective, simulating information *overload* experimentally is important for gaining insights into the causal antecedents of attention and elaboration in conditions that parallel real-life information contexts.

Though information overload research in consumer behavior has been controversial, few researchers would deny that the phenomenon can and does occur (Jacoby 1984; Malhotra 1984). In the present context overload occurs when processing capacity is sufficiently strained such that cognitive processes like attention are disrupted or forced to become increasingly selective. Varying information presentation rates and providing subjects with concurrent tasks are two ways that overload has been operationalized (see Bargh and Thein 1985 for related discussion).

A considerable amount of previous research in consumer behavior and advertising has been devoted to studying variables that impact attention and elaboration. One stream of such research has focused on *characteristics of the stimulus* and/or the *local context* in which the stimulus occurs (e.g., vividness, the use of various ad executional elements). Another stream of research has focused on the role of *individual motivational characteristics*, typically in the form of consumer involvement (e.g., Celsi and Olson 1988; Gardner, Mitchell, and Russo 1985; Petty, Cacioppo, and Schumann 1983). A robust finding from these studies has been that higher levels of involvement tend to be associated with more elaborative and systematic processing of central information (i.e., key message arguments).

This paper seeks to contribute to our knowledge of the factors that affect attention and elaboration processes by focusing on individual differences in the *chronic accessibility* of product attributes. We begin by briefly reviewing social cognition research on chronically accessible constructs as applied to person perception. Next, we present an empirical study designed to explore the role of a chronically accessible product attribute in affecting attention and elaboration processes, as observed through attribute information recall and product judgments. Finally, we discuss the

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implications of the present work and suggest directions for future research.

CHRONICALLY ACCESSIBLE CONSTRUCTS IN PERSON PERCEPTION

Kelly's (1955) work on the psychology of personal constructs is seminal to recent social cognition research on chronic accessibility. Kelly's thesis was that over a lifetime each individual develops a set of constructs that are applied in a relatively invariant manner to anticipate, structure, and understand environmental information. In a more recent discussion of attention and information processing, Bargh (1984) points out that most contemporary models of social cognition continue to emphasize the interaction between the environmental stimuli that are currently present and the individual's "structural" readiness to perceive some of the stimuli and not others. Thus, informational inputs may be given attentional emphasis not only because of their own characteristics (intensity, vividness, etc.), but also because of the perceiver's "perceptual readiness" (Bruner 1957), based on the activation of relevant constructs or representations in memory. This active perceptual set may be influenced by relatively *temporary* expectancies generated (or experimentally induced) by the task context (cf. Asch's original work on impression formation, 1946; more recently Hastie and Kumar 1979 and Srull 1981). More pertinent to the theme of this paper, however, are the relatively *permanent* or *chronic* constructs that individuals utilize to select information for elaborative processing, i.e., those at the heart of Kelly's original work.

Higgins, King and Mavin (1982) operationalized chronic construct accessibility on the basis of frequency and primacy in traits (e.g., intelligence, honesty) used by subjects to describe different people. These researchers then showed that subjects deleted significantly more *inaccessible* than *accessible* trait-related information in their impressions and in their recall of information about a target person. Using a dichotic listening task, Bargh (1982) demonstrated that information relevant to a trait (e.g., independence) which was central to the self-description schema of a subject was capable of provoking automatic attentional responses. Finally, and most germane to our study, Bargh and Thein (1985) hypothesized that people might be able to engage in elaborative processing even under overload conditions if they possess processing structures for which the informational input is relevant. Their results confirmed that when information about a target person was rapidly presented, impression formation and information recall were influenced by whether or not subjects possessed a relevant chronically accessible construct.

To summarize, previous research in person perception has demonstrated that chronically accessible constructs play a vital role in the selection of information for deeper or more

elaborative processing, based on the reasoning (Bargh and Thein 1985) that such processing occurs when target information is recalled better and is utilized to form evaluative impressions. In addition, such constructs enable people to pick up and process construct-relevant information even when processing resources are taxed. Bargh (1982) points out that the *development* of such constructs is probably illustrative of the general principle of greater cognitive skill arising from greater experience with some particular environmental domain (see also Alba and Hutchinson 1987). Enhanced *accessibility* of a construct in memory is likely to result from both *frequency* and *recency* of activation of the particular construct in encounters with the domain (Bargh 1982; Higgins and King 1981).

PRESENT STUDY

The major objective of our empirical study was to begin building what we see as a potentially insightful bridge between research on chronically accessible constructs in social cognition and the determinants of attention and elaboration in consumer information processing. It appears likely that the functional reason underlying the development of these constructs in social cognition--enabling the capacity-constrained perceiver to cope with a "blizzard of cues" (Bargh and Thein 1985)--is equally applicable to the issue of selective attention in consumer information processing.

Based on the findings in person perception, our major hypotheses were as follows. When information is presented rapidly about a target product, and it contains a target attribute that is chronically accessible in memory to some subjects but not to others, the former will be likely to direct their attention to the target attribute and process it more deeply and/or elaboratively. Thus, they should exhibit enhanced recall for the target attribute. However, when the information presentation rate is relatively slow, differences between "Chronics" and "Nonchronics" in efficiency of processing of the target attribute should not significantly affect its recall. Hence, we predicted an interaction between chronic accessibility of the attribute and information presentation speed on recall of the target attribute. With respect to subjects' attitudinal judgments of the target product, we expected that both in rapid-paced and slow-paced conditions subjects for whom the target attribute was chronically accessible should process the attribute information sufficiently for it to impact their judgments. While nonchronic subjects may process the stimulus attribute information sufficiently in slow-paced conditions, with the attribute not being of primary importance to these subjects, it should not impact their judgments. Hence, we predicted a main effect for chronic accessibility of the target attribute on attitudes toward the target product, i.e., irrespective of the pace of information presentation.

As part of our study we also examined the extent to which an individual dispositional variable, "need for cognition," might influence the processing and subsequent recall of attribute information. The

"need for cognition" scale was developed to distinguish between individuals who tend to engage in and enjoy effortful analytical activity, and those who do not (Cacioppo and Petty 1982). It has been shown that individuals high (vs. low) in "need for cognition," when presented with a persuasive message, subsequently recalled more message arguments and reported expending more cognitive effort in processing the message (Cacioppo, Petty, and Morris 1983). Thus, in our study we expected high (vs. low) "need for cognition" individuals to recall more attribute information, particularly in rapid-paced information presentation conditions. We hoped that this might provide a useful "benchmark" with which the effect size in recall due to chronic accessibility might be compared. We anticipated that the recall effect due to domain-specific individual differences, such as the chronic accessibility of a particular product attribute, should be considerably larger than the effect due to domain-neutral individual differences such as "need for cognition."

METHOD

Subjects

Eighty-one undergraduates in a large public university were recruited for the study and received extra class credit for their participation.

Procedure

Subjects participated in two supposedly "unrelated" studies, with an interval of about three weeks between the two.

The first session used a memory probe in order to elicit chronically accessible attributes from subjects. A modified version of the card-listing method used by Zajonc (1960) and Higgins, King, and Mavin (1982) was employed for this purpose. Subjects were informed that they were participating in a study of consumers' perceptions of different products. Attributes were elicited for several different product categories (e.g., automobiles, banks). For *each* product category, subjects were asked to list on blank cards the attributes or characteristics that came to mind in four different contexts of product affect, namely, "like," "dislike," "seek," and "avoid." For example, on the first page of the booklet they were instructed to "think of the type of automobile that you *like* a lot. What are the characteristics or aspects of such an automobile that come to your mind? Taking one blank card each time from the card pile, please write down these characteristics in the order in which they occur to you." The order of presentation of the various product categories in the booklet was rotated so that subjects had to elicit attributes for several other products in between tasks related to the same product. The order of production of attributes in each task was recorded by the subject. Each attribute was written on a separate card which the subject then turned over and kept face down. Subjects were instructed to complete the tasks without looking back at the cards on which they had already written.

After the attribute elicitation was completed, subjects filled out the 34-item "need for cognition" scale (Cacioppo and Petty 1982). Subjects' responses on the 34 items (scale of +4 to -4) were summed up (after adjusting the sign of reverse scored items) in order to derive their "need for cognition" (NFC) scores.

The attributes produced by the subjects in the above session were analyzed as follows. First, the data were scrutinized with the goal of selecting a target product category and a related target attribute on which subjects revealed a clear pattern of inter-individual differences with respect to attribute accessibility. The category *banks* was selected, with the target attribute *friendly employees*. Next, the attribute data produced by the subjects were analyzed in order to classify them on the basis of whether the target attribute was chronically accessible ("Chronics") or inaccessible ("Nonchronics"). Following the procedures of Higgins, King, and Mavin (1982) and Bargh (1984), attribute accessibility was operationally defined on the basis of both frequency and primacy of attribute production. Synonyms and antonyms of the target attribute were taken into account in the analysis. As mentioned earlier, subjects had produced attributes for the category *banks* in four different contexts of affect. The criterion used to classify a subject as a "Chronic" was that the target attribute should have been listed in either the first or the second serial position in a minimum of two out of the four contexts. Subjects were classified as "Nonchronics" if the target attribute did not occur in the first four serial positions in any of the four contexts. These criteria resulted in 28 subjects being classified as "Chronics" and 21 as "Nonchronics"; the remaining 32 subjects were eliminated from the second study reported below, since they could not be identified as clearly belonging to either of the two categories.

Three weeks later subjects were scheduled for the second session ostensibly concerning their impressions of products under real life conditions where people are often exposed to product information for only brief periods of time, "for example, during a TV commercial or when glancing at an ad while flipping the pages of a magazine." Hence, they were told to expect only a limited amount of time for reading information which was to be presented to them on an overhead screen. While all subjects were provided the same instructions, they were randomly assigned to sessions (average $n = 6$) where either the information presentation time was actually very brief ("Rapid Pace" condition) or relatively ample ("Slow Pace" condition), as described in more detail below.

Subjects were asked to respond with their judgments on eight successive "trials," in each of which attribute information was presented on the screen with respect to a different product category. On each trial, the product category was first identified at the top of the screen for 5 seconds (e.g., "A CALCULATOR"). Next, attribute information was presented below the product category name in one of two manipulated time

conditions - either for 3 seconds ("Rapid Pace") or for 20 seconds ("Slow Pace"). In all trials, the attribute information was in the form of a list of six features displayed simultaneously, one below the other in block letters (e.g., "BRIGHT DISPLAY," "SOLAR POWERED," etc.) On each trial, as soon as the information presentation was over and the screen was empty, subjects recorded their judgments of the product on three bipolar 9-point (- 4 to + 4) scales. These items asked for attitudinal judgments of the target product in terms of how favorable, how good, and how likeable the product was in the opinion of the subject. As anticipated, the data revealed the three items to be highly intercorrelated (average $r = 0.80$), and hence they were summed to form one composite attitude index (range - 12 to + 12).

The target product ("A BANK") was in the fourth position in the above block of eight trials. The first three "dummy" trials served the purpose of familiarizing the subject with the task before responding to the actual stimulus. The last four dummy trials were inserted to ensure that any stimulus attribute information being maintained in short-term memory through rehearsal was cleared out before subjects were administered the free recall task (described later in this section). The attribute information presented to the subjects on the target product included the target attribute ("FRIENDLY EMPLOYEES") in the fourth serial position, along with five attributes (e.g., "ATTRACTIVE LANDSCAPING," "MODERN BUILDING") that were judged nondiagnostic for banks in pretests. Care was taken to ensure that there were no overlaps between the attribute information on the target product and the attribute information on the dummy products.

On completion of the above judgment task, subjects were asked to respond to items in the questionnaire which asked how pleasant was the task, how much effort did the subject put into the task, and how adequate was the time given for reading the product information (all scales - 4 to + 4). Subjects were then asked to rate their English reading ability in terms of speed and comprehension relative to other undergraduate students (scales of 1 to 5 with higher numbers indicating higher ability). After this, subjects were administered a surprise attribute recall task. The experimenter named the product, and the subjects were asked to recall and write down as much as they could remember of the information presented earlier about the product, using the same words as much as possible. The experimenter prompted the subjects with the product names that corresponded to the various trials, and in the same sequence as before. On hearing each product name, subjects recalled the attribute information in a self-paced manner. Subjects' responses with respect to the target product were scored on the basis of whether or not they had recalled the original information in gist form. One judge (blind to condition) scored all the protocols and two other judges scored a random sample. Interjudge agreement was close to 100%. Recall for each subject was scored in terms of whether or not

the target attribute had been recalled, and the total number of other attributes (range 0 to 5) which had been correctly recalled. Finally, on completion of the recall task, subjects were asked to judge, in terms of their personal preferences in banks, how important it was for them that a bank have friendly employees (scale - 3 to + 3).

RESULTS

Attitude toward target product

A 2 ("Chronics" vs. "Nonchronics") x 2 ("Rapid Pace" vs. "Slow Pace") analysis of variance on the attitude index revealed a marginally significant main effect for chronicity, $F(1, 45) = 3.00$, $p < 0.10$. As predicted, "Chronics" had more positive attitudes toward the target product than "Nonchronics," $M_s = 5.54$ vs. 3.29 respectively. Neither the main effect for Pace nor the Chronicity x Pace interaction was significant ($p > 0.50$ in both cases).

Recall of target attribute

In "Rapid Pace" conditions, a significantly higher proportion of "Chronics" correctly recalled the target attribute *friendly employees* as compared to "Nonchronics," 84% vs. 20%, $p < 0.01$ (Fisher's exact test, 2 - tail). However, as anticipated, in "Slow Pace" conditions "Chronics" did not recall significantly more than "Nonchronics," 89% vs. 73%, $p > 0.50$.

Recall of other attributes of target product

A 2 x 2 (Chronicity x Pace) ANOVA was performed on the total number of other attributes correctly recalled by subjects. As anticipated, a significant main effect was found for presentation speed, with subjects in "Slow Pace" recalling more attributes than subjects in "Rapid Pace," $M_s = 3.10$ vs. 2.03 , $F(1, 45) = 11.39$, $p < 0.01$. Neither Chronicity ($p > 0.20$) nor the Chronicity x Pace interaction ($p > 0.17$) had significant effects on the recall of other attributes.

Other measures

2 x 2 (Chronicity x Pace) ANOVAs were performed on subjects' judgments of task pleasantness, effort put into task, adequacy of time, and self-assessed ability in English reading speed and comprehension. These analyses revealed only one significant effect: as anticipated, and in confirmation of our manipulation, subjects in "Slow Pace" conditions judged the time provided for information processing to be more adequate than subjects in "Rapid Pace" conditions, $M_s = 3.35$ vs. 0.76 , $F(1, 45) = 47.34$, $p < 0.001$. All other main effects and interactions in the above variables were nonsignificant, $p's > 0.20$. A similar 2 x 2 ANOVA was also performed on subjects' ratings of their perceived importance of the target attribute. This analysis showed that "Chronics," as compared to "Nonchronics," rated the attribute *friendly*

employees as significantly more important, $M_s = 2.54$ vs. 1.76 , $F(1, 45) = 7.72$, $p < 0.01$.

Effects of "need for cognition"

Subjects were split on the median "need for cognition" (NFC) score into "Low NFC" and "High NFC" groups (median score = 62, range = 14 to 119). Low NFC subjects did not differ from High NFC subjects with regard to recall of the target attribute in either "Rapid Pace" or "Slow Pace" conditions ($p > 0.50$ in both cases). 2×2 (NFC \times Pace) ANOVAs were conducted on the other variables. These analyses revealed that Low NFC subjects did not differ significantly from High NFC subjects in recall of other attributes of the target product, in attitudes toward the target product, in pleasantness ratings, or in effort put into the task (p 's > 0.25). Interestingly, however, High NFC subjects rated their reading speed higher than did Low NFC subjects, $M_s = 3.42$ vs. 2.96 , $F(1, 45) = 3.32$, $p < 0.10$. The former also rated their comprehension ability higher as compared to the latter, $M_s = 3.96$ vs. 3.26 , $F(1, 45) = 6.89$, $p < 0.05$.

DISCUSSION OF PRINCIPAL RESULTS

The results supported our hypotheses about differences in information processing between subjects for whom a target attribute was chronically accessible in memory, and those for whom it was not. In rapid-paced conditions, a significantly higher proportion of "Chronics" (84%) as compared to "Nonchronics" (20%) was able to correctly recall target attribute information. In slow-paced conditions, as anticipated, the difference in recall was not significant because the additional time provided to process the target attribute erased the advantage of processing efficiency that "Chronics" exhibited in the rapid-paced condition. The magnitude of the difference in recall between "Chronics" and "Nonchronics" in rapid-paced conditions is striking. So is the fact that 84% of the "Chronics" recalled the target attribute in the rapid-paced condition, given that (a) they were not instructed to memorize the attributes, (b) they received only three seconds to process information on six attributes, including the embedded target attribute, and (c) the study design included delay and interference before recall was tested. Also noteworthy is the fact that in comparison, the average recall proportion among "Chronics" for the other five non-target attributes in the rapid-paced condition was only 41%.

Consistent with the social cognition literature discussed earlier, the findings in this study are most likely explained by the structural readiness of "Chronics" to process more deeply and/or elaboratively information on the target dimension consequent to the target product category being activated in their memory. "Chronics" did not differ from the "Nonchronics" on recall of the non-target attributes, nor on self-assessed measures of effort put into the task, reading speed, or comprehension.

Therefore, differences in effort or language abilities are unlikely to be implicated in the inter-group difference in attribute recall. The one other possibility is that in rapid-paced conditions instead of *encoding* the presented information better, "Chronics" may have *generated* the attribute in a schema-based manner at the point of test. However, the data on "intrusions," i.e., false recall of items not actually presented in the stimulus, do not support such an alternative explanation. Overall, intrusions amounted to only 8% of the total number of attributes recalled, and "Chronics" did not significantly differ from "Nonchronics" in number of intrusions in rapid-paced or slow-paced conditions (p 's > 0.30).

The results also supported our expectation of a main effect in attitudes due to chronic accessibility of the target attribute. Both in slow-paced and rapid-paced conditions, "Chronics" made more positive judgments of the target product than "Nonchronics." This suggests that even when processing capacity was strained, "Chronics" were able to process the target attribute sufficiently for it to impact their product judgments. (Recall that the non-target attributes, based on pre-tests, were intentionally designed to be nondiagnostic for both "Chronics" and "Nonchronics.")

As anticipated, "Chronics" also judged the target attribute to be more important than "Nonchronics." This raises the following question: are inter-individual differences in attribute importance ratings also associated with differences in recall of the target attribute (as chronic accessibility was shown to be), particularly in the rapid-paced conditions? To assess this possibility, the data were analyzed after conducting a median split of subjects based on their attribute importance ratings ($W \leq +2$ and $W = +3$). Results showed that these two groups of subjects did not differ in recall of the target attribute in either rapid-paced conditions (58% vs. 65%, $p > 0.50$) or in slow-paced conditions (83% vs. 75%, $p > 0.50$). In rapid-paced conditions, target-attribute recall and chronic accessibility were highly associated, while there was negligible association between target-attribute recall and subjects' target-attribute importance ratings (ϕ coefficient = 0.63 vs. 0.07). Hence, whereas target-attribute importance ratings were significantly associated with chronic accessibility classifications (point-biserial $r = 0.37$, $p < 0.01$), unlike chronicity, the ratings were not a reliable predictor of inter-individual differences in target-attribute recall during information overload conditions. However, this result must be viewed with caution since the importance ratings had a skewed distribution.

IMPLICATIONS AND FUTURE RESEARCH

A chronically accessible attribute is likely to have some inherent similarities to one that is particularly important or salient to an individual. Previous researchers have speculated that there may exist a causal relation between attribute importance

and attention to attribute information in advertising (e.g., MacKenzie 1986). While the present work was not an advertising study per se, the findings suggest the possibility of benefit segmentation on the basis of chronic accessibility for product attributes; in particular, those in the "Chronic" segment can be expected to process *relevant* ad information much more efficiently than "Nonchronics." By emphasizing the chronic attribute in a headline and/or visual, and by placing the ad in a medium appropriate to the "Chronic" segment, an advertiser may maximize limited opportunities to communicate in information-cluttered environments. Future research must test the robustness of our findings and their advertising implications, using different overload manipulations, different product classes, different consumer groups, different media, and more ecologically valid advertising stimuli.

From a methodological perspective, we note that there is considerable diversity and a lack of convergent validity with respect to measures of attribute importance (Jaccard, Brinberg, and Ackerman 1986). Our approach to assessing attribute chronicity was taken directly from the social cognition literature where the concept has been studied most. The card-listing technique employed in this study is similar (though not identical) to the free elicitation method (E) used in Jaccard et al. (1986); importance (I) rating measures were identical in both studies except for the number of scale points. Correlations between the E and I measures were considerably lower in Jaccard et al. (1986) than in our study. Moreover, in their factor analyses, the E measure consistently loaded on a separate factor. If the E and I measures do in fact assess different constructs or different dimensions of the same construct, then that may explain why our analyses revealed discrepant findings in predicting target-attribute recall based on chronicity versus attribute importance.

Jaccard et al. (1986, p. 467) go on to speculate that the E measure "appears to measure, albeit imperfectly, factors that people consciously consider in their evaluations." In fact, a free elicitation measure like the card-listing task used to determine attribute chronicity is an *indirect* and less obtrusive measure than the I measure; as such, it can reveal through the order and frequency of elicited attributes which attribute(s) people are most inclined to use in rapid evaluations. Our preliminary conjecture is that, in an attitude judgment context, attribute chronicity is more closely related to the notion of "salience" than "importance" (see Higgins and Bargh 1987 for related discussion). Further, chronically accessible attributes likely enable consumers to efficiently process environmental information in relatively *familiar* product categories. The extent to which such processing may be deemed to be "automatic" or "conscious" are significant theoretical issues, but space limitations preclude their discussion here; however, it appears to us that Jaccard et al. (quoted above) may have prejudged the

issue of consciousness (see Bargh 1984; Janiszewski 1988).

Our present findings may also have implications for choice research, especially choices made under time pressure. Fazio's (1986) research has shown that as the accessibility of an attitude in memory increases (operationalized by decreases in the response latency of an attitudinal judgment), the likelihood that the attitude will influence subsequent overt behavior also increases, i.e., there will be stronger attitude-behavior consistency. By analogy, the more accessible an attribute in memory (increasing chronicity), the more likely it may be that inputs relevant to the attribute will influence choice behavior under rapid information presentation and time-pressured choice scenarios, i.e., where the spontaneous activation of the attribute is needed for consistency between attribute information and choice. Future research could measure attribute chronicity, manipulate brand attribute profiles, manipulate information exposure time, and determine whether systematic variations in brand choices verify a chronicity explanation for attribute-choice consistency.

A potential moderator of chronicity effects is structural variations in the knowledge network in which the chronic attribute resides. The card-listing task employed in this study is a modified form of Zajonc's (1960) card-sorting technique that can yield measures of cognitive complexity, differentiation, unity, and organization of the domain to which the chronic attribute applies. For instance, prior social cognition research has shown that cognitive differentiation has little or no impact on construct-accessibility recall effects, but does substantially influence construct-accessibility attitudinal effects (Higgins, King, and Mavin 1982). Future research should investigate the moderating role of cognitive structure on attribute-accessibility effects in consumer information processing.

CONCLUSION

Drawing from previous research in social cognition literature, this study examined the effects of chronically accessible attributes in selective attention and elaboration during consumer information processing. In particular, it was found that subjects chronic to a target attribute recalled information relevant to the attribute more readily than non-chronic subjects after rapid presentation of product information. "Chronics" also judged the product more positively than "Nonchronics" in both rapid and slow information conditions. Implications of these results were discussed in terms of advertising and choice behavior, including directions for future research.

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Multiattribute Judgements Under Uncertainty: A Conjoint Measurement Approach

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ABSTRACT

A methodology to predict product choice under uncertainty in attribute values is proposed and tested. The methodology consists of (i) estimating the multiattribute utility function of a consumer, and (ii) predicting new product evaluation based on expected utility computed using the estimated utility function. To test the methodology, conjoint analysis is used to estimate a respondent's multiattribute utility function. Next, the respondent is asked to evaluate hypothetical product profiles with uncertain attribute values. The observed evaluations are compared with predictions using the proposed technique and also a naive model which ignores attribute uncertainty. In the sample studied, both the proposed technique and the naive model predicted reasonably well, but neither model performed significantly better than the other.

INTRODUCTION

Multiattribute modeling of consumer choice is a well known paradigm in marketing research. The model rests on the assumption that consumers perceive a product as a 'profile' or combination of attribute values. For example, a television set may be perceived as a combination of its picture quality, longevity, audio quality, etc. The consumer is assumed to integrate information about different attribute values to form an overall evaluation (or assess utility) of each alternative, and to choose the one that maximizes utility subject to budget constraints. Utility is clearly a function of the individual attribute values. The multiattribute approach to choice modeling has enjoyed considerable popularity in the marketing literature. Significant progress has been made in the last twenty years toward the determination of the form and parameters of multiattribute utility functions (see Shocker and Srinivasan 1979, Green and Srinivasan 1978, Wilkie and Pessemier 1973, Anderson 1974). One commonly used and widely accepted model to emerge from this research is the additive conjoint measurement model. The model can be briefly described as follows:

Let (x_1, x_2, \dots, x_n) represent the vector of attribute values for a product with n significant attributes. Then, the overall utility function for the product can be expressed as

$$(1) \quad U(x_1, x_2, \dots, x_n) = \sum_{i=1}^n U_i(x_i)$$

where U_i is the part-worth utility function for attribute i .

Data for the model can be collected through either the 'full profile' or 'pairwise trade-off' methods. In the 'full profile' approach, the consumer is asked to rate or rank order a large number of hypothetical 'product profiles'. These profiles are generated by creating combinations of attribute values across all significant attributes. Parameters of the part worth utility functions are derived from ratings or rank orders provided by the subjects. Once these parameters are available, it is possible to determine the utility of a consumer for any given combination of attribute or values, and hence predict whether the consumer will choose the product over other alternatives. This predictive feature of the model makes it particularly relevant for managerial application and use.

RESEARCH ISSUES

Extant research on multiattribute models in general, and conjoint analysis in particular has rarely involved an explicit consideration of uncertainty in attribute values.¹ This is a serious limitation. Consumers may frequently not know the exact value of a product attribute, but only be aware of it as a random variable with a certain probability distribution. The uncertainty may originate from the consumers' lack of knowledge of attribute values as well as true variation in an attribute value over time or across product units. The effects of uncertainty on product evaluation are most apparent in the case of a new, unfamiliar product. In this instance, the probability distributions for attribute values are likely to be spread out over a large range. Since consumers are generally risk averse, they are likely to avoid products with high attribute uncertainty. As a result, a new product would be more difficult to sell than an established one. Unless the effects of uncertainty on the perceived 'value' of a new product are carefully investigated, utility values computed from conjoint analysis (which uses expected attribute values for new products) would be erroneous and generally overestimate probability of success for the product. A methodology to estimate the effect of attribute uncertainty on choice would improve a manager's ability to set price and design warranty schemes for a new product.

The only systematic attempts to date to incorporate the concept of uncertainty in multiattribute judgment analysis were made by Pras and Summers (1978), and Meyer (1981). Pras and

¹There exists a separate stream of research (see Currim and Sarin, 1983) which focuses on uncertainty regarding which alternative from a set of alternatives a consumer would receive. However, attribute values of each alternative are known with certainty.

Summers performed an individual level analysis of the respondents' evaluation of automobiles. The respondents used a constant sum scale to indicate the importances of the attributes they felt were significant. A separate scale was used next to estimate the risk tolerance of a respondent for a given attribute. Also, the researchers used self-reported data from the respondents to determine subjective probability distributions of attribute values. Integrating the information about attribute evaluation, perceived uncertainty, and stated preference among product alternatives, the researchers demonstrated the effect of attribute importance on risk tolerance by a respondent.

Meyer's analysis involved inference about unknown attributes in the context of conjoint analysis and is closely related to the present study. His approach is based on the assumption that part-worth utility for each product attribute can be separated into two components, (i) the expected value of the attribute, and (ii) the dispersion or variance. This is an interesting approach and it addresses a long neglected area. However, Meyer's approach suffers from the following limitations:

1. Since the 'dispersion' or variance is an additional variable, a very large number of profiles is needed to estimate the utility function using conjoint analysis.
2. In general, the expected part-worth utility of an attribute may not be separable into the mean and the variance of the attribute.

In this paper, we suggest an alternative procedure, described in the following section, which overcomes the limitations of Meyer's technique listed above.

OBJECTIVES

The objective of this paper is to develop a simple procedure which will predict a consumer's evaluation of a product with uncertain attribute values. It is assumed here that the consumer has a well defined utility function for any combination of attribute values. For a given product, the values of different attributes are random variables (x_i), and the expected 'value' or utility the consumer has for the product is given by

$$(2) \quad E [U (x_1, x_2, \dots, x_n)] = \sum_{i=1}^n E [U_i (x_i)].$$

We will henceforth denote this quantity by 'expected utility' or EU. The consumer would choose the product which gives him/her the maximum expected utility, EU.

If instead of using equation (2), the utility of the consumer for the new product is computed at the expected values of the attributes, the 'value' the consumer has for the product will be (erroneously) computed as

$$(3) \quad EV = \sum_{i=1}^n U_i [E (x_i)].$$

If there is no uncertainty about attribute values, equation (2) reduces to equation (3). Also, if U_i is linear in x_i , then $E[U_i(x_i)] = U_i[E(x_i)]$. Otherwise, equation (3) may estimate the expected utility of the consumer for the product incorrectly. The nature of the error can be illustrated using the following example:

Consider a product with a single attribute x . x is a random variable which is uniformly distributed between 0 and 20. $U(x)$, the utility of the consumer for attribute level x , is the piecewise linear function given by:

$$U(x) = x \quad \text{if } 0 \leq x \leq 10, \\ U(x) = 10 + .5(x-10) \quad \text{if } 10 < x \leq 20.$$

Clearly, the expected value of x is 10, and EV , the consumer's utility computed at $x = 10$, is 10. In contrast, the expected utility of the consumer, EU , is given by

$$EU = \frac{1}{20} \int_0^{20} U(x) dx = 8.75$$

noting that the probability density function of the uniform distribution here is $1/20$ for $0 \leq x \leq 20$.

Note that here, the utility function exhibits concavity, i.e. the consumer is risk averse, and he/she strictly prefers a certain value of $x = 10$ over an uncertain scenario where the expected value of x is 10. This also demonstrates that even if we have a piecewise linear approximation to the consumer's utility function, with properly designed uncertain scenarios we should still be able to notice the error in using equation 3 to estimate how a consumer would evaluate a new product.

We propose that the consumer's expected utility for a new product can be determined in two stages as follows:

1. Use conjoint analysis to determine the part worth utility functions U_i . In this step, hypothetical products with certain attribute values are used.
2. Determine the probability distributions for x_1, \dots, x_n for the new product. Compute the consumer's expected utility for the new product using equation (2).

It should be noted that the task involved in (1) above is considerably simpler than estimating a utility function involving means as well as dispersions of attribute values. Also, the model is free from any limiting assumption of separability of effects of mean and dispersion as used by Meyer (1981). Data obtained from conjoint analysis in task 1 eliminate the need to estimate attribute

TABLE 1

APT	DISTANCE TO CLASSES (in mins)	FLOOR SPACE (in sq.ft.)	HEATING BILL (in \$)
1	4	600	40
2	12	800	80
3	4	900	40
4	12	600	160
5	16	900	40
6	4	800	120
7	16	600	80
8	12	900	120
9	16	600	160
10	8	700	160
11	16	700	120
12	8	900	80
13	12	700	40
14	16	800	160
15	4	700	80
16	8	600	120
17	4	900	160
18	8	800	40

importance and risk tolerance separately (as done by Pras and Summers, 1978). Finally, the tasks (1) and (2) are mutually independent. If the part worth utility functions are known, the expected utility for any known distribution of attribute values can be computed.

In this paper, we try to examine if the procedure outlined above yields an accurate measure of consumer preference. To achieve that goal, we focused on a simple product which could be presented reasonably well by a small number of search attributes. First, conjoint analysis was performed at an individual level to determine a respondent's partworth utility functions for the attributes of the product. Next, the respondent was presented with product profiles with uncertain attribute values. The actual preferences of the respondent were compared with predictions based on the first stage analysis.

In specific, we studied how the procedure described above performs compared to the naive method where the utility for the new product is computed using expected attribute values. For notational convenience, we will call the method outlined above the 'expected utility model' or 'EU model', and the naive method using expected attribute values will be called the 'expected value model' or 'EV model'.

STUDY DESIGN

56 undergraduate students participated in the study. The product category selected was a rental two bedroom apartment which the subject would share with three other undergraduates. Subjects performed 4 distinct tasks during a 1 hour session in the sequence presented below.

Task 1: Data for estimation of conjoint model.

A full profile approach was used with the following three attributes, each at four levels:

1. x_1 , the distance from classes: 4, 8, 12 or 16 minutes.
2. x_2 , the floor space: 600, 700, 800, or 900 sq. ft.
3. x_3 , the monthly heating bill during winter (to be shared by the four residents): \$40, \$80, \$120, or \$160.

The apartments were identical otherwise.

A 1/4 fractional factorial design was used to collect data for the conjoint analysis. In addition to these 16 profiles to be used in the data analysis, the respondents were provided with two extreme profiles (profiles 3 and 9 in Table 1) which they could use as anchors. Table 1 presents the hypothetical profiles used in the study. The respondent was asked to rank order the eighteen profiles and also rate each profile on a 0-100 scale.

Task 2: Simultaneous evaluation of hypothetical product profiles.

Here the respondent was presented with the eleven hypothetical apartments listed in Table 2. Two apartments (3 and 8 in table 2) had a known (certain) value for each attribute and were included to serve as anchors. Each of the other nine apartments had an uncertain heating bill, and the probability distribution, which was piecewise uniform, was described to the respondent. (We introduced uncertainty in only one attribute to keep the task

TABLE 2

APT	Distance to Classes	Floor Space	Heating Bill
1.	16 mins.	700 sq.ft.	5% chance - between \$40 & \$80. 40% chance - between \$80 & \$120. 55% chance - between \$120 & \$160.
2.	16 mins.	800sq.ft.	30% chance - between \$40 & \$80. 40% chance - between \$80 & \$120. 30% chance - between \$120 & \$160.
3.	4 mins.	900sq.ft.	\$40 (for sure).
4.	4 mins.	800sq.ft.	15% chance - between \$40 & \$80. 20% chance - between \$80 & \$120. 65% chance - between \$120 & \$160.
5.	4 mins.	700sq.ft.	10% chance - between \$40 & \$80. 80% chance - between \$80 & \$120. 10% chance - between \$120 & \$160.
6.	12 mins.	900sq.ft.	10% chance - between \$40 & \$ 80. 70% chance - between \$80 & \$120. 20% chance - between \$120 & \$160.
7.	12 mins.	800sq.ft.	65% chance - between \$40 & \$80. 20% chance - between \$80 & \$120. 15% chance - between \$120 & \$160.
8.	16 mins.	600sq.ft.	\$160 (for sure).
9.	8 mins.	900sq.ft.	55% chance - between \$40 & \$80. 40% chance - between \$80 & \$120. 5% chance - between \$120 & \$160.
10.	8 mins.	600sq.ft.	20% chance - between \$40 & \$80. 70% chance - between \$80 & \$120. 10% chance - between \$120 & \$160.
11.	12 mins.	600sq.ft.	33 1/3% chance - between \$40 & \$80. 33 1/3% chance - between \$80 & \$120. 33 1/3% chance - between \$120 & \$160.

simple for the subjects. Heating bill was selected since we felt that it would be easier to justify random variation in heating bills than in either floor space or distance to school. A known heating bill may be conceived of as a fixed addition to the rent.) Following Pras and Summers (1978), the probability distributions of the heating bill were made to differ on the following two characteristics:

- (i) The distribution was either skewed left, symmetric, or skewed right.
- (ii) The variance was high, medium or low.

These nine profiles consisted of the (3x3) combinations of the three levels of these two characteristics. The other two attributes were known with certainty, and their values were randomly varied

from profile to profile. The respondent rank ordered the 11 profiles and also rated each profile on a 0-100 scale.

Task 3: Pairwise comparison of hypothetical product profiles.

The respondent was presented with eight pairs of hypothetical apartments. Each pair consisted of one apartment with known (certain) values for all attributes, and one apartment with known (certain) values of distance and floor space, but uncertainly in heating bill. The known (certain) heating bill was always greater than or equal to the expected value of the uncertain heating bill.²

²This was done since we felt that the respondent would have a negative utility for heating bill.

TABLE 3

APT No.1:	Distance to classes	12 mins.		
	Floor space:	900 sq.ft.		
	Heating bill:	30% chance - between \$40 and \$80. 40% chance - between \$80 and \$120. 30% chance - between \$120 and \$160.		
APT No.2	Distance to classes:	12 mins.		
	Floor space:	900sq.ft.		
	Heating bill:	\$105 (for sure).		
Strongly Prefer APT No.1		Like Both Equally		Strongly Prefer APT No.2
1	2	3	4	5

The uncertain heating bills differed across pairs on the following characteristics:

- (i) The variance was low, or high.
- (ii) The distribution was symmetric, or skewed right (the 'skewed left' case was omitted due to time constraints).
- (iii) The certain heating bill in the pair exceeded the expected value of the uncertain heating bill by a small (\$0-\$5) or a large (\$10-\$20) amount.

The eight pairs consisted of (2x2x2) combinations of the two levels of the three attributes. In four pairs the uncertain case was presented first, and in the other four the certain case was presented first. For each pair, the respondent was asked to indicate on a five point scale how strongly he/she preferred the second apartment in the pair over the first.³

Table 3 presents one pair of apartments used in the study.

Task 4: General information.

Finally, the respondent completed a short questionnaire which obtained background information. It also contained a constant sum scale where the respondent was asked to divide 100 points among four attributes of an apartment: rent, distance from school, floor space and heating bill, according to importance.

The data from task 4 were used to check the nature of the sample and establish face validity for the measurement of part-worth utilities. These were not included in any formal analysis.

DATA ANALYSIS AND RESULTS

The data were analyzed in two stages.

1. *Estimation of part-worth utility functions.* Dropping the two extreme profiles, rankings and ratings obtained for the 16 hypothetical profiles from task 1 were used to estimate the part-worth utility functions for each individual respondent using the dummy variable regression model,

$$(4) Y = \beta_0 + \beta_1 D_1 + \beta_2 D_2 + \beta_3 D_3 + \beta_4 D_4 + \beta_5 D_5 + \beta_6 D_6 + \beta_7 D_7 + \beta_8 D_8 + \beta_9 D_9 + \epsilon,$$

where D_1, D_2 & D_3 corresponds to x_1 (distance) = 8, 12 & 16 minutes, D_4, D_5 & D_6 to x_2 (floor space) = 700, 800 & 900 square feet, and D_7, D_8 & D_9 to x_3 (heating bill) = \$80, \$120, & \$160. The regression estimated four points on each of the three part-worth utility functions.

Using both rankings and ratings, the average R^2 computed over the 56 cases was .95. Also, for each case, we examined if the null hypothesis that only the intercept should be retained could be rejected at $\alpha = .05$ (this corresponded to having $R^2 > .804$). The null hypothesis was rejected in 53 (out of 56) cases using ratings, and 55 cases using rank orders. The insignificant cases were dropped from further analysis.

Since in tasks 2 & 3 there would be uncertainty only in heating bill, the null hypothesis that heating bill is an insignificant predictor of the dependent variable (i.e. $\beta_7 = \beta_8 = \beta_9 = 0$) was tested for each individual using $\alpha = .10$. Once again, the insignificant cases were eliminated from further consideration. 40 cases were retained for the analysis using rank orders, and 39 cases for the analysis using rating scores.

2. *Comparisons of predictions from the EU and EV models.* The estimated conjoint models were used next to compare predictions based on the EU and EV models with the respondents' stated evaluations from task 2 & task 3. Since we

³Note that for four pairs, the heating bill of the second apartment was uncertain, and in the remaining four, it was known with certainty.

TABLE 4

A. Conjoint Analysis Performed With Rating Scores. 39 eligible cases.

	EU model	EV model
\bar{r}_p	.8506	.8571
r_{pooled}	.7167*	.7185*
r_s	.8342	.8402

B. Conjoint Analysis Performed With Rank Orders. 40 eligible cases.

	EU model	EV model
\bar{r}_p	.8527	.8508
r_{pooled}	.8311*	.8243*
r_s	.8529	.8475

Notation:

* → p = .0001.

\bar{r}_p = average Pearson correlation of predicted and observed scores.

r_{pooled} = Pearson correlation of predicted and observed scores for the pooled data.

r_s = average Spearman rank order correlation of predicted and observed scores.

estimated only four points on each part-worth utility function, a piecewise linear approximation was used for each function to obtain the predictions. (The Appendix demonstrates how these computations were done.)

Analysis of data from task 2. For every individual, scores for the two extreme profiles were dropped, and EU and EV were computed for each of the nine hypothetical apartments with uncertain heating bills. Next, Pearson correlations and Spearman rank order correlations were computed between the predicted (using the EU and the EV models) and observed scores for each individual. (The rank orders obtained from task 2 were used to compute the Spearman rank order correlations while the rating scores were used to compute the Pearson correlations.) The results are presented in Table 4. It is obvious that both the EU model and the EV model predicted the respondents' evaluation of the hypothetical apartments reasonably well. However, the results did not indicate that either model performed significantly better than the other.

Analysis of data from task 3. The analysis here had two components. The first component was performed at an individual level. For each respondent, for every pair of hypothetical apartments, the respondent's evaluations of apartment 2 and apartment 1 were computed and the difference estimated. Both the EU model and the EV model were used. Next, the Pearson correlation between the predicted difference and the observed preference score of apartment 2 over apartment 1 was computed. Table 5a presents the results of the analysis. Both the EU model and EV model performed better than a naive model where one apartment is randomly chosen. However, the quality

of prediction was unsatisfactory for either model. More significantly, the EU model did not perform better than the EV model.

The second component used pooled data from the entire eligible sample. Only the cases were considered where the respondent indicated strict preference for either apartment,⁴ and the EU and the EV models gave opposite predictions. An analysis of these cases would provide us with a critical test regarding the relative performances of the two models. We could not determine a priori when the EU and the EV models would make opposite predictions. However, we expected that the two models would tend to make divergent predictions when the heating bill known with certainty exceeded the expected value of the uncertain heating bill by a small margin.

The cross-tabulations of the predicted choice using the EU model with the actual choice are presented in Table 5b. Since here the predictions from the EV model were exactly the opposite of those made by the EU model, cross-tabulations using results from the EV model are omitted as redundant.

From Table 5b, it is clear that the null hypothesis of no relationship between predicted and observed choice cannot be rejected here with any reasonable level of confidence. However, the cross-tabulation seems to indicate a weak relationship.

Therefore, we could not establish here that the EU model would predict choice under uncertain attribute values better than the EV model.

⁴A score of 1 or 2 indicated preference for apartment 1 while a score of 4 or 5 indicated preference for apartment 2.

TABLE 5A

A. Conjoint Analysis Performed With Rating Scores. 39 eligible cases.

	EU model	EV model
\bar{r}_p	.3534	.3304
r_{pooled}	.2805*	.2324*
n_{reject}	11 [†]	11 [†]

B. Conjoint Analysis Performed With Rank Orders. 40 eligible cases.

	EU model	EV model
\bar{r}_p	.3276	.2996
r_{pooled}	.2134*	.2273*
n_{reject}	11 [†]	10 [†]

Notation:

* → $p = .01$. \bar{r}_p = average Pearson correlation of predicted and observed scores. r_{pooled} = Pearson correlation of predicted and observed scores for the pooled data. n_{reject} = the number of cases where the null hypothesis that the true correlation is nonpositive can be rejected at $\alpha = .05$.[†] → binomial probability for null hypothesis is less than .01 for the sample.

TABLE 5B

Pooled study of cases where the EU and EV models made opposite predictions and the respondent made a clear choice.

A. Rating Scores Used. 63 cases (pooled).

Predicted Using EU		Observed	
		APT 1.	APT 2.
	APT 1.	23	13
	APT 2.	17	10

 $p = .940$

B. Rank Orders Used. 51 cases (pooled).

Predicted Using EU		Observed	
		APT 1.	APT 2.
	APT 1.	20	9
	APT 2.	14	8

 $p = .689$.SUMMARY OF RESULTS AND
CONCLUSION

To summarize, part-worth utility functions estimated from conjoint data were used to compare the predicted abilities of the EU model and the EV model. Both models predicted consumer choice better than chance. The performance on task 2, where the profiles varied on all attributes, was significantly better than the performance on task 3, where the apartments in a pair differed on heating bill alone.

Also, it was found that the EU model and the EV model performed approximately equally well in tasks 2 and 3. This last result appeared counterintuitive since the EU model should have predicted choice better than the EV model even when a piecewise linear approximation to a nonlinear part-worth utility function was used.

In an attempt to interpret this apparent anomaly, we tried to examine if the part-worth utility functions for heating bill were indeed approximately linear, which could explain the similarity of the performances of the EU and the EV

**APPENDIX
COMPUTING EV AND EU.**

In all the cases considered, distance (x_1) and floor space (x_2) were known with certainty, and their contributions would be identical for the EU and the EV models. Here we will demonstrate how we can compute $E[U_3(x_3)]$ (denoted by EU_3) and $U_3[E(x_3)]$ (denoted by EV_3) where x_3 denotes the uncertain heating bill.

U_3 has been estimated at 40, 80, 120, and 160, and piecewise linear approximation used for intermediate points. For example, if $80 \leq x_3 < 120$,

$$(A1) \quad U_3(x_3) = U_3(80) + (U_3(120) - U_3(80)) \left(\frac{x_3 - 80}{120 - 80} \right)$$

Let $f(x_3)$ represent the probability density function of x_3 .

We will only consider the situation where x_3 has the following piecewise uniform probability distribution over $40 \leq x_3 \leq 160$:

$$(A2) \quad \begin{aligned} f(x_3) &= \frac{P_1}{40} \text{ if } 40 \leq x < 80, \\ f(x_3) &= \frac{P_2}{40} \text{ if } 80 \leq x < 120, \\ f(x_3) &= \frac{P_3}{40} \text{ if } 120 \leq x \leq 160, \end{aligned}$$

where $P_1 + P_2 + P_3 = 1$. This is a generalization of the uncertain heating bills used in tasks 2 & 3. It can be easily seen that

$$P(40 \leq x_3 < 80) = P_1, \quad P(80 \leq x_3 < 120) = P_2, \quad P(120 \leq x_3 \leq 160) = P_3,$$

and $E(x_3) = 60P_1 + 100P_2 + 140P_3$.

(A) *Computing EV_3 .* EV_3 can be computed using simple interpolation. For example, suppose $80 \leq E(x_3) < 120$. Then, EV_3 can be computed as follows:

$$(A3) \quad EV_3 = U_3(80) + \{E(x_3) - 80\} \frac{U_3(120) - U_3(80)}{120 - 80}$$

(B) *Computing EU_3 .* It can be easily shown that in the case considered here,

$$(A4) \quad \begin{aligned} EU_3 &= \int_{x_3=40}^{160} U_3(x_3) f(x_3) dx \\ &= \frac{P_1}{2} \{U_3(40) + U_3(80)\} + \frac{P_2}{2} \{U_3(80) + U_3(120)\} \\ &\quad + \frac{P_3}{2} \{U_3(120) + U_3(160)\} \end{aligned}$$

models, and differences in predictions from the two could be attributed to random error in estimation.

In the cases where the importance of heating bill was found to be significant (39 cases using ratings, 40 using rankings), regression was performed using a model where the contribution of heating bill was restricted to be a linear function.

Using a subset F-test with $\alpha = .10$, the null hypothesis that the contribution of the heating bill was linear was rejected in 10 out of 39 cases using ratings, and in 10 out of 40 cases using rankings.

Considering the entire sample, the null hypothesis that the contribution of heating bill is actually linear for each respondent can be rejected at $\alpha = .01$ using both ratings and rankings.⁵

Unfortunately, the number of cases where the null hypothesis of linearity could be rejected was always too small to conduct a statistically meaningful analysis of these cases alone.

Even though it is possible to reject the null hypothesis that the part-worth utility for heating bill is linear in all cases, the evidence indicates that linearity might indeed have existed in most cases, leading to similar predictions by the EU and the EV models.

Why did that happen? An examination of the estimated ranges of part-worth utilities for distance, floor space and heating bill shows them to be approximately equally important to the respondents on the average. However, an examination of information obtained from task 4 indicates that rent is much more important than any of the three attributes included in the study. This fact might have manifested itself as an approximately linear part-worth utility function for heating bill.

Another reason might be the fact that the heating bill was to be shared by the four residents of an apartment, thereby making the range of the heating bill to be paid by an individual \$10 - \$40 rather than \$40 - \$160. The reduced range might have made the part-worth utility function for heating bill approximately linear.

It is also possible that the respondents' perception of uncertainty in attribute values differed from the uncertainty presented in the questionnaire.

The reasons discussed so far indicate potential limitations of the study performed rather than a failure of the technique proposed. Although these limitations could not be known a priori, it is possible that a future study using an attribute which clearly has a nonlinear part-worth utility function may establish the relative superiority of the EU model.

Finally, it is possible that the lack of success of the EU model here arises from a deeper source, that the estimation of the conjoint model will give us part-worth utilities which will no longer hold when attributes are not known with certainty. Previous research (Currim, Weinberg & Wittink 1981; Wittink, Krishnamurthy & Nutter 1982) has already revealed the fact that the estimated importance of an attribute would depend on the number of levels of the attribute used in the conjoint analysis. Similarly, the presence of uncertainty might affect evaluation by a consumer, and the expected utility given by equation (2) would no longer be valid. Future research should address this question which is of crucial importance to any attempt to incorporate uncertainty in attribute values into conjoint analysis.

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⁵Since $\alpha = .10$ is used for an individual level analysis, there is a 10% chance that the null hypothesis of linearity is rejected when in fact it is true. The binomial probability that it would happen for 10 or more out of 39 cases is .007, and that it would occur for 10 or more out of 40 cases is .006.

An Examination of the Effects of Attribute Order and Product Order Biases in Conjoint Analysis

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ABSTRACT

The effect of perturbing the stimulus structure within conjoint measurement and the effects of product order in a multiple-product conjoint study are examined. Although conjoint measurement has historically been considered quite robust, ordering bias may result in structural unreliability if not measured properly and accounted for sufficiently. The results of the study contribute to the evidence of conjoint measurement's robustness with regard to ordering biases.

INTRODUCTION

The primary reason for the acceptance of conjoint analysis as a research tool in consumer behavior is its capability to convert relatively primitive data into fairly sophisticated information (Johnson, 1975). "Conjoint" is defined as the measuring of relative values of attributes considered jointly, which might be measured inaccurately if calculated individually (Johnson, 1974). Conjoint analysis has been used as a measurement technique in a variety of contexts since its introduction as a research tool by Luce and Tukey (1964).

A full review of the successes and failures of conjoint measurement in analyzing buyer behavior and evaluative criteria usage patterns is beyond the scope of this paper. However, the research which has focused on the problems of data collection, and stability or reliability are of particular importance within the context of the present study. This research includes work on treatment of interactions (Green and Devita, 1975), aggregation errors resulting from the "combining" of individual responses (Curry and Rodgers, 1976), and the use of continuous versus discrete attribute levels (Pekelman and Sen, 1979). In addition, there have been a few studies that have specifically examined conjoint measurement stability and reliability. Parker and Srinivasan (1976) varied the levels in an attribute bundle used to describe health care facilities and found very little change in the results obtained from the conjoint analysis. Both Acito (1977), and McCullough and Best (1979) were in agreement that conjoint analysis had sufficient temporal stability to provide encouragement to researchers using conjoint measurement. Also, Segal (1982) evaluated the two basic methods of conjoint, "two-factor" evaluation and "full-profile" method, and found both to be very reliable with regard to input preference judgments and estimated parameter reliability. In a larger, more comprehensive review of conjoints' robustness, Carmone, Green and Jain (1978) found that orthogonal arrays of only 18 combinations did almost as well in partworth recovery as the full set of 243 combinations from which the array was drawn. In the same review, metric ANOVA was found to perform almost as well as nonmetric

MONANOVA in solution recovery (depending upon the form of input data used). Finally, Reibstein, Bateson and Boulding (1988) investigated the comparative reliability of the three most common conjoint data collection procedures (full profile, trade-off matrix, and paried profile comparison) and found the reliability score was significantly affected by the type of data collection procedure, independent of the type of reliability which they tested. However, their results indicated that the conjoint technique is reliable, in an absolute sense, under a variety of data collection methods and across a number of product categories. The strongest concern raised by their results is that minimal fractional factorial designs appear to provide less reliable results than would be desired.

Most of the conclusions about the reliability, stability, and validity of the results of conjoint measurement appear to be very favorable. However, one potential problem involves the seldom investigated (e.g., Acito 1979) effects of order bias as a hidden influence of error in many full-profile, conjoint measurement studies. Although a standard method of randomizing evaluative criterion is often utilized by researchers to minimize order bias, this "shuffling" technique may make it difficult to measure order bias if it does exist.

HYPOTHESIS DEVELOPMENT

The purpose of this study is to examine the effect of attribute and product order biases in a multi-product conjoint measurement study. As a prelude to hypothesis development, it is necessary first to review a portion of the information processing literature.

In a conjoint study of reasonable complexity, subjects may be asked to consider not only several product attributes, but several types of products as well. Concern may occur in such studies about two potential ordering biases. One potential problem involves the order in which the attributes are presented. The second concern is about the effect of the presentation order of the products.

To begin, it has been found that the order in which information (e.g., product attributes) is presented influences both perception and retention (Klatsky, 1975). Presentation order effects are evidenced by the fact that words at the beginning (primacy) and the end (recency) of a list are better retrieved than words embedded in the middle (Asch, 1952).

The potential effect of the presentation order of the products is of concern because of the possibility of "halo" effects (or general impressions that seep into respondents' usage of attributes) stemming from the level of salience that an attribute had in the previously presented products. Several recent studies have drawn attention to the fact that

conditional approaches to assessing consumers' judgments may be plagued with perceptual distortions such as halo bias (e.g., Holbrook and Huber, 1979; Huber and Holbrook, 1979). For example, in a study involving automobiles, Erickson, Johansson, and Chao (1984) found a halo effect of overall attitudes on beliefs about the cars.

However, research into the effects of primacy and recency does not indicate unambiguously which order is more likely to influence consumers' memory, perceptions, evaluations, and attitudes. In general, elements which occur earlier and later in a message have been found to be better remembered and more influential than those in the middle of the message. But generalizations are very difficult to make because the situation and individual factors interact with the message (Nickles 1984). Topic saliency, familiarity, interest, and level of controversy have been found to influence whether recency or primacy effects will occur (Rosnow and Robinson 1967). Thus, "unfortunately, it is presently impossible to predict which effect will emerge in a particular situation" (Engle, Blackwell, and Miniard 1986, p.221).

It would be difficult to predict the precise effects of the order of information presentation on its processing in a multiple product conjoint analysis. However, a general hypothesis might be that the partworth values for an attribute will be affected by both the order in which the attributes are presented and/or the order in which the products are seen. In the current study, the effects of both of the previously mentioned potential biases are investigated simultaneously. The reasons for this are explained shortly.

HYPOTHESIS

The partworth values for an attribute will differ depending upon the order in which the attribute is presented and/or the order in which the products are presented.

METHODOLOGY

The conjoint measurement used as a focus for this research was part of a larger research project that investigated consumers' use of country-of-origin cues in product evaluations. The design of the parent study allows the testing of the hypothesis as stated. That is, investigation of the simultaneous effects of attribute and product order on partworth values. An alternative approach would be to create two separate hypotheses to be tested by two different studies. In that approach, one study would test for the effect of attribute positioning, the other for the effect of product ordering. If an effect on the partworth values is found, separate studies would provide an indication of which type of bias is the cause. Although the present study cannot differentiate between the two sources of error, it does allow for the assessment of the existence of either kind. If the partworth values are affected, it would be necessary to utilize a two study design to determine the source.

In an effort to improve upon the often used convenience sample of college students, the study utilized 89 respondents that were drawn from a population of the (adult, non-student) friends, family, and co-workers of a group of university students at a mid-sized, Midwestern university. Students were trained to administer the conjoint measurement as part of an optional class assignment. Participation was validated via telephone confirmation for a random sample of the subjects.

Three products were selected for the main study and analyzed using conjoint analysis. Each product, automobiles, furniture, and beer, was measured using the full-profile method with a fractional factorial design chosen for the specific products based on previous studies and such that the fewest possible number of unrealistic attribute level combinations were included (see Appendix 1 for the attribute combinations and levels used.) Each respondent evaluated all three products.

The attribute "country-of-origin" was included in all three of the products' conjoint measurements. For each product, "country-of-origin" was placed in either the first, middle, or last position on the individual attribute combination cards which respondents were asked to rank. Each third of the respondents saw each product with the alternate positioning of "country-of-origin" of first, middle or last. Thus, no one respondent saw any two products with the "country-of-origin" attribute at the same position on the product cards. In addition, each third of the respondents saw the products themselves in a different order from the other respondents. The full design for the experiment (which is a quasi-Latin square design) is presented in Table 1.

ANALYSIS

HYPOTHESIS TESTING: Standardized group partworth values for each product are shown in Table 2. In order to test for significant differences due to attribute positioning and product presentation order an ANOVA was done comparing standardized individual partworth values that represented country-of-origin attribute usage by the respondents (in each product category) for each country position treatment. Thus, the product type was held constant within each subgroup, and any variance in the partworth score could only be caused by either attribute positioning or product ordering.

Individual partworth scores within each group were subjected to an ANOVA and results for each of the products are tabulated in Table 3. No significant differences due to attribute positioning or product ordering (which vary together due to the quasi-Latin square design used in the parent study) are evident within any one group.

However, ANOVA assumptions that the data are normally distributed (from randomly selected groups that have equal variances) have not been checked. Post hoc testing specifically investigating whether the assumptions of the ANOVA procedure were satisfied provided interesting information about the data. The Lilliefors' "test of normality" was used

TABLE 1
Multi Product-Multi Attribute Positioning Conjoint Measurement Randomization Design

<u>SUBJECTS</u>					
1-30		31-60		61-89	
Product Order	Country Position	Product Order	Country Position	Product Order	Country Position
Furniture	Last	Cars	First	Beer	Middle
Cars	Middle	Beer	Last	Furniture	First
Beer	First	Furniture	Middle	Cars	Last

NOTE: "Product Order" indicates the order in which each third of the subjects evaluated the three products. "Country Position" refers to the position that the attribute "Country-of-Origin" held on each group's set of ranking cards for each individual product.

TABLE 2
Standardized Partworth Values for Each Product and Subgroup

<u>Product</u>	<u>Country of Origin Attribute Position</u>		
	<u>First</u>	<u>Middle</u>	<u>Last</u>
Beer	21.43%	15.39%	14.13%
Automobiles	23.27%	32.50%	18.81%
Furniture	20.27%	19.95%	17.43%

TABLE 3
Analysis of Variance Summary of Individual Standardized Partworth Values for Each Products' Sub-Groupings

<u>PRODUCT = BEER</u>						
<u>Source</u>	<u>Sum of Squares</u>	<u>D.F.</u>	<u>Mean Square</u>	<u>F-Ratio</u>	<u>P-Value</u>	
Order	1260.675	2	630.337	1.76	0.178	
Error	30794.145	86	358.071			

<u>PRODUCT = AUTOMOBILES</u>						
<u>Source</u>	<u>Sum of Squares</u>	<u>D.F.</u>	<u>Mean Square</u>	<u>F-Ratio</u>	<u>P-Value</u>	
Order	599.346	2	299.673	0.735	0.483	
Error	35073.707	86	407.834			

<u>PRODUCT = FURNITURE</u>						
<u>Source</u>	<u>Sum of Squares</u>	<u>D.F.</u>	<u>Mean Square</u>	<u>F-Ratio</u>	<u>P-Value</u>	
Order	309.92	2	154.96	0.431	0.651	
Error	30919.555	86	359.53			

NOTE: No significant differences exist at an alpha level of 0.01.

TABLE 4

Lilliefors' Test of Normality: Maximum Difference and Two Tail Probability Values for Sub-Groupings

Subjects	BEER		AUTOMOBILES		FURNITURE	
	Max. Diff.	P-Value	Max. Diff.	P-Value	Max. Diff.	P-Value
1 -30	0.266	0.000	0.217	0.001	0.229	0.000
31-60	0.231	0.000	0.273	0.000	0.236	0.000
61-89	0.139	0.156	0.166	0.039	0.271	0.000

NOTE: At N=30, the maximum difference values from Lilliefors' Table is (0.161). Thus all sub-groups (except for the group containing subjects 61-89 for beer) can be considered to assume a non-normal distribution at the various P-value levels.

TABLE 5

Bartlett's Homogeneity of Variance Test

	BEER	AUTOMOBILES	FURNITURE
Chi-Square	10.712	6.062	.593
D.F.	2	2	2
Probability	.005	.048	.744

NOTE: At alpha=.05, only the sub-groups for furniture exhibited homogeneity of variance.

for verification of the ANOVA assumptions of normality (Lilliefors, 1973). The results indicated that none of the subsets of data had a distribution that approximates a true normal distribution for the parent population. Table 4 provides each sub-sample's test statistic.

The ANOVA assumption of "equal variances" among the groups was tested using the Bartlett test (Bartlett, 1947). As can be seen in Table 5, although the furniture subsamples have equal variances, the test statistics for beer and automobiles suggest evidence of inequality of variance which represents another potential source of error accompanying any use of ANOVA on the data.

Thus, in order to utilize an ANOVA to accurately gauge the degree of order bias within the experiment, it is necessary to transform the standardized partworth values such that the new function fulfills the assumptions of the ANOVA model. At times, natural considerations of convenience may dictate that the ANOVA be conducted using "raw" data. In fact, even a brief review of published articles would seem to indicate that this is often the practice. However, the equality of variance and normality assumptions that have been violated in this case may be the least robust of ANOVA's assumptions. That is, violation of these assumptions is quite likely to affect the results. In an attempt to correct for these violations, a data transformation of the standardized individual country-of-origin partworths was conducted. The use of a square-root transformation on these partworth values resulted in the set of Bartlett tests, chi-

squares, p-values, and Lilliefors maximum distance values seen in Table 6.

As the results indicate, the group variances have been stabilized by the data transformation. The normality of the data is still partially in question but the transformation has now created a distribution that approximates the normal distribution a great deal more closely than did the raw, untransformed partworth values. This transformation makes the data amenable to ANOVA. Table 7 shows the results of an ANOVA using the transformed partworth values. As in the previous ANOVA no significant differences exist due to "country-of-origin" attribute positioning or product presentation order.

Another test of the hypothesis using the previously transformed partworth values compared each third of the respondents across all products. By looking at each group with regard to how they varied across all products, the effect of any bias that existed with regard to either attribute positioning or product presentation order is tested using an alternate method. Table 8 indicates that no significant differences exist. Since maximum normality was achieved via the previous transformation it was not necessary to test for it again, but a post-hoc Bartlett test for homogeneity of variance verified the equal variance assumption.

While these results might leave the impression that the use of a transformation is not worthwhile since the change in the F-ratios was found to be small, this is not true in many cases. The F-ratio may be strongly affected by transformation of the data (Kendall and Stuart, 1976). Similarly, the fact that the analyses of

TABLE 6
Lilliefors and Bartlett Test Values for Transformed Standard Partworths

Subjects	<u>LILLIEFORS' VALUES</u>					
	<u>BEER</u>		<u>AUTOMOBILES</u>		<u>FURNITURE</u>	
	<u>Max. Diff.</u>	<u>P-Value</u>	<u>Max. Diff.</u>	<u>P-Value</u>	<u>Max. Diff.</u>	<u>P-Value</u>
1 -30	0.210	0.002	0.185	0.010	0.168	0.031
31-60	0.156	0.062	0.132	0.199	0.176	0.019
61-89	0.092	0.797	0.084	0.962	0.202	0.004

BARTLETT'S VALUES

	<u>BEER</u>	<u>AUTOMOBILES</u>	<u>FURNITURE</u>
Chi-Square	3.330	1.575	0.087
D.F.	2	2	2
Probability	0.189	0.455	0.957

TABLE 7
Analysis of Variance Summary of Transformed Individual Standardized Partworth Values for Each Products' Sub-Groupings

<u>PRODUCT = BEER</u>					
<u>Source</u>	<u>Sum of Squares</u>	<u>D.F.</u>	<u>Mean Square</u>	<u>F-Ratio</u>	<u>P-Value</u>
Order	13.289	2	6.645	1.892	0.157
Error	302.083	86	3.513		

<u>PRODUCT = AUTOMOBILES</u>					
<u>Source</u>	<u>Sum of Squares</u>	<u>D.F.</u>	<u>Mean Square</u>	<u>F-Ratio</u>	<u>P-Value</u>
Order	4.193	2	2.097	0.481	0.621
Error	375.018	86	4.361		

<u>PRODUCT = FURNITURE</u>					
<u>Source</u>	<u>Sum of Squares</u>	<u>D.F.</u>	<u>Mean Square</u>	<u>F-Ratio</u>	<u>P-Value</u>
Order	3.511	2	1.755	0.572	0.567
Error	264.089	86	3.071		

NOTE: At alpha=.05, there are no significant differences evident for any of the products.

TABLE 8
Analysis of Variance Summary of Transformed Individual Standardized Country of Origin Partworth Values Across Products for each Ordering Position

<u>Source</u>	<u>Sum of Squares</u>	<u>D.F.</u>	<u>Mean Square</u>	<u>F-Ratio</u>	<u>P-Value</u>
Order	11.567	2	5.784	1.601	.204
Error	953.552	264	3.612		

POST-HOC BARTLETT TEST

Chi-Square = 3.634 D.F. = 2 Probability = .163

variance was found to be robust with regard to its ability to account for the violation of homoscedasticity and normality depends strongly on the characteristics contained in the set of data under study (Keppel, 1982).

The violation of ANOVA assumptions may be a general finding when partworth values are used as input data for an ANOVA. It may be that because partworth values represent idiosyncratic usage preferences they will always have a tendency to assume non-normal distributions of unequal variances when grouped together.

SUMMARY AND CONCLUSIONS

The use of the statistical procedures outlined in the study to test the reliability of the conjoint measurement allows for the following conclusions.

The Hypothesis was not supported. There was no evidence of an attribute or product presentation order effect; no primacy, recency, or halo effect was found. Given the number of factors which have been found to influence these effects, it is not possible to state with certainty why they were not found. A potential explanation deals with the procedures used in a conjoint analysis. The subjects are not simply presented with a list of attributes, but rather they must physically manipulate cards with the attributes printed on them. In processing information about the product, the respondent may initially read the list of attributes from top to bottom, but thereafter is free to re-read the list in any order desired. Such a process would be likely to reduce the primacy-recency effects for attribute order.

Next consider the presentation order of the products. Typically, at this level of analysis, a halo effect would be expected to occur as the evaluation of one product influences or biases beliefs about the product or the overall rating of the next product. In this study, the concern was with the *weight* given to an individual attribute rather than either with the formation of a belief or with a global evaluation of the product. It is not clear whether the traditional halo effect would have an influence at this level.

The primary purpose of this article was to test for the effects of attribute positioning and product presentation order on partworth values. As the results did not find any order effects, randomization of attribute position and product presentation order may not be necessary. While this study contributes to the evidence that conjoint analysis is robust with regard to the order of attribute and product presentation, the prudent researcher may wish to utilize a design similar to the quasi-Latin square design presented here which will allow a determination of whether a bias exists. As noted, following this procedure a simple ANOVA can be used to test for the effects of order bias. Because of the time and expense associated with the process of doing two separate studies simply to assess the existence of attribute or product position ordering biases, it seems unlikely that researchers using conjoint analysis will choose that approach. If this is the case, then the researcher using a design and

measurements similar to the ones in the current study will at least be aware of whether ordering biases do exist.

Although the results of the study do not confirm the hypothesis, they are nevertheless positive in nature. Conjoint analysis was found to be robust with regard to order effects. This finding is another reaffirmation of the ability of conjoint analysis to serve as a useful tool in the measurement of consumer decision making.

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APPENDIX 1
PRODUCT ATTRIBUTES AND LEVELS

AUTOMOBILES

ATTRIBUTE 1: Country Made In

LEVELS:

- a. U.S.A.
- b. Japan
- c. South Korea
- d. United Kingdom
- e. West Germany

ATTRIBUTE 3: Fuel Economy

LEVELS:

- a. under 15 m.p.g.
- b. 15-25 m.p.g.
- c. over 25 m.p.g.

ATTRIBUTE 5: Safety

LEVELS:

- a. average
- b. above average
- c. very safe

ATTRIBUTE 7: Size

LEVELS:

- a. compact
- b. midsize
- c. fullsize

ATTRIBUTE 9: Acceptability to others

LEVELS:

- a. others would not like it
- b. others somewhat like it
- c. others surely would like it

ATTRIBUTE 2: Dependability

LEVELS:

- a. fair
- b. good
- c. excellent

ATTRIBUTE 4: Status

LEVELS:

- a. low
- b. medium
- c. high

ATTRIBUTE 6: Car Payment

LEVELS:

- a. low
- b. medium
- c. high

ATTRIBUTE 8: Service Costs

LEVELS:

- a. low
- b. medium
- c. high

BEER

ATTRIBUTE 1: Acceptability to others

LEVELS:

- a. others would not like it
- b. others would somewhat like it
- c. others definitely like it

ATTRIBUTE 3: Alcohol Content

LEVELS:

- a. non-alcoholic
- b. low
- c. high

ATTRIBUTE 5: Type

LEVELS:

- a. draft (tap)
- b. bottled beer

ATTRIBUTE 7: Price

LEVELS:

- a. low
- b. moderate
- c. high

ATTRIBUTE 2: Taste

LEVELS:

- a. mild
- b. somewhat strong
- c. strong

ATTRIBUTE 4: Caloric Content

LEVELS:

- a. low
- b. average
- c. high

ATTRIBUTE 6: Country Made In

LEVELS:

- a. U.S.A.
- b. West Germany
- c. Japan
- d. Mexico
- e. Canada

APPENDIX 1 (CONT.)
PRODUCT ATTRIBUTES AND LEVELS

FURNITURE

ATTRIBUTE 1: Acceptability to Others

LEVELS:

- a. others would not like it
- b. others somewhat like it
- c. others surely like it

ATTRIBUTE 3: Durability

LEVELS:

- a. poor
- b. medium
- c. very durable

ATTRIBUTE 5: Stylishness

LEVELS:

- a. not very stylish
- b. somewhat stylish
- c. very stylish

ATTRIBUTE 2: Cost

LEVELS:

- a. low
- b. moderate
- c. expensive

ATTRIBUTE 4: Comfort

LEVELS:

- a. not very comfortable
- b. fairly comfortable
- c. very comfortable

ATTRIBUTE 6: Country Made In

LEVELS:

- a. U.S.A.
- b. West Germany
- c. Japan
- d. Canada
- e. Mexico

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The Power of Affective Reports in Predicting Satisfaction Judgments

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This paper reports a field study that empirically investigated the relative ability of affective reports and cognitive evaluations to predict consumer satisfaction judgments. The results of this research revealed that consumers' affective reports were highly predictive of the level of satisfaction. This effect was independent of, and more powerful than cognitive evaluations. The predictive value of affective reports and cognitive evaluations varied as a function of the emotional intensity of satisfaction judgments.

THE ROLE OF AFFECTIVE REPORTS IN PREDICTING SATISFACTION JUDGEMENTS

Research in consumer behavior has traditionally viewed satisfaction as an affective response to the comparison of actual consumption experiences with some internal cognitive standards. In most studies, consumers are asked to rate the performance of a product on a series of salient attributes and to express how this performance measures up to their expectations. Satisfaction reflects the outcome of a linear combination of discrepancies between actual performances and past expectations, and is directly related to the extent to which expectations are met (Oliver, 1980; Oliver and DeSarbo, 1988; Tse and Wilton, 1988; Woodruff, Cadotte and Jenkins, 1983). Typically, consumers' expectations reflect belief probabilities of attribute occurrence, corresponding to pre-purchase predictions of what the product performance will be (Bearden and Teel, 1983; Oliver, 1980; Westbrook, 1980).

The unique status of probabilistic expectations has recently been challenged by the inclusion of additional cognitive standards in models of consumer satisfaction. Best brand, ideal product performance, and equity-based comparison between costs and anticipated rewards have been empirically investigated (Cadotte, Woodruff and Jenkins, 1987; Tse and Wilton, 1988; Woodruff et al, 1983). Furthermore, the continuous and monotonic relationship between the magnitude of disconfirmation of expectations (or of any other standards), and the emotional intensity of satisfaction judgments has also been questioned. Woodruff and his collaborators (1983; 1987) have suggested that consumers' perceptual limitations create a "zone of indifference" surrounding cognitive expectations, so that positive or negative disconfirmation results only when a perceived performance falls outside this zone. The existence of these differentiated zones, i.e., zone of "indifference" and zones of "positive or negative emotional reactions" has yet to be demonstrated empirically. Nonetheless, recognizing a discontinuous function between expectancy disconfirmation and emotional intensity of satisfaction judgments suggests the possibility that

there may be no uniform type of affective responses or cognitive processes involved in post-purchase responses to consumer goods and services.

Although these recent conceptual developments have helped to improve the predictive ability of consumer satisfaction models, their scope is still exclusively cognitive. Affective responses to consumption have thus far been seen only as the outcome of extensive combinatorial processes. No research yet has investigated the feelings consumers experience as they consume products as a unique source of information on the resulting satisfaction. (For an exception, see Westbrook, 1987). Because affective reports often reflect motivation more directly than cognitive evaluations, they may surpass the latter in predicting satisfaction judgments and post-purchase behavior. Moreover, if satisfaction judgments fall in zones of differentiated emotional intensity, the relative predictive ability of affective reports and cognitive evaluations may vary as a function of the location of a specific consumption experience.

We addressed these research issues in a field study. The objectives were to compare the relative power of affective reports and cognitive evaluations in predicting satisfaction judgments, and to investigate the relative efficiency of these affective and cognitive predictors as a function of the emotional intensity of satisfaction judgments.

The role of affect in satisfaction judgments

Research findings from the areas of psychology and marketing have demonstrated that affective states influence many aspects of consumer behavior (for a review see Gardner, 1985). For instance, it has been shown that manipulating affective states influences the way consumers process information (for a review see Isen, 1987), and the level of satisfaction they express for products commonly used (Isen, Shalcker, Clark, and Karp, 1978). We therefore hypothesized that affective states experienced during the consumption of goods or services would also directly influence post-purchase responses such as satisfaction and the likelihood of repeat purchase. Indeed, affective reports differ qualitatively from cognitive evaluations and may be more directly related to behavioral predictions. The role of affective reports in determining consumer satisfaction may become essential for products in which the experiential aspect of consumption is important (e.g., services and highly symbolic goods) -- these products hardly being reducible to a list of discriminable characteristics on which adequate cognitive evaluations can easily be made.

Some empirical evidence in a related domain supports the prediction that consumers' reports of their affective states may be superior to cognitive evaluations of the same product in predicting

satisfaction. Drawing on the results of two national surveys, Abelson, Kinder, Peters, and Fiske (1982) demonstrated that affect patterns very powerfully predict political preferences. They found that the ability of affective reports to predict political preferences was independent of, and even surpassed, respondents' cognitive evaluations of a candidate. Thus, although feelings reflect one's cognitive appraisal to a certain extent, the information provided by affective and cognitive measures seems not to be redundant. In cognitive evaluations, respondents provide information about *others*, focusing on external stimuli, whereas they deliver information about the *self* in affective reports. Since affective reports concern the internal state of respondents, they may provide much more complex and realistic information than cognitive evaluations (Abelson et al, 1982). Furthermore, it seems that affective responses are less subject to consistency pressure than are cognitive evaluations. Cognitive evaluations seem to be "semantically filtered" to a greater extent than are affective responses (Abelson et al, 1982). That is, the overall conception respondents attempt to convey is weighted heavily in the ratings of individual items of cognitive evaluations. As a result, cognitive evaluations are more likely to be under the organizing influence of pre-existing expectations than are affective responses, which are a more "naive" and direct reflection of experiences. Therefore, we further hypothesized that the correlation between positive and negative components of cognitive evaluations would be higher than those of affective reports.

The relative role of affective reports and cognitive evaluations in satisfaction judgments

How different can satisfaction judgments be as a function of their emotional intensity? Are processes typically associated with neutral satisfaction judgments different from those associated with very positive or very negative affective responses to consumption experiences? Extending the cognitive categorization approach (for a review see Cohen and Basu, 1987), we suggest that with repeated exposures to a product, consumers learn to divide their experiences into neutral or emotional categories to form satisfaction judgments. The structure of these two affective categories -- neutral and emotional -- and the processes they involve differ. Fazio et al (1986) have shown that "affective" evaluation may indeed range in nature from a very "hot" affect (when the attitude object is associated with a strong emotional response), to a "colder" and more cognitively-based judgment of affect. We suggest that emotional categories include consumption experiences that have generated conscious positive (cases of satisfaction), or negative (cases of dissatisfaction) affective responses, with attentional capacity being devoted to satisfaction judgments. Consumption experiences included in the neutral category are these having generated a "scripted behavior", reflecting simply the absence of any significant purchase or usage

related problems. Such an affective response reflects the absence of dissatisfaction, and occurs when a consumption experience meets expectations. Gardner (1985) suggests that neutral affective responses rarely interrupt ongoing behaviors, simply coloring attentional processes and evaluations. Furthermore, Mandler (1982) suggests that a person may in fact be unable to report his or her true feelings for neutral affective responses further than a valuation of familiarity. Thus, we hypothesized that for neutral affective responses, cognitive evaluations would be superior to affective reports as predictors of satisfaction judgments. In addition, since both affective reports and cognitive evaluations result from a top-down processing of expectations, they should be more highly correlated in neutral than in emotional judgements. On the contrary, since the raise of emotional responses results from the bottom-up processing of affective reactions to some part of a consumption experience, we hypothesized that within this category, affective reports should be the best predictor of satisfaction.

METHOD

Subjects

Subjects were 52 customers (29 males and 23 females) recruited from three casual restaurants. The average age of subjects was 35. The three restaurants were mid-priced restaurants offering a diversified menu and a non-formal service style in a relaxed atmosphere.

Procedure

Subjects were intercepted at the end of their meal and were asked to fill out a questionnaire on consumer satisfaction. The questionnaire had to be completed before leaving the restaurant. Within three days of the actual dinner, subjects were asked to report the emotional intensity of their satisfaction with the dinner as a whole, and more specifically with the service. They were also asked about the frequency of neutral and emotional experiences they had with the service in casual restaurants at dinner time. These data were collected as part of a more extensive interview. Thirty six of the 52 original subjects completed the second part of the study.

Measures

The questionnaire included three multi-item scales. These scales measured satisfaction, affective reports and cognitive evaluations. Except for one item in the satisfaction scale, all measures specifically related to service.

Satisfaction measures: The ordinal scale of satisfaction judgment included five items. Subjects were asked to express how satisfied they were with the dining experience as a whole, and with the service in particular (1 = not at all satisfied, to 7 = completely satisfied). They were also asked the extent to which the service interaction met their needs and wants at this time (1 = extremely poor, to 7 = extremely well), the nature of their feelings

TABLE 1
Reliability of scales of satisfaction, affective reports, and cognitive evaluations

	Cronbach's alpha
<i>Satisfaction</i>	.90
<i>Affective reports</i>	
All items	.86
Positive items	.83
Negative items	.82
<i>Cognitive evaluations</i>	
All items	.89
Positive items	.88
Negative items	.73

about the service (Westbrook's delighted-terrible scale, Westbrook 1980), and how happy they would be to be served by the same person on another visit (1 = very happy, to 7 = very unhappy).

Affective reports: The scale of affective reports included five positive ("warm feelings", "enthusiastic", "being valued", "surprised", "interested"), and five negative ("irritated", "annoyed", "unpleased", "bored", "indifferent") items. Subjects were asked how strongly these feelings described their reaction to the service they just had. The scale ranged from 1 to 7 points (1 = not at all, 7 = very strongly). The adjectives were selected from those most frequently mentioned in a pre-test in which comparable subjects were asked to freely elicit how they would describe their own feelings toward servers in casual restaurants, in dinners that either left them indifferent or with very strong feelings (good or bad). The adjectives were listed in random order on the questionnaire.

Cognitive evaluations: Subjects were asked to indicate the degree to which a list of adjectives described their perception of the server who just waited on them. The list of descriptors included six positive items ("friendly", "cooperative", "knows what to do", "knows what to say", "attentive", "in control"), and five negative ("hesitant", "looks stressed", "demanding", "unpleasant", "distant"). The scale ranged from 1 to 7 points, being anchored by "not at all" and "very strongly" respectively. These items were selected on the basis of the same pre-test used for affective reports. The items were listed in random order on the questionnaire.

Affective categorization of consumption experiences: Subjects were asked to categorize the service they receive on the target dinner in one of three categories: (1) "the service interaction was o.k., and did not leave me with any unusual or particular feelings" (Neutral); (2) "the service interaction was positive, and left me with very good feelings" (Emotional-positive); (3) "the service interaction was negative and left me with very bad feelings" (Emotional-negative). This retrospective

measure is a conservative assessment of consumers' actual emotional responses. Twelve interactions were categorized as neutral and 24 were emotional-positive. No service interactions left any respondent with very bad feelings. Subjects were also asked the following question: "If you could think of 100 dinners you had in casual restaurants, in how many of these would the service interaction have been...? The description of neutral and emotional categories presented above followed.

RESULTS

Reliability of the scales

Table 1 presents the reliability scores for the scales of satisfaction, affective reports, and cognitive evaluations as well as for their positive and negative subscales. All series of measures present a good reliability. The negative items were reversed and different summative scores were computed for further analysis: overall satisfaction, overall affective reports, overall cognitive evaluations, as well as positive and negative affective reports, and positive and negative cognitive evaluations.

Predictive ability of affect reports in satisfaction judgments

Recall that we hypothesized that affective reports would significantly account for satisfaction judgments, over and above their effect through cognitive evaluations. The critical dependent variable to test this hypothesis was the satisfaction judgment expressed by subjects at the end of the meal. A factor analysis with oblique rotation was conducted on the multi-item scale of satisfaction judgment. It revealed a unidimensional structure. Only one factor had an eigenvalue bigger than one (3.83) and accounted for 64% of the variance. The analysis of satisfaction judgments was conducted on the summative score of these five items.

Multiple regression analysis was conducted to test the predictive ability of affective reports and

TABLE 2
Regression coefficients of affective reports and cognitive evaluations on satisfaction ratings.

	<u>Overall sample (n=52)</u>		<u>Neutral Judgments (n=12)</u>		<u>Emotional Judgments (n=24)</u>	
	<u>Beta*</u>	<u>pvalue</u>	<u>Beta*</u>	<u>pvalue</u>	<u>Beta *</u>	<u>pvalue</u>
<i>Overall</i>						
Affective report	.4786	.001	.2132	.466	.5042	.024
Cognitive evaluation	.3890	.005	.6014	.060	.2700	.208
<i>By valence</i>						
<i>Affective Reports</i>						
Positive score	.2167	.076	.1584	.637	.3049	.101
Negative score	-.3438	.014	-.2425	.473	-.2256	.377
<i>Cognitive Evaluations</i>						
Positive	.3183	.025	.6534	.077	-.1099	.649
Negative	-.0749	.629	.1081	.784	-.4408	.167

* Standardized regression coefficients

cognitive evaluations. In conformity with our hypothesis, both affective and cognitive assessments significantly accounted for the variability in satisfaction judgments, affective reports being slightly superior to cognitive evaluations (Standardized b 's: affect = .48, $p < .001$; cognition = .39, $p < .005$). A regression model was also run to further investigate the specific contribution of positive and negative items within the affective and cognitive scales. Both positive and negative summative scores of affective reports accounted for a significant amount of the variance, whereas only positive items of the cognitive scale were significant (see table 2).

Relative predictive ability of affective reports and cognitive evaluations within affective categories

Neutral consumption experiences constituted the bulk of our subjects' past experiences with service in casual restaurants (mean frequency = 60%). On average, 30% of the visits generated strong positive feelings, and only 10% left very bad feelings. Turning to the relative ability of affective reports and cognitive evaluations to predict satisfaction judgments within each category, recall that we hypothesized that cognitive evaluations would be the best predictors of satisfaction within the neutral category, being outperformed by affective reports in emotional categories. The results confirmed this hypothesis. The overall cognitive evaluation was the unique significant predictor of satisfaction in neutral judgments (Standardized $b = .604$, $p < .060$), whereas affective reports played

the leading role in the case of satisfaction and dissatisfaction (Standardized $b = .504$, $p < .024$).

Correlational patterns

Interesting insights on possible differences in structures and processing strategies among affective categories are provided by the correlations presented in table 3. Because cognitive judgments are typically more "semantically filtered" than affective reactions, and are therefore more susceptible to the organizing influence of existing expectations, we predicted that positive and negative items of the cognitive evaluation scale would be more highly correlated than these of the affective reports. The expected pattern of correlations between positive and negative items (averaged across affective categories) was marginally significant (Cognitive evaluations: $r = .71$; affective reports: $r = .51$; $Z = 1.67$, $p < .10$).

We also observe that neutral and emotional categories do not present the same pattern of correlations between positive and negative items within the affective and the cognitive scales. For instance, as emotion arises in satisfaction judgments, positive and negative items of cognitive evaluations become more sharply correlated, whereas positive and negative items of the affective report scale become more independent (respectively $r = .75$ and $r = .42$; $Z = 1.70$, $p < .10$). Satisfaction judgments in the neutral category do not show such a pattern (respectively $r = .60$ and $r = .66$; $Z = .13$, $p < .40$). These findings parallel Abelson et al's (1982) observation that with strong emotional commitment, not only subjects show a significant halo effect that tints all cognitive evaluations, but

TABLE 3
Correlations between summative scores of affective reports, cognitive evaluations and overall satisfaction for neutral and emotional satisfaction judgments.

	<u>Affective Reports</u>				<u>Cognitive Evaluations</u>			
	<u>Positive</u>		<u>Negative</u>		<u>Positive</u>		<u>Negative</u>	
	<u>Neutral</u>	<u>Emotional</u>	<u>Neutral</u>	<u>Emotional</u>	<u>Neutral</u>	<u>Emotional</u>	<u>Neutral</u>	<u>Emotional</u>
Satisfaction Score	.5710	.5449	-.4923	-.6371	.7452	.4863	-.5761	-.6689
<i>Affective Reports</i>								
Positive	-	-	-.6041	-.4244	.5110	.4512	-.6274	-.4397
Negative	-	-	-	-	-.3396	-.5679	.6214	.7813
<i>Cognitive Evaluations</i>								
Positive	-	-	-	-	-	-	-.6620	-.7498
Negative	-	-	-	-	-	-	-	-

also, and somewhat paradoxically, they become more aware of both good and bad feelings they experience.

DISCUSSION

In summarizing the major results of this research, we have found firstly that consumers' affective responses were highly predictive of their level of satisfaction, adding significant variance explanation over and above the part due to cognitive evaluations. Secondly, we have provided some empirical evidence for the existence of affective categories that organize satisfaction judgments on the basis of their emotional intensity.

Perhaps the most psychologically provocative result of this research is the different behavior of affective responses and cognitive evaluations in neutral judgments, which we termed absence of dissatisfaction, compared to consumption experiences that generated emotional responses, which we suggested to be real satisfaction and dissatisfaction judgments. Recall that satisfaction is more directly related to affective reports in emotional categories, and to cognitive evaluations (the measure most often used in traditional studies of consumer satisfaction) only in the neutral category. In addition, when consumer satisfaction judgments resulted from very good or very bad feelings, positive and negative items of the cognitive evaluation scale became more highly correlated, whereas the magnitude of the relation between good and bad items of affective reports decreased. We take this as an indication of increased attentional capacity being devoted to emotional responses in these instances that are not assimilated into pre-existing expectations.

Can these results be explained on methodological grounds? This research presents limitations. First, it is a correlational study and observed differences may partly be due to subjects' self assignment to affective categories. Second, the

constraints imposed by the small sample size also have to be acknowledged. The very low sample size in the neutral category in particular resulted in low statistical power in testing some hypotheses. In addition, the study will have to be replicated to include consumption experiences that generated negative affective states.

Are these results bound to the specific domain of this research? We studied restaurants, and have focused on consumer satisfaction with the service. But we think that the two types of satisfaction judgments -- neutral, more top-down and theory-driven -- versus emotional -- more bottom-up and data-driven -- can be observed in all types of consumption experiences. The likelihood of activation of one or the other types of processes will vary with the nature of the product, its importance, and situational differences.

This research shows that affective reports differ qualitatively from cognitive evaluations and may be more directly related to behavioral predictions. Using consumers' affective reports should further our understanding of the processes involved in satisfaction judgments, and our ability to predict their outcome. Investigating the conditions and mechanisms mediating the effect of affective responses on satisfaction judgments should significantly contribute to a more accurate forecasting of consumer satisfaction and repeat purchase behavior.

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Emotional States and Decision Making

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ABSTRACT

This study investigates the influence of affect's two primary dimensions, Pleasantness and Arousal, on multiattribute choice processes. Subjects described their emotional state and performed two multiattribute choice tasks. The results indicate that subjects in more pleasant mood spent more time deliberating and used more decision-related information. The results are interpreted in terms of (1) a congruency between one's hedonic state and selected decision strategy, and (2) restriction in attentional capacity.

In recent years cognitive, social, and consumer psychology have shown an increased interest in the influence of emotional states on decision making (for reviews, see Gardner 1985; Isen 1987). Two common features of this line of research are that it (i) views affect as a unidimensional construct consisting of good, neutral, and bad mood, and (ii) examines affect's impact on behavior by experimentally inducing good or bad moods and contrasting between resulting behaviors (or with those resulting from neutral moods).

Until recently, both theory and evidence on the relationship between affect and decision making have suggested that people in positive affect will tend to reduce decision complexity by engaging in speedy and simplifying kinds of processing, e.g., shorter decision times, lesser acquisitions of decision related information (Isen and Means 1983). The suggested theoretical explanations were that either (i) positive affect increases the load on working memory, causing subjects to compensate for the increase by cutting elsewhere; or, (ii) if not increasing the load, positive affect somehow makes subjects more sensitive to and avoidant of the cognitive strain demanded when complex strategies are employed (Isen 1987). In particular, for a multiattribute choice task, Isen and Means (1983) found that--compared to subjects in a neutral mood--subjects in a positive mood made faster choices, revealed less information, were less likely to review information they had already looked at, used fewer attributes and ignored more attributes considered unimportant, and were more likely to eliminate from consideration alternatives that did not meet a threshold criterion on an important dimension.

Recently, Lewinsohn and Mano (1989) examined decision behavior of subjects whose moods were not experimentally manipulated. When performing a multiattribute choice task, subjects in naturally occurring pleasant mood spent more time deliberating, examined more decision related information, used more effort requiring interdimensional moves, and ignored fewer product attributes. Lewinsohn and Mano explained the contrasts with Isen and Means' (1983) in terms of the differential impact of affect's two primary

dimensions, Pleasantness and Arousal. Two mediating mechanisms were offered to explain affect's influence on decision making, one for Pleasantness and one for Arousal. Regarding Pleasantness, Lewinsohn and Mano suggested a congruency between one's current emotion and cognitive operations (Bower 1980; Isen 1987). Subjects experiencing higher Pleasantness would be in a more playful state of mind, which would lead them to enjoy the decision situation and satisfy their curiosity. Therefore a consequence of one's better mood would be a more thorough and deliberative decision process. This hypothesis, even though not consistent with Isen and Means's (1983) results, it is consistent with the notion that persons in a better mood state are more creative and perform better in problem solving tasks (Isen et al 1987).

The second mechanism, which was also examined and confirmed (Lewinsohn and Mano 1989) suggests that individuals experiencing higher levels of Arousal are more likely to have a narrower attention span (Kahneman 1973); in turn, this attention-triggered selectivity may lead subjects to spend less time deliberating, focus on fewer decision related information pieces, and ignore more of the products' attributes.

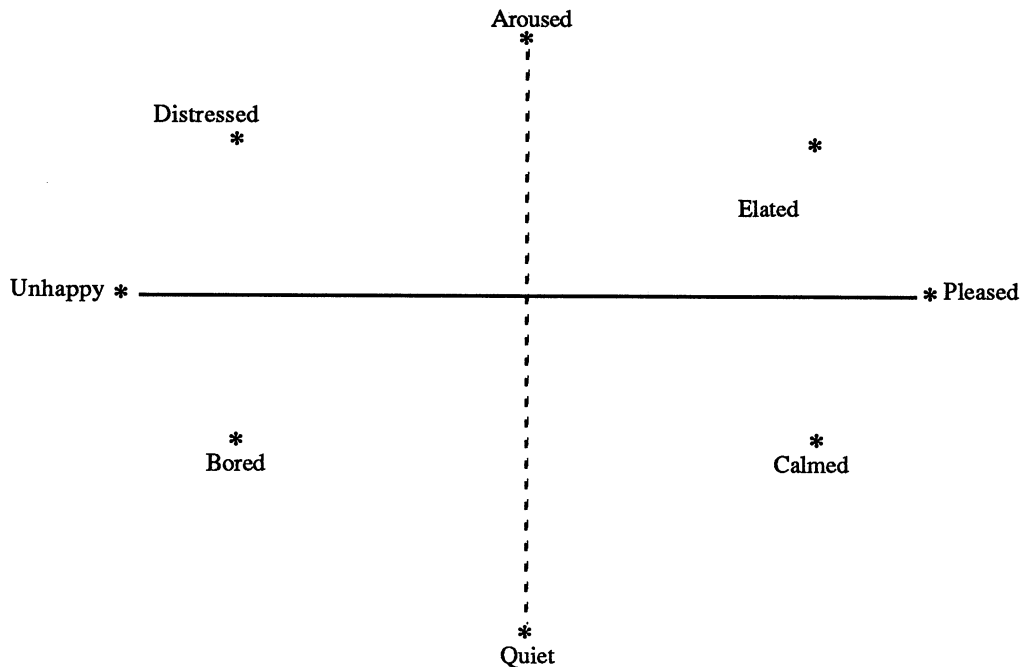
Given that Lewinsohn and Mano's (1989) results stand in contrast with those of Isen and Means, the present study will attempt to replicate and extend Lewinsohn and Mano's findings with subtle mood manipulations induced by exposure to television commercials, and to clarify further affect's influence on decision making, in general, and multiattribute choice, in particular.

AFFECT AS A MULTIDIMENSIONAL CONSTRUCT

The focus of much of past research on the relation between affect and cognitive and social behaviors has been on affect's hedonic tone (i.e., pleasantness-unpleasantness). However, a host of evidence has been offered suggesting that the affective experience is not unidimensional. Affect's multifaceted nature has been modeled in varying forms of structural complexity, generally categorized under two paradigms: Dimensional description and Classification.

The dimensional paradigm suggests two principal independent dimensions, Pleasantness and Arousal, as underlying the emotional experience whereby feelings are expressed as points on the perimeter of a circle--called a circumplex (Figure 1)--determined by the two dimensions (e.g., Holbrook and Batra 1987; Russell 1980). The parsimony and generality of two dimensions stands in contrast to the richer view of the Classification paradigm which suggests a number of independent clusters (e.g., Joy, Sadness, Anger) as the units for classification of emotions (Batra and Ray 1986; Batra and

FIGURE 1
THE MOOD CIRCUMPLEX



Holbrook 1988). Nonetheless, it is important not to consider the paradigms as opposing but rather as complementary (Havlena & Holbrook 1986; Russell 1980).

The present study views affect as a two-dimensional construct of Pleasantness and Arousal. By specifying in a more refined manner the decision maker's mood states, the two-dimensional view has important implications for the relationships between moods and decision making. Consider, for example, manipulations used to induce good mood (e.g., watching a comedy film, receiving a small free gift, or receiving success feedback in a motor-skills task). Even though these situations will induce positive affect, the evoked emotions may differ both in the intensity of their pleasantness as well as in the degree of their arousal (cf. Clark, Milberg and Erber 1984). It is important, therefore, to consider--both theoretically and empirically--whether the two central positive feelings, Elation and Pleasantness have the same effects on decision making and, if not, what their differential impacts are (Isen, Daubman and Nowicky 1987).

More generally, given affect's multifaceted nature we should delineate the effects of affect's specific facets on decision making. When examining whether an emotional state influences some behavior, one must examine whether the specific emotional state was active and what other emotional state(s) might have been active when the effect took place; and, what were the intensities of these activations. Otherwise, effects attributed to

one domain of affect may, in fact, be stemming from other or additional domains.

HYPOTHESES

- (1) It is expected that subjects experiencing a more positive mood will be engaged in more elaborate decision making activities.
- (2) Subjects experiencing higher degrees of arousal will have a narrower attention span and therefore will spend less time deliberating, focus on fewer decision related information pieces, and ignore more of the alternatives' attributes.

METHOD

The present study attempted to induce subtle emotional states by exposing subjects to TV ads prior to their performing two multiattribute choice tasks. Past research (Aaker et al 1987; Edell and Burke 1987; Gorn 1982) has suggested TV-advertising's ability to generate emotional reactions. In order to examine the ads' direct impact on emotions, the ads were not embedded as part of some ongoing TV program. Using a mood questionnaire, emotional states were assessed twice: immediately following exposure to the commercials and after the two choice tasks. The mood questionnaire measured the emotional intensity of each of the octants in affect's circumplex. Analyses concentrated on the impact and relationships among subjects' emotional

TABLE 1
TOTAL NUMBER OF RESPONSES ON THE SCALES FOR THE FOUR ADS (MANO 1988)

Scale	(1) Bank	(2) Greeting Cards	(3) Running Shoes	(4) Beer
Aroused	0	1	8	4
Elated	0	5	20	6
Pleased	4	25	18	20
Calmed	9	5	2	17
Quiet	4	1	0	6
Bored	11	0	0	2
Unhappy	1	3	0	0
Distressed	2	0	0	1

states and decision processes involved in the choice tasks.

Subjects

Thirty-two subjects were recruited through ads placed in campus offering \$2.50 for participation in a decision making experiment that would last about 20 minutes.

Procedure

Subjects were randomly assigned to one of four different sets of ads and were run individually. On arrival, they read an overview of multiattribute choice followed by instructions for information acquisition and choice. Subjects were then trained by choosing from a 3X4 information board, similar to those used in the subsequent main choice tasks. After this practice task, subjects saw one of the four sets of TV ads and proceeded to answer the mood questionnaire. Next, they performed the two main choice tasks and, upon their completion, the mood questionnaire was readministered. Subjects then answered three cognitive-effort related questions. Finally, they were asked a few background questions, were debriefed, and paid.

TV ads

Each of the four groups of subjects was exposed to a set of ads intended to generate a somewhat different emotional impact. The ads were chosen from a previous study (Mano 1988) which assessed the emotional impact of 41 prime-time TV ads. In that study, following exposure to each ad, 18 subjects reported on a checklist format whether they felt emotions associated with each of the eight emotional states (for the list the emotions see "Mood Questionnaire"). Table 1 presents the total number of responses to the four ads on each affect scale.

All four sets started with Ad 1 which was expected to have a weak emotional impact. Set 1 consisted only of Ad 1. Sets 2, 3, and 4 started with Ad 1 followed by Ad 2, 3 or 4, respectively. Ad 2 was expected to have an impact on Pleasantness, Ad 3 on Elation and Pleasantness, and Ad 4 on Calmness and Pleasantness. It was anticipated that subjects exposed only to Ad 1

(Group 1) would retain their initial emotional state. On the other hand, subjects in Group 2, (exposed to Ad 2 after Ad 1), were expected to be induced into a more pleasant emotional state; similarly, Ad 3 (Group 3) was expected to have an impact on Elation and Pleasantness; and Ad 4 (Group 4) to evoke feelings of Pleasantness and Calmness. The rationale for using a mild ad first was based, in part, on recent evidence that preceding ads may become the background against which subsequent ads are evaluated; in particular, some contrast between two subsequent ads may enhance the emotional appeal of the second ad (Aaker et al. 1983).

Mood questionnaire

The questionnaire (Mano 1988) contains twenty four emotion-describing adjectives designed to assess the intensity of each of the eight regions in the Pleasantness-Arousal circumplex (Figure 1). The items contributing to each scale are: 1) *Aroused*: Aroused, Astonished, Surprised; 2) *Elated*: Elated, Active, Excited; 3) *Pleased*: Pleased, Satisfied, Happy; 4) *Calm*: Calm, At rest, Relaxed; 5) *Quiet*: Quiet, Still, Quiescent; 6) *Bored*: Sleepy, Sluggish, Drowsy; 7) *Unpleasant*: Unhappy, Sad, Blue; and 8) *Distressed*: Anxious, Fearful, Nervous. The items are presented in random order on 11-point scales (1 "not at all" to 11 "very much"). In Mano (1988), the reliabilities of the scales ranged from .64 to .91 (average .76); in Lewinsohn and Mano (1989), test-retest reliabilities resulted in correlations ranging from .67 to .95 (average .80). The questionnaire's construct validity has been examined by multidimensional scaling and factor analyses which revealed that it adequately describes the mood circumplex (Lewinsohn and Mano 1989; Mano 1988).

Decision making task

Subjects made choices from two information display boards. The information board is a matrix with choice alternatives, e.g., product brands, as rows, and attributes as columns; each entry contains the value of an attribute for a particular brand. The entries are first covered and the subject is asked to choose a brand after revealing as many information entries as desired, one at a time. An entry remained

visible until the next one was revealed. The boards were 6X5, i.e., 6 alternatives described on 5 attributes. The product employed was soft-sided luggage described on the following attributes: Volume (A), Handle control (B), Workmanship (C), Impact resistance (D) and Weight (E). Attribute values ranged from 1 (lowest) to 5 (best). The different pieces of luggage were described as equally priced and had to be judged only with respect to the five attributes. The decision making tasks were performed on a personal computer (IBM-PC). All information was administered, monitored, and recorded by the PC and subjects directed their search and made choices with the PC keyboard.

Dependent Variables

The information board methodology allows for the assessment of a number decision related variables. These include: amount of information searched, i.e., total number of revealed entries; decision time; and processing speed, i.e. average time spent per entry. The decision process can be examined in terms of search pattern; each move to a new entry within the same alternative is classified as interdimensional; a move to a different alternative but in the same dimension is classified as intradimensional. The number of times entries were revealed more than once was classified as number of repetitions; the number of attributes that the subject did not reveal any entry for a particular attribute was defined as number of ignored attributes. Cognitive effort and information load play an important mediating role in Isen's (Isen et al. 1987) and Lewinsohn and Mano's (1989) explanations of the influence of affect on decision making. Thus, in addition to the above decision variables that can also be used to assess indirectly effort, a complementary view of subjects' cognitive exerted effort was elicited by self reports. Subjects rated cognitive effort on three eleven-point scales: the amount of effort exerted to perform the choice tasks (Effort 1); how hard they had to push themselves to keep going (Effort 2); and, how much mental energy was required while working on the tasks (Effort 3).

RESULTS

Affect Measurement

The four sets of advertisements had no differential impact on subjects' emotional states; ANOVAs conducted on the eight scales did not reveal any differences between the four groups. Although unexpected, this lack of change can be explained--albeit post hoc--by a number of reasons. First, exposure to one or two short (30 seconds) TV ads may not constitute a strong enough emotional stimulus capable of generating an impact that lasts more than a few additional seconds (cf. Nowlis 1965). Second, the contrast between exposure to the ads and the mood questionnaire--both embedded in the context of a choice task--may have removed any of the ads' emotional impact. Third, a primacy effect could have taken place and only the first ad (with scant emotional content) may have affected the

subjects' emotional state. To assess further the ads' emotional impact, the eight scales were compared with those in the study by Lewinsohn and Mano (1989) which examined naturally occurring moods in a similar experimental situation but did not involve mood induction. The comparisons revealed that the two populations differed on only one of the eight scales: subjects in the present study were less bored than subjects in Lewinsohn and Mano; $M = 3.13$ vs. $M = 4.63$, $t(62)=3.0$, $p < .01$.

Given the lack of major differences between the four groups in their initial emotional states, the homogeneity of the emotions observed here and in Lewinsohn and Mano's (1989) noninduced moods, and the structural convergence of the eight scales (see next section), the four groups were pooled. This aggregation does not affect subsequent analyses that will examine the impact of emotions on decision making. In fact, the reasons that led to the pooling of the four groups are based on one of the notions presented in the introduction; namely, when it is assumed that some manipulation induced an emotional state, a careful and detailed examination must be carried out to find out whether that particular mood was indeed induced.

Changes in Affect and the Structure of Emotions

The intercorrelations of the eight affective scales between the pre- and post-decision task elicitation were: Arousal .79, Elation .86, Pleasantness 0.71, Calmness .60, Quiet .83, Boredom .72, Sadness .91, Distress .66 (all p 's $< .01$). Moreover, comparisons between the pre and post-decision affect scales revealed one significant difference (the degree of Elation decreased following the decision task; $t(31)=2.36$, $p=.02$). Thus the experimental task had only a minor effect on subjects' emotional state.

The joint structure of the pre-and post-decision emotional scales was examined by multidimensional scaling (MDS). Before presenting the results, an overview of the method is offered. In MDS of a correlation matrix, each variable is represented as a point in a geometric space whereby a higher correlation between two variables results in the points being closer in the space. To decide on the appropriate number of dimensions, two criteria are employed in conjunction: (1) an "elbow" in stress, i.e., a diminishing decrease in the levels of stress (or diminishing increase in explained variance), and (2) solution interpretability. The stress coefficients and percent of explained variance for the one to three-dimensional solutions were, respectively, .435 (43%), .11 (92%), .08 (96%). The two dimensional solution met both the stress reduction and interpretability criteria and appears in Figure 2. Visual inspection suggests a high degree of resemblance between the hypothesized circumplex of emotions (Figure 1) and the obtained map.

Decision Making: Effects of Good Mood and Arousal

As a first step in examining the influence of emotions on decision making, subjects were classified according to their intensities in Good Mood and Activation. To that goal, first, the scales that conceptually contribute to these two states were added; i.e.,

$$\text{Good Mood} = \text{Elation} + \text{Pleasantness} + \text{Calmness},$$

$$\text{Activation} = \text{Distress} + \text{Arousal} + \text{Elation}$$

In order to enhance the reliability of the two scales, one of the nine items was removed from each scale, resulting in alphas of .73 and .76 respectively. Then, using median splits, the population was divided into four groups for a 2X2 ANOVA with the two tasks serving as a replication (Table 2).

The results indicate that, despite the loss of power caused by the median split, subjects who were in a better mood worked longer ($p < .05$) and revealed more entries ($p < .05$). In terms of within-trials shifts, subjects processed information faster during the second task ($p < .01$); for processing speed there was also a significant interaction between Good Mood and Activation. Activation also had a significant impact on the three reports of cognitive effort. No other effects were statistically significant.

Overall, the above data replicate Lewinsohn and Mano (1989) and stand in contrast with those of Isen and Means (1983). Even though many effects failed to reach statistical significance, it is nonetheless clear that subjects in better mood made more deliberate considerations of the examined alternatives.

Correlational Analysis

While the preceding analyses indicate the joint effects of Good Mood and Activation on decision variables, they do not fully capture the multifaceted nature of affect or the intervality of the affect scales. A more detailed description of these relationships is suggested by their intercorrelations and MDS description. For these analyses, the means of the decision variables across the first and second choice tasks were used (the intercorrelations of the decision variables between the two choice tasks were: Decision Time .55, Revealed Entries .57, Seconds per Entry .54, Inter-Moves .76, Intra-Moves 0.71, Ignored Attributes .68, and Repetitions .76; all p 's $< .001$). The pre and post-decision measures were also added. The correlations between the decision variables and the 8 affect scales are reported in Table 3.

The joint MDS of affect and decision variables revealed the following stress coefficients for the one to four-dimensional solutions: .474 (31%), 0.259 (58%), .157 (77%) and .120 (86%). The three dimensional solution met both the elbow and interpretability criteria (Figure 3). Visual inspection reveals that the Good-Mood related states

(Elation, Pleasantness, and Calmness) were relatively close to one another, and, as a whole, they were close to decision time, number of revealed entries, interdimensional moves and repetitions. Projections on space 2-3 capture the circumplex of affect which is vertical to the two-dimensional space of the decision variables. This spatial analysis provides an alternative and complementary view on the previous ANOVAs. More importantly, however, it offers an interesting perspective for examining affect's construct validity, and the relationships between affect and decision making.

DISCUSSION

One of the original hypotheses was that subjects in a better mood would use more elaborate and time consuming decision strategies (Lewinsohn and Mano 1989). The results obtained here support that hypothesis and stand in contrast with Isen and Means' (1983) results concerning the influence of pleasant mood on decision making. The explanation offered here was that the decision maker chooses a strategy that is congruent with one's current emotion and is associated in memory with a similar to the currently experienced emotional tone (Bower 1981; Isen 1987). In the context of decision strategy selection, it is speculated that pleased subjects tended to employ a more elaborate and time consuming decision strategy because they framed the decision task as "cognitive play". Less pleased subjects, on the other hand, framed the same decision situation as a necessity that they had to get rid of. Given the subjects' playful state of mind, their goal was to enjoy the situation and satisfy their curiosity. As a consequence, they adopted a more "creative" approach and exposed themselves to more information.

The results presented here provide only partial support for the hypothesis that level of arousal would influence the attention allocation mechanism which, in turn, would effect decision strategy selection. Nonetheless, the direction of the results does not contradict that hypothesis. An explanation for the lack of strong results for arousal could be related to the possible confusion generated by the experimental manipulation, i.e., the presence of advertisements without a program context and within a decision situation.

These results suggest that Pleasantness and Arousal do not have an equally strong influence on the decision making process and that Pleasantness may have a more stable and longer term effect than Arousal (Lewinsohn and Mano 1989). Furthermore, Pleasantness may set the quality, direction, and to some extent, the intensity of the chosen cognitive strategy while Arousal allows slack cognitive effort to be allocated to the selected strategy.

Lewinsohn and Mano (1989) and the present study suggested a number of explanations for the seemingly contradictory findings with Isen and Means (1983). One aspect that seems to underlie these contrasting results may be the nature of the employed mood constructs. For example, there could be differences in the intensity of the hedonic

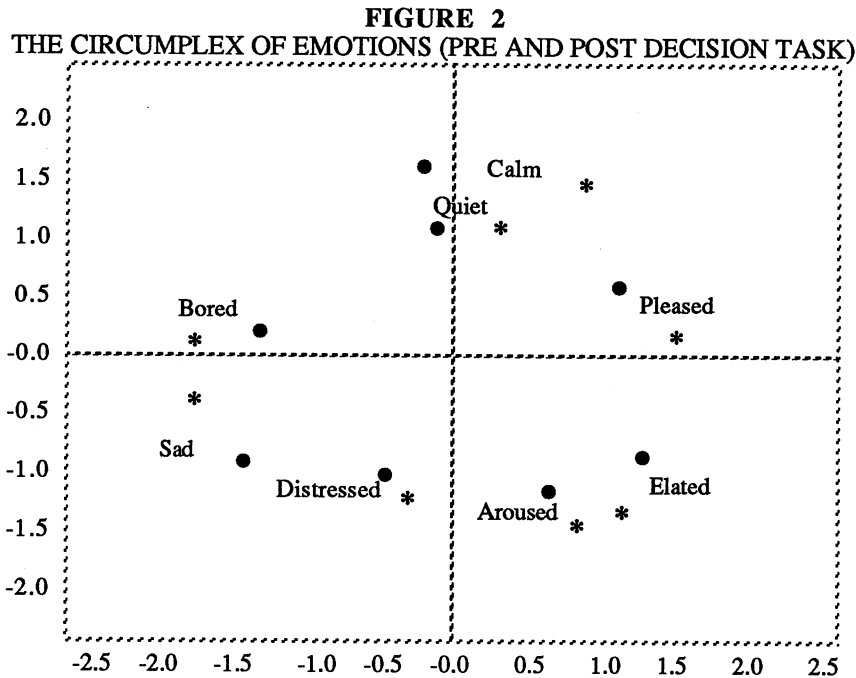


TABLE 2
MEANS FOR DECISION VARIABLES BY GOOD MOOD, AROUSAL AND WITHIN TASKS.

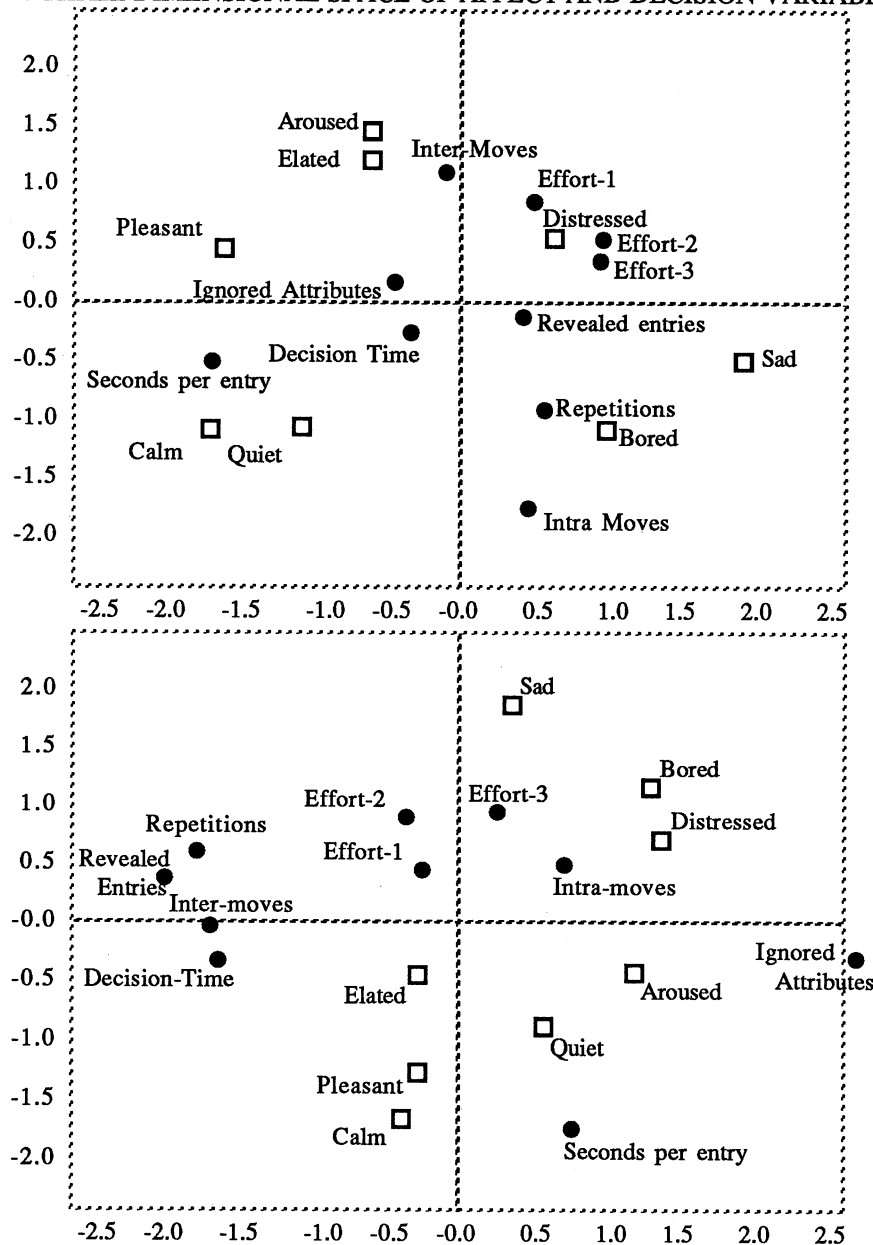
Dependent Variable	Good Mood		Activation		Replication	
	Low	High	Low	High	Task 1	Task 2
Decision Time	103.7	155.0	123.7	135.0	138.3	120.4
Revealed Entries	16.5	23.1	19.4	20.3	18.2	20.9
Seconds per Entry	6.8	6.8	6.9	6.7	7.8	5.7
Inter- Moves	3.7	6.6	4.5	5.7	4.7	5.6
Intra- Moves	6.8	6.4	6.2	6.9	7.0	6.2
Ignored Attributes	.28	.03	.28	.03	.28	.03
Repetitions	3.9	5.5	5.1	3.5	3.7	4.9
Effort 1	5.8	6.5	5.2	7.1		
Effort 2	2.0	2.8	1.7	3.1		
Effort 3	4.6	4.9	3.7	5.7		

TABLE 3
INTERCORRELATIONS BETWEEN DECISION AND AFFECT VARIABLES

Decision Vars	Affect Scales							
	Aroused	Elated	Pleasant	Calm	Quiet	Bored	Sad	Distressed
Decision Time	-.07	<u>.34</u>	<u>.29</u>	.16	.05	-.19	-.10	-.10
Revealed Entries	-.24	<u>.26</u>	.16	.07	-.07	-.18	.00	-.13
Seconds per Entry	.19	.07	<u>.27</u>	.23	<u>.34</u>	.10	-.10	-.20
Inter- Moves	.01	.18	.16	.06	-.18	-.13	.01	-.08
Intra- Moves	-.02	.04	-.05	-.10	.12	.08	-.06	.08
Ignored Attributes	.04	-.11	.01	.13	.18	.20	.15	.06
Repetitions	<u>-.42</u>	.08	.04	-.06	-.07	-.18	.00	.05
Effort 1	<u>.30</u>	<u>.31</u>	<u>.29</u>	-.17	.10	.10	.13	<u>.43</u>
Effort 2	.19	<u>.44</u>	<u>.28</u>	-.08	.11	<u>.33</u>	.23	<u>.39</u>
Effort 3	.24	<u>.35</u>	.13	-.07	.16	.12	.07	<u>.56</u>

p < .15 significant correlations are underlined

FIGURE 3
THE THREE DIMENSIONAL SPACE OF AFFECT AND DECISION VARIABLES



tone and level of activation; i.e., due to the manipulation (informing subjects that they performed at the 97th percentile on a perceptual-motor task) subjects in Isen and Means (1983) positive affect group may have experienced higher levels of pleasantness and elation than subjects in the present study. These higher intensities could draw more attention to the experienced emotions and thus decrease the slack of attentional resources required for elaborate information processing.

Similarly, Isen and Means' experimental induction could have incorporated a motivational

component which may have generated a "competition" framing leading to the use of more "efficient" decision strategies. Furthermore, procedural differences between the choice tasks (e.g., information-board sizes, computerized versus card-based information boards) might have also contributed to some of the contrasting results. Finally, because the mood manipulation was not successful, an alternative interpretation is that the present study examined the impact of some enduring personality variable rather than a temporary mood manipulation (cf. Diener and Larsen 1984). Note,

however, that whether affective responses are due to transient states or persistent individual traits, the suggested mechanisms mediating affect and decision making are still plausible.

The effect of emotions on decision making is powerful. The evidence that has been accumulated over the course of the last few years suggests that these interrelationships cannot be ignored. The present paper started from the premise that affect is not unidimensional; by examining in greater detail the decision maker's emotional state we might be able to understand better how and why affect influences decision making. Clearly, additional research is needed to clarify and further elaborate these issues.

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Product Type: A Neglected Moderator of the Effects of Mood

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ABSTRACT

The role of product type as a moderator of the effects of mood on product salience, evaluation and use is examined from two conceptual perspectives: accessibility and mood management. The implications of these perspectives are discussed for a typology of product types based on the relationship of products in each classification to consumers' feeling states. Postulates regarding the effects of mood on product salience, evaluation and use are developed for four product types. The paper concludes with a discussion of conceptual and methodological issues associated with the proposed research agenda.

INTRODUCTION

Although the effects of mood states on consumer behavior have received much attention (e.g. Gardner 1985, Goldberg and Gorn, 1987), the role of product type as a moderator of these effects has been neglected. The general purpose of this manuscript is to explore the moderating role of product type on the effects of mood, and develop a set of postulates for future research in this area. By encouraging a richer understanding of the impact of product type on mood effects, we hope to provide useful insights for researchers trying to understand how mood works and practitioners trying to determine how mood affects consumers' evaluations of their products.

The manuscript has three major sections. First, the role of product type as a moderator of the effects of mood on product salience, evaluation and use is examined from two conceptual perspectives: accessibility and mood management. Then, the implications of these perspectives are discussed for a typology of product types based on the relationship of products in each classification to consumers' feeling states. Postulates are developed for four product types. The paper concludes with a discussion of conceptual and methodological issues associated with the proposed research agenda.

CONCEPTUAL UNDERPINNINGS

The moderating role of product type is viewed from two perspectives, accessibility and mood management, to provide depth and breadth of discussion. Accessibility focuses on largely automatic, memory-based, micro-level processes. Mood management emphasizes motivationally-based, learned behavior. The approaches are complementary: Accessibility involves the information which comes to mind; mood management involves the use of this information to manage one's moods.

Accessibility Perspective

Research in psychology indicates that mood states exert an important influence on behavior,

judgement and recall (Isen 1984). For example, when a memory associated with positive feelings is activated, others of the same affective tone may become more accessible (Isen et al. 1978). Such information may affect decision making and may make associated behaviors more likely (Isen et al., 1982).

This suggests that the affective tone associated with product experiences may moderate the impact of mood state on product salience. The memory trace for an affect-laden product experience may include both product-specific information and the accompanying mood state. Upon future experiences of that mood, product memories may become more readily accessible. This suggests that product types associated with affect-laden experiences will be more salient upon future experiences of the accompanying mood state.¹

Mood Management Perspective

Just as an accessibility perspective provides insights into the effects of mood on product salience, a mood management approach can be used to enhance our understanding of the effects of mood on the evaluation and use of products of different types. Studies have shown that most adults have learned to maintain positive moods and avoid the persistence of negative ones (Mischel, Ebbesen and Zeiss, 1973). Mischel (1973) suggests that individuals develop expectations for the outcomes of various behaviors which, in turn, direct their own behavior. If an outcome is seen as positive, then the behaviors that elicit this outcome are likely to be initiated; if an outcome is negative, then behaviors which lead to this outcome are likely to be held in check. For example, in a motivational analysis, elation was believed to increase the likelihood of leisure behaviors such as enjoying one's records (Cunningham, 1988).

Products may be used to bring about positive outcomes or to alleviate negative outcomes. For example, Rook and Gardner (1989) found that adult subjects in a study designed to examine impulse buying behavior, reported that they often used the purchase of material goods to perpetuate a desired mood or to alleviate a negative one. Axelrod (1963) suggests that current mood state may affect one's assessment of the desirability of future mood states. Desired mood states may, in turn, function as "mood goals" and enhance evaluations of products leading to such moods.

¹Note, however, that there is some controversy regarding this point: Bower and Mayer (1988) failed to replicate earlier findings of mood dependent recall (Bower 1981)

DEVELOPMENT OF POSTULATES

Taken together, the accessibility and mood management approaches suggest that a product's relationship to consumers' feeling states will affect the impact of mood on the product's salience, evaluation and use. This suggests that it might be useful to develop a product typology based on the relationship of products in each classification to consumers' feeling states. In this section, four product types are discussed and postulates are developed for each. Two product types involve consumers' feelings associated with product experiences -- i.e., past experiences (feel-good products) and expected experiences (feel-bad products). Two product types involve products associated with decreased levels of feelings -- i.e., feelings consumers try to control or ignore (try-not-to-feel products) and feelings which have worn away or never existed (no-feel products). This typology is obviously idiosyncratic and highly dependent upon the phenomenological experiences of each individual consumer. Equally obviously, it is not exhaustive -- i.e., for any given consumer some products may not fit into any of the four categories.

Feel-Good Products

We will use the term "feel-good" to refer to those products which are consumed for self satisfaction or as life's little pleasures. They may be used to alleviate negative moods or to accentuate positive ones. Informal observation suggests that we learn from childhood that some products can make us feel better when we are down or help us enjoy the good times in life. For example, parents sometimes use cookies to cheer up sad children and cake to celebrate the happiness of children's birthdays. The ability of some products to improve moods is given inductive support by research involving mood and helping: Subjects in positive mood states are more willing to help (Isen and Levin 1972; Aderman and Berkowitz 1970) and subjects who received a cookie in an experiment were more willing to help. Taken together, this is consistent with the notion that some products (e.g. cookies) are feel-good products, i.e., they make some consumers feel better.

If product memories are affectively encoded and become more accessible during congruent moods (Isen et al. 1982), then mood is likely to affect the salience, evaluation and use of feel-good products. Consumers may associate such products with previously experienced situations in which the feel-good product alleviated negative moods or enhanced positive ones. Rosenhan et. al. (1974) found that children in happy or sad mood conditions self-gratified by taking more candy relative to children in a control group. This is explained by Masters et al. (1979) who suggest that children elicit different treatments (i.e. receive or do not receive feel-good products) from parents, teachers or other agents of socialization depending on their mood. These treatments are likely then to influence future behavior.

Additional insights into the role of mood on the evaluation and use of feel-good products is provided by the mood management perspective. Self gratification can be viewed as a mood management technique: A study in which altruism was assumed to be a self-gratifying act, showed that helping can function to maintain a positive mood and to terminate a negative one (Cialdini and Kenrick, 1976). Self-gratifying with products as simple as cookies or candy may be used by consumers to produce or maintain positive moods. A more complex product experience, television viewing, has also been shown to affect mood states. Hirschman and Holbrook (1982) suggest that people use products such as television in what they refer to as "hedonic consumption." They cite two different types of mental images which affect consumers' perceptions of products. The first involves products that bring to mind past events such as smelling the perfume of an old romantic partner. The second deals with fantasy and what the consumer wishes to be true.

Zillman (1982) found that people use television to reduce unpleasant states of arousal or to generate or increase pleasant states of arousal. Zillman, Hezel and Medoff (1980) found that subjects selectively chose programs which held the greatest promise of relief of negative states or accentuation of positive mood states. In their experiment, subjects in a positive affective state elected to watch more comedy programs than those in a control group. In addition, subjects in a negative affective state (annoyance) watched fewer comedy programs and more game shows than those in a neutral state. The authors suggested that annoyed subjects avoided merriment from comedy but sought it from game shows because "prime time comedy is laden with so called put down humor" (Zillman, Hezel and Medoff 1980). People may not be able to distract themselves from their negative experiences if they are exposed to such humor.

The preceding discussion is consistent with both the accessibility and mood management perspectives. Products may be associated with affect-laden experiences and encoded in memory with these feelings. Future moods may cue product information, making it accessible and making the product a more salient candidate for use in mood management techniques. If successful, a product's use in mood management may serve to reinforce its use in future instances of the same mood. This is best illustrated by paraphrasing Mischel's (1973) article to include product use. If product use is seen as rewarding (reducing negative affect or enhancing a positive mood) then it is likely that the product will be favorably regarded; if the use of the product is seen as negative, the product will probably be unfavorably regarded.

Empirical evidence supports the mood-related use of some feel-good products by at least some consumer segments. Some products (e.g. liquor and cigarettes) have been shown to be used by consumers in both positive and negative affective states (Harris and Fennel, 1988, and Wills and

Shiffman, 1985). Although physiological factors may account for some habitual use, evidence suggests that at least some smoking is motivated by negative affect to reduce or eliminate tension, anxiety, and stress and by positive affect to produce stimulation (Wills and Shiffman 1985). The authors suggest that people smoke for both reasons depending on the time and place.

Alcohol use follows a similar pattern. Wills and Shiffman (1985) suggest that alcohol is consumed for two major reasons: 1.) to reduce tension, produce relaxation and divert attention away from problems, and 2) to induce pleasurable physical effects, increase enjoyment of social situations and enhance perceptions of oneself and one's future. Harris and Fennel (1988) have found that job stress is linked to alcohol consumption, but only for people who believe alcohol helps them deal with job stress.

Based upon the above discussion we postulate:

P1: For consumers in negative mood states, feel-good products will be more accessible, favorably evaluated, and likely to be consumed than for consumers in neutral mood states.

P2: For consumers in positive mood states, feel-good products will be more accessible, favorably evaluated, and likely to be consumed than for consumers in neutral mood states.

Feel-Bad Products

We will use the term "feel-bad products" to refer to those products associated with future needs with affectively negative tones. Need for these products depends on unpleasant predictions of the future. For example, the purchase of life insurance is based on the quite disquieting prediction of one's own death. A mood management perspective suggests that people in positive moods may choose to avoid thinking about such products in order to maintain their positive moods. This avoidance of negative stimuli has been shown in several studies. For example, Mischel, Ebbesen and Zeiss (1973) found success subjects focused their attention on their assets rather than their liabilities. Also, adults selectively attended to more positive and less negative self-referent information during positive (rather than neutral) mood states. Mischel (1976) found people tend to avoid any type of selective processing that would prolong the experience of an existing negative mood state. Forgas and Bower (1988) found happy subjects took more time reading and thinking about positive characteristics than negative ones while sad subjects took more time on negative material.

While consumers in positive moods may seek out products associated with positive experiences and avoid those associated with negative experiences, consumers in negative moods may view products associated with negative experiences as a

means for solving real life problems. This is consistent with Isen et.al.'s (1978) suggestion that those behaviors that endanger good mood or require thinking about material incompatible with a positive mood state should be less likely in a positive mood than when in a negative or neutral mood state.

Mood states also affect consumers' perceptions of risk. This, in turn, may lead them to evaluate some products -- e.g., insurance-- more favorably when in a negative mood. Dramatic differences in probability ratings of future events in different mood states were found by Bower (1983). In this study, subjects were placed in positive, neutral, and negative moods and asked to rate the probability of future events. Subjects in a good mood rated positive future events --e.g., vacations -- as more likely to occur; those in a negative mood rated negative future events --e.g., car accidents-- as more likely to occur. Further support is provided by Johnson and Tversky (1983), who found subjects in a positive induced mood showed a significant decrease in reported worry about potential risks than those in a control group.

Consumers' assessments of future risk probabilities may affect their product evaluations. For instance, people in negative moods may believe there is a greater chance of rain. If this is so, they will rate carrying their umbrellas more favorably. In contrast, people in a good mood may have a more positive outlook for the future and denigrate the importance of such products.

Therefore, perceptions of the importance and evaluation of feel-bad products may depend on mood. Their use however, is not affected by mood. For example, consumers who are standing in the rain don't wait until they are in certain moods to open their umbrellas.

Based on this discussion we postulate:

P3: For consumers in negative mood states, feel-bad products will be more accessible and favorably evaluated than for consumers in neutral mood states.

P4: For consumers in positive mood states, feel-bad products will be less accessible and less favorably evaluated than for consumers in neutral mood states.

Try-Not-To-Feel Products

We will use the term "try-not-to-feel products" to refer to products that are so important to consumers that they try to overcome the impact of mood states on salience, evaluation and use. Such products may be associated with high levels of risk and involvement (cf. Laurent and Kapferer 1985). When considering such products, consumers may be sufficiently motivated to use controlled processes to retrieve information that is not readily accessible, thus overcoming the effects of mood on accessibility.

In addition, a mood management perspective suggests that consumers may override biases

associated with mood states to make sure important purchases do not induce negative moods. This is consistent with Isen et al.'s (1982) suggestion that people in positive states will be as cautious on important tasks as people in neutral moods, because failure on such tasks would induce negative moods.

Thus, we postulate:

- P5: The salience, evaluation and use of try-not-to-feel products will be relatively unaffected by mood states.

No-Feel Products

We will use the term "no-feel products" to refer to products purchased by habit and used as part of one's routine. For such products, learning and attitude formation may occur after exploratory trial buying. Use of no-feel products is unlikely to be associated with mood-laden experiences or significantly affect one's mood state. Thus, neither an accessibility perspective nor a mood management approach predict that mood would affect the salience, evaluation or use of products that do not affect the consumer's mood state.

Thus we postulate:

- P6: The salience, evaluation and use of no-feel products will be relatively unaffected by mood states.

DISCUSSION

Conceptual Issues

Accessibility and mood management perspectives were used to examine the role of product type as a moderator of the effects of mood. Taken together, these conceptual approaches suggest that a product's relationship to consumers' feeling states will affect the impact of mood on that product's salience, evaluation and use. Accordingly, a product typology was developed in which classifications are based on the relationship of products to consumers' feeling states. The typology is uniquely suited to research involving product type as a moderator of affect-related effects, but is exploratory and preliminary.

Additional conceptual clarification may be achieved by addressing such questions as:

- 1.) Are product categories completely idiosyncratic or do consistent patterns of classification emerge across market segments or subculture groups?
- 2.) Are biologically-based product reactions inherently different from developmentally-learned reactions?
- 3.) How do product feelings based on personal usage experience differ from those based on indirectly acquired information?

- 4.) Under what circumstances are consumers unable to over-ride the biasing effects of mood states?

In addition, research is needed to explore how products may move from one category to another over time. For example, some products (e.g., liquor) may start out as feel-good products and later become no-feel products. Initially, such products serve as mood management tools. Later, the emotions associated with product use wear away and usage becomes merely habitual. Tomkins (1968) describes smoking as being used to augment affect or reduce negative affect initially and eventually becoming preaddictive or addictive for some smokers. Although the routinized use of cigarettes may be associated with a physical addiction to nicotine, use of other products can become routinized as well. Understanding this process may provide insight into overconsumption and addictive behavior.

Methodological Issues

As with any conceptually-based typology, the one presented here must be carefully operationalized. Traditional, qualitative, projective and physiological approaches can be used to triangulate on phenomenologically perceived feelings. Additional questions need to be addressed as researchers prepare to examine the postulates presented in this manuscript:

- 1.) At what level of specificity (i.e., negative mood vs. sadness) should feeling states be studied?
- 2.) How should individual differences be examined?
- 3.) How would one determine the set of products which comprise each category for a given individual?

The typology and postulates presented are intended as a preliminary stage toward developing our understanding of product type as a moderator of the effects of mood on product salience, evaluation and use. While further research is obviously necessary, we believe the ideas presented provide a critical first step in an important direction.

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Feelings About Feeling-State Research: A Search for Harmony

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The '80's will be seen as the decade of feelings in consumer research. In the '70's, our focus was attitude, and the paradigm was a cognitive one, the multi-attribute model of structure. But the coldly cognitive framework, however useful, was clearly limited. Explained variance in global evaluation measures or behaviors rarely exceeded 20%, and was more often less than 10%. Moreover, like the more general *rational expectations* framework in decision making, multi-attribute attitude models assume a degree of elaboration that seems implausible for observed consumer behavior.

Early warnings were sounded by Krugman (1965) and Robertson (1971) who cautioned that much, if not most, consumer behavior is characterized by low involvement decision making and that low involvement results in subtler evaluation processes. Wright (1973) introduced the concept of *affect referral* to describe the role of feelings about brands in consumer evaluation. Wright proposed that uninvolved consumers would be insufficiently motivated to engage in an elaborate evaluation rule and would merely access a global feeling associated with each alternative. Wright, however, regarded those feelings to be the result of some prior cognitive processing, now stored separately in memory, rather than direct affective responses.

Not until Zajonc's (1980) landmark article on feelings as an independent, primary, and compelling evaluative force did consumer researchers begin to make dramatic changes in their conceptualizations. Throughout the decade, Zajonc has argued that affective responses are an independent processing system, which may respond to perceptual processes but may be as separate from cognitive evaluation as to originate in the muscular system. Gorn (1982) renewed interest in classically conditioned emotional responses. Mitchell and Olson (1981) helped to develop a stream of research on attitude-toward-the-ad, that has, in turn, acknowledged affective responses to ad experiences as important. Holbrook (c.f. Holbrook and Batra 1987) has lately done considerable work on the conceptual side of emotion in consumer responses. Isen (c.f. Isen, et al 1978) introduced new effects of feeling states on psychological processing, and Gardner (1985) followed by introducing consumer researchers to the effects of moods.

The preceding brief review is intended to emphasize the importance of feelings as a topic in consumer research for the past decade. A much longer paper would be required to describe how much progress we have yet to make before we can claim to understand feelings nearly so well as we have come to understand their cognitive counterparts, beliefs. We stand in a paradox; the ways we think and feel seem quite natural and simple; yet, the ways we think about the way we think and feel seem quite

artificial. Good science exhibits a variety of pleasing harmonies that our research into consumer feelings has yet to display: The harmony of mysteries revealed, when *theory* represents internally consistent concepts that generate surprising, yet compelling hypotheses. And the harmony of *methods* that are consistent with the goals implied in the theory or acknowledged by the scientist. And, finally, the harmony of *analyses*, appropriate to the methodology, and yielding interpretations appropriate to the theoretical or applied goals of the researcher. Such harmony within and among the aspects of scientific research has been elusive in our attempts to understand affective processes, and the three papers of this session are not exceptions. Notwithstanding their valuable contributions, mostly at the conceptual level, all of the papers exhibit disharmonies: Theoretical reasoning is internally inconsistent; conclusions are discordant with existing theory; methods are out of rhythm with research purpose; analyses are out of sync with the designs that generated them.

"Product Type: A Neglected Moderator of the Effects of Mood" by Gardner and Scott is admirable for its attempt to develop theory. The paper takes the logical step of refining known relationships between mood and outcome states--product information availability, product evaluation, and product use. Product type is proposed as a mediator of the mood-outcome relationships, which are premised upon structural and motivational effects of mood. The structural effect, termed by Gardner and Scott *accessibility*, is most associated with Isen's work showing a bias in information availability in memory, consistent with current mood. The motivational effect, which Gardner and Scott refer to as *mood management*, is associated with Mischel's work showing that behavior is consciously guided by desire to attain or sustain good moods and avoid or terminate bad moods. Gardner and Scott propose four product types as mediating conditions--"feel-good" and "feel-bad" products that, respectively, result in or cause good moods and bad moods, "try-not-to-feel" products, which imply consequences sufficiently important that consumers attempt to suppress mood when considering them, and "no-feel" products, which neither imply nor evoke an emotional response.

Two quite general concerns strike us at the outset. First, if we are to borrow the principle of mood management, we ought to examine it further. The authors paraphrase Mischel (1973), "individuals develop expectations for the outcomes of various behaviors, which, in turn, direct their own behavior." This may be the core of the mood management perspective, but it is little different from a cognitive instrumental learning perspective. Our behaviors are guided by the constant motivation

to seek instrumental outcomes. It is unclear why we need to invent a new theoretical perspective specifically for moods when an old standby will do as well. Moreover, the major flaw in instrumental learning "theory" is still evident in the mood management perspective--it can explain behavior *post hoc* but cannot predict. We have little confidence in our knowledge of the mood expectations consumers attach to product use.

Second, and related to the first issue, any attempt to construct theory based on product typology is limited by the idiosyncratic nature of responses to products. One consumer feels good about mortgage insurance, focusing on the security it brings; another feels bad, focusing on possible disaster; another tries not to feel, suppressing emotions because of the importance of the decision; still another is completely uninvolved and feels nothing. Gardner and Scott acknowledge this problem but should discuss it further. It is unclear that product type can be identified with enough accuracy to make it useful for predictions.

Aside from the general concerns, we find several internal inconsistencies in the logic of the propositions. While we fault the theoretical structure here, we suggest that these problems might be fruitful research questions. The first is a minor inconsistency in definitions. For P3, Gardner and Scott exclude effects on product use with an explanation in the form of an instance--consumers cannot let mood dictate when their cars will be repaired. The example is irrelevant, however, since, according to the definition, car repair is not a feel-bad product. Car repair implies immediate, not future, needs. Preventative car maintenance would qualify as a feel-bad product, and it should show the same biases in patterns of product use as in information availability and product evaluation. The exclusion of use from P3 is not consistent with the logic and definitions that are developed.

Two other incongruities suggest contradictory effects of the structural and motivational aspects of mood. The logic of P1 flows from mood management, but it contradicts the accessibility perspective. Information availability has been shown to be consistent with current mood, so when consumers are in a negative mood, they should exhibit a negative bias toward feel-good products. The logic of P5, on the other hand, appears to flow from the accessibility perspective--the availability of try-not-to-feel product information, because such products are defined as feeling-suppressed, is unaffected by mood. Yet, mood management logic suggests that, because the outcomes of such product decisions are important and mood relevant, we should expect to see positive biases associated with both positive and negative mood states. Whether motivational or structural effects of mood predominate for feel-bad and try-not-to-feel products may be an area for investigation.

Gardner and Scott attempt to refine theory by proposing mediating variables; Mano, in "Emotional States and Decision Making," attempts to refine the essential construct--feelings.

Borrowing from the work of Mehrabian and Russell, Mano questions the finding that positive mood state results in faster, less complete decision making (Isen and Means, 1983). His argument is cogent; positive mood state is multidimensional, including, at least, both pleasantness and some degree of arousal. The combination of pleasantness and high arousal (elation) should reduce attention relative to pleasantness and low arousal (calm). His aim was to manipulate degree of arousal within a narrow range of pleasantness to demonstrate that changes in decision making may result from both dimensions of mood.

Our objections to Mano's work are in the methodology, not in the conceptualization, which we find persuasive and fruitful. First, when one proposes a rival explanation of a prior finding, a claim against the construct validity of the original manipulation (as Mano does with respect to Isen and Means 1983), one should begin with the procedure not the result. Mano is correct when he claims that his "theory" can account for the Isen and Means data and for his own hypothesized outcomes, but the reader would be more persuaded by a careful contrast of the procedures. We are asked to assume that Isen and Means naively confounded pleasantness and arousal; we should be shown how their manipulation did so.

Second, and more fundamental, Mano's experiment falls into the crack between applied and theory testing research. The objective appears to be a theory test; yet, the manipulation procedure (exposure to "real world" commercials) is inadequate to the requirements of construct validity for theory testing. It is not mere hindsight that supports this criticism. There is no reason to expect exposure to commercials to be a strong pure manipulation of mood and no reason to trade off a weak manipulation for any external validity concerns. After all, there is no external validity in forced exposure to ads in a lab setting anyway. When we want to manipulate moods, we should design manipulations that do so, reliably and forcefully. Whether and how commercials affect moods in mundane conditions is a separate, very different question, to be answered with separate, very different methodology.

Because of the inadequate manipulations, Mano's research was reduced to a correlational analysis. Our final criticism is a minor one, referring to the nature of the analysis. Mano presents the results of an overall correlation in Table 3. He also divides the sample into low and high levels on the mood dimension (Table 2) and conducts analysis of variance. What is the justification for the anova, which has substantially lower power? Moreover, the data in the two tables show contradictory effects of activation (arousal). In Table 2, decision time, revealed entries, intra- and inter-moves, repetitions, and effort all increase from low to high activation; yet, the correlations in Table 3 are negative for decision time, revealed entries, and repetitions. Given that this is the central research question, this discrepancy should be discussed. If it is an artifact of the split sample

anova, it is further reason for not conducting that analysis.

Dube-Rioux, in "The Power of Affective Reports in Predicting Satisfaction Judgments," tackles feelings simultaneously as independent and dependent variable. Her contribution is to the conceptualization of satisfaction. It is typically characterized as a cognitive appraisal of attribute performance versus attribute expectations. Dube-Rioux argues for a significant independent contribution of affective response, in particular when satisfaction is, in her terms, "emotionally intense."

We are receptive to the claim that satisfaction should be reconceptualized and that feelings should be acknowledged as part of that construct. We were puzzled somewhat by Dube-Rioux's mediating condition--the emotional intensity of satisfaction. It is unclear what is gained by the claim that for "emotional" satisfaction, measures of emotional response play a larger part than they do for "unemotional" satisfaction. Perhaps some further work can be done to characterize the conditions under which emotion plays a greater or lesser role in satisfaction. One suggestion is to consider the product typology of Gardner and Scott. Affective response measures may be better predictors of satisfaction with feel-good or feel-bad products; worse for the other types.

The use of regression analysis of the contributions of affective and cognitive components raises several questions. First, the two measures are highly correlated, so evidence that only one component is statistically significant in an equation is not compelling evidence that the other has no explanatory power, especially with a small sample size. Second, a comparison of beta weights within an equation assumes that subjects interpreted the affective and cognitive metrics in the same way. In general, a comparison of affective versus cognitive contributions is a comparison of apples and oranges. It begs questions of measurement validity that cannot be answered satisfactorily. A better approach that is available in Dube-Rioux's framework is a comparison of the contribution of either component under different conditions. The appropriate test is whether the beta weights for affect or cognition change between emotional and neutral satisfaction conditions. Such a comparison, however, requires assumptions of certain equalities across samples that might not be met.

Beyond the use of theory, method, and analysis that are in harmony within a study, researchers in this area would do well to strive to conduct research that is clearly tied to the growing body of literature on the effects of feelings and moods. One important step is to define with care the constructs under study. Previous work has attempted to differentiate among affect, emotion, mood, and feelings on conceptual grounds (c.f., Gardner, 1985; Holbrook and Batra, 1987); current and future research should make clear which constructs are of interest and should indicate the operational definitions that are being used. Beyond

a clear definitional statement, the research should describe the underlying process of interest and should specify the role that moods or emotions assume. This trio of papers examines affective responses or moods in a variety of roles: Gardner and Scott treat mood as an independent variable whose effects on consumer behaviors are moderated by the type of product under consideration, while Mano examines emotional state as a moderator of consumer decision making, and Dube-Rioux, in her conceptualization of satisfaction as an emotion-based construct, considers feelings as dependent variables in the process under consideration. Some cataloging of which conceptual role the affective responses or moods are filling may help to organize the broad existing literature on moods and would help clarify the handling of the construct in each prospective study.

A second step toward better integration of new studies with existing work in the field can be taken in careful choice of measures. Researchers should consider consolidating, refining, and standardizing past measures of feelings before creating new ones. Ambiguity among constructs is exacerbated by a never-ending series of new operational measures.

A third and final general comment is to repeat a criticism of Mano's paper and issue a general call for more appropriate mood induction manipulations. If the aims of a study are to examine moods or the effects of moods in mundane consumer settings, then effects-testing procedures are appropriate and mood manipulations high in mundane realism would be called for. If, however, the aims of the research are theory-testing, then strong experimental manipulations or inductions of mood are appropriate. James Russell, a psychologist who has done considerable work in the area of conceptualizing mood states and examining their effects (c.f. Russell, 1980), reports that a relatively long (twenty minutes) audio tape using musical selections has been effective in inducing mood states (positive or negative); such an approach, while not resembling most real world situations, might be especially useful for theory-testing oriented studies of feeling states. We need to separate the research that aims to answer theoretical questions that are proposed as relevant to consumer behavior from the research that aims to describe the effects that occur in everyday consumer behavior.

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An Empirical Assessment of Multiple Operationalizations of Involvement

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ABSTRACT

Involvement is an important and much debated topic in consumer research. Rigorous measurements of the construct by Laurent and Kapferer and Zaichkowsky have led to scales which are finding increasing acceptance by several researchers. Building on recent studies, this paper makes an empirical comparison of the various scales in the literature: Involvement Profile (Laurent and Kapferer); Foote, Cone & Belding Planning Grid's involvement sub-scale (Vaughn); Personal Involvement Inventory (Zaichkowsky); and modifications of Zaichkowsky's scale. In so doing, the study brings further clarification and refinement to the involvement construct. A New Involvement Profile is distilled and offered for future research.

INTRODUCTION

Involvement has been the focus of a large number of studies in the consumer research area in the past decade (Houston and Rothschild 1977, 1978; Kapferer and Laurent 1985, 1985/86; Laurent and Kapferer 1985; Richins and Bloch 1986; Vaughn 1980, 1986; Zaichkowsky 1985). A multitude of conceptualizations are available in the literature: product/brand involvement, enduring / situational involvement, cognitive / affective involvement, instrument / response involvement and so on and so forth. This diversity of views provides a very rich perspective of the construct. However, the development in conceptualization has far outpaced the developments in operationalizations, leading to a call for better measuring instruments and empirical testing (Rothschild 1984) and simpler middle-range theories that are parsimonious (Kassarjian 1978).

Toward this end, Zaichkowsky (1985) and Laurent and Kapferer (1985; Kapferer and Laurent 1985) have concentrated their efforts on rigorous scale development. This study seeks to build on their work and others' in the direction of further refinement of measures in capturing the complexity of the involvement construct.

BACKGROUND

Much of the diversity in definitions adopted by researchers in the involvement area begins at the conceptual level. Starting from Sherif and Cantril's (1947) ego-involvement to Beatty and Smith's (1987) consideration of the interactive nature of involvement, the complexity of the involvement domain has increased. In this study, we focus on just two parallel streams of theory development: Zaichkowsky's Personal Involvement Inventory (PII) and its modifications/extensions on one hand, and Laurent and Kapferer's Involvement Profile (IP) on the other - the remarkable similarity of the conceptual domains tested in these studies cries out for empirical validation.

Zaichkowsky (1985) defined involvement as "a person's perceived relevance of the object based on inherent needs, values and interests." Ratchford (1987) adopts a comparable perspective: involvement implies attention to something because it is somehow relevant or important.

However, a unidimensional approach to involvement is not sufficient to capture its complexity. Rothschild (1984) provided a broader conceptualization: "Involvement is an unobservable state of motivation, arousal or interest. It is evoked by a particular stimulus or situation and has drive properties. Its consequences are types of searching, information processing and decision making." The above definition has gained wide acceptance (Laurent and Kapferer 1985; McQuarrie and Munson 1987).

Laurent and Kapferer (1985) strongly urge that involvement should be thought of as a profile of several facets. They offered a 19-item profile of five dimensions: Importance, Pleasure, Sign-value, Risk Probability and Risk Importance. However, the five dimensions collapsed into four factors during empirical testing, with Importance and Risk Importance loading on the same dimension. In a revised 16-item profile, Kapferer and Laurent (1985, 1985/86) tapped five dimensions again, but replaced Importance with Interest. The five factor structure was confirmed, although only two scale items were available for assessing risk probability. In the latest update of the scale (Laurent and Kapferer 1989), the same five factor structure is retained, but with a change in the number of items in each sub-scale (Interest - 3 items; Sign - 3 items; Pleasure - 3 items; RiskImp - 3 items and RiskPro - 4 items). It is important to note that the five distinct dimensions of involvement are non-orthogonal. Strong correlational relationships were found for the following pairs of factors: Interest-Pleasure (0.55), Interest-RiskImp (0.50), and Pleasure-Sign (0.47). The empirical evidence supporting this multi-faceted conceptualization comes from large numbers of non-student subjects in France, over a number of years and spanning numerous products. However, since the scale was developed using French items and has not been published in its entirety, the potential for its usage in the U.S. has been limited (Mittal and Lee 1988).

Coming to the other research stream of interest for this study, Zaichkowsky's empirical validation of the 20-item PII also covered numerous products. The PII appeared to capture one major factor - Relevance - across all product categories, and some minor factors, which were not considered further. The major factor accounted for approximately 70% of the variance. The PII is appealing in its simple structure (20 pairs of adjectives) and the single score used to represent the degree of involvement is useful for easy comparison of products along a continuum. In this fashion, it

has been used by other researchers (Celsi and Olson 1988).

The scope of the PII was expanded by McQuarrie and Munson (1987), who concurred with Laurent and Kapferer's emphasis on a multi-dimensional involvement profile. McQuarrie and Munson felt that the PII reflected two dimensions of the Involvement Profile, thought to be Importance and Pleasure. So, in their revision of the PII (RPII hereafter), they sought to incorporate Sign and Risk components and dropped certain items that were considered causes of attitudinal contamination and redundancy. Their revised version did not distinguish between Risk Importance and Risk Probability as two separate dimensions but had only a single dimension to capture the Risk aspect. However, their attempt to capture the Sign sub-scale was not successful. They too found significant correlations among the sub-scales: Importance-Pleasure (0.60), Pleasure-Risk (0.49) and Importance-Risk (0.41).

Higie and Feick (1989) in measuring enduring involvement, borrowed items from Zaichkowsky's PII and McQuarrie and Munson's RPII for their Hedonic (Pleasure) sub-scale and developed a reliable sub-scale for their Self-Expression (Sign) dimension. Therefore, the pool of items from these three studies (Zaichkowsky, McQuarrie and Munson, and Higie and Feick) collectively taps the same facets of involvement as does the involvement profile (IP) proposed by Laurent and Kapferer.

In summary, we have two streams of measure development that appear to share the same conceptual framework of a multi-faceted involvement construct. Or, are we really comparing apples with oranges? Speculations have been made about the overlap/congruency of the dimensions of involvement as used by earlier researchers (Ratchford 1987). However, empirical support for such inferences is not presently available. Hence, we decided to test the comparability of the two sets of items for domain congruency, potential differences in sub-scale reliabilities and relationship with the consequences of involvement.

STUDY DESIGN

The objectives of the present study included the following:

- i) translate Laurent and Kapferer's Involvement Profile (French items into English),
- ii) replicate scale structures (IP, PII and modifications),
- iii) compare the factor structures of the two sets of items, which conceptually can be expected to be similar,
- iv) assess correspondence/domain overlap between the various pooled items,

- v) abstract a subset of items (three in each sub-scale) that best captures the various aspects of involvement as a potential refinement of either set, and
- vi) test the performance of the abstracted scale.

Sources of scale items

We are grateful to Laurent and Kapferer for providing us with the original French items for the latest revision of their Involvement Profile, along with a tentative English translation. We used four other translators (two Americans and two Europeans) for independent translations and arrived at items 1-16 shown in Table 2. The other major sources were the published items of Zaichkowsky's PII, and McQuarrie and Munson's RPII, and Higie and Feick's study (items 20-49 in Table 2). Lastly, the published involvement items (items 17-19 in Table 2) used in the FCB grid were added to the pool (Ratchford 1987). The measure of involvement in the FCB grid had only three items. Its parsimony and the advertising industry's acceptance made it attractive for inclusion. Besides, there was a need for some "better" risk measures. Thus, there were 49 items in total, half of which were reverse coded.

It is significant to note two possible sources of bias: one involving translation and the other methodological. Responses to the English items may not necessarily yield a pattern similar to that of the original French items, not only because of the translation (differing usage of idioms and expressive aspects of the language), but also because of the differences in the marketplace settings -- product offerings, consumer tastes, and culture. The methodological issue concerns the reformulation from the original likert-type format to a semantic-differential format. The change in format was necessitated by the requirements for conformity with the rest of the items used in the study. In this respect, Jaccard, Weber, and Lundmark (1975) have shown that the two types of scales yield similar results, and hence this may not be a serious limitation.

Data Collection

Ten products were selected after a review of previous studies. Multiple products were chosen to retain the generalizability across product classes, similar to other researchers. The ten products were: alarm clock, batteries, calculator, chocolate, cologne/perfume, detergents, haircut/styled, music tapes/records, newspaper and radio. These products were chosen to reflect a spectrum of involvement profiles and in light of students' familiarity with the products. To reduce tediousness of the task and respondent fatigue and boredom, five pairs of products were established at the outset and each respondent completed the scales for only one pair of products.

A convenience sample of 375 student respondents, almost all of whom were undergraduates, was drawn from two major north-

TABLE 1
Cronbach Alphas of the Various Involvement Scales

Scales	Alpha	
	Previously Reported	Present Study
Laurent and Kapferer's Involvement Profile:		
- Interest	0.76	0.76
- Risk Probability	0.54	0.57
- Pleasure	0.83	0.72
- Sign	0.81	0.82
- Risk Importance	0.72	0.78
Zaichkowsky's PII:	0.95-0.97	0.94
McQuarrie and Munson's RPII:		
- Importance	0.95	0.87
- Risk	0.77	0.67
- Pleasure	0.92	0.88
- Sign Value	--	0.58
Higie and Feick's EI:		
- Hedonic	0.93	0.90
- Self-Expression	0.92	0.90
FCB Grid Scale:	0.77	0.81

eastern universities. Each respondent received two random orders of the pool of 49 semantic-differential items, one for each product in the pair. The product order in the pair was also randomized. A total of 735 usable responses, pooled across all products, were available for analysis.

ANALYSIS AND RESULTS

Replication of Previous Scale Structures

Responses were pooled across all the ten products for the analysis, and oblique factor analysis was used. The replication analysis of the various scales yielded consistent and encouraging results, both in the factor structures and Cronbach alpha values of the sub-scales.

The IP items yielded four factors: Interest and Pleasure loading on the same dimension, Sign, Risk Probability and Risk Importance. Together, the extracted factors explained 61% of the variance (Replication of the IP is discussed later). The PII items yielded two factors, accounting for 61% of the variance (major factor = 48%; minor factor = 13%). The first factor reflected Relevance/Importance and the second factor reflected Pleasure, as was expected. The inter-factor correlation was 0.46. Three factors were recovered for McQuarrie and Munson's RPII, that together explained 66% of the variance (46%, 11% and 9% for the three factors respectively). The three factors were Pleasure, Importance and Risk. The inter factor correlations were as follows:

Pleasure-Importance = 0.59, Pleasure-Risk = 0.35, and Importance-Risk = 0.29. The structure of the factor analysis reported by Higie and Feick was also recovered (77% of the variance was explained). The correlation between the two dimensions, Pleasure and Sign, was 0.56. The three FCB items yielded a single factor, recovering 72% of the variance.

Table 1 shows the Cronbach alpha values obtained in the present study as well as those reported in the literature. It can be seen that there is a great deal of consistency. Similar to the finding by Kapferer and Laurent (1985), the internal consistency of the Risk Probability sub-scale was not high (0.54 vs 0.57). McQuarrie and Munson's Risk items yielded a slightly higher alpha value of 0.67. The inclusion of the FCB scale to bolster the assessment of Risk is, therefore, seen to be justified, and its alpha value was 0.81. All the other sub-scales had alpha values in the range of 0.67 to 0.94.

Comparison of The Two Sets of Involvement Profile Items

The two sets of items were (1) the English translation of Laurent and Kapferer's (1989) latest revision of the IP (study 1: items 1-16 in Table 2), and (2) the combination of items from the PII and its modifications (studies 3, 4 and 5: items 20 - 49 in Table 2). Each set of items was factor analyzed separately with data pooled across all the products.

TABLE 2
Rotated Factor Loadings of Items From Various Scales
(Pooled Across Ten Products)

Study ^a	Items	Factor				
		1	2	3	4	5
*	1. I am not at all interested in it/ I am very interested in it		0.66			
*	2. I attach great importance to it/ I attach no importance to it	0.29			0.38	
*	3. I am indifferent to it/ I am not indifferent to it		0.40			
*	4. Choosing it isn't complicated/ Choosing it is complicated				0.42	0.43
*	5. <i>IN PURCHASING IT, I AM CERTAIN OF MY CHOICE/IN PURCHASING IT, I AM UNCERTAIN OF MY CHOICE</i>					0.71
*	6. <i>I NEVER KNOW IF I AM MAKING THE RIGHT PURCHASE/I KNOW FOR SURE THAT I AM MAKING THE RIGHT PURCHASE</i>					0.80
*	7. <i>I FEEL A BIT AT A LOSS IN CHOOSING IT/I DON'T FEEL AT A LOSS IN CHOOSING IT</i>					0.48
*	8. I enjoy buying it for myself/ I do not enjoy buying it for myself		0.71			
*	9. <i>I DO NOT FIND IT PLEASURABLE/I FIND IT PLEASURABLE</i>		0.84			
*	10. Buying it feels like giving myself a gift/ Buying it doesn't feel like giving myself a gift		0.54			
*	11. What I buy says something about me/ What I buy doesn't say anything about me			0.60		
*	12. What I buy doesn't reflect the kind of person I am/ What I buy reflects the kind of person I am			0.66		
*	13. It tells something about a person/ It doesn't tell anything about a person			0.83		
*	14. It is not a big deal if I make a mistake in choosing it/ It is a big deal if I make a mistake in choosing it				0.76	
*	15. <i>IT IS REALLY ANNOYING TO MAKE AN UNSUITABLE PURCHASE/IT IS NOT ANNOYING TO MAKE AN UNSUITABLE PURCHASE</i>				0.78	
*	16. <i>A POOR CHOICE WOULDN'T BE UPSETTING/A POOR CHOICE WOULD BE UPSETTING</i>				0.88	
*	17. Decision requires a lot of thought/ Decision requires little thought				0.57	
*	18. <i>LITTLE TO LOSE BY CHOOSING POORLY/A LOT TO LOSE BY CHOOSING POORLY</i>				0.83	
*	19. Very important decision/ Very unimportant decision				0.54	
*	20. <i>TELLS OTHERS ABOUT ME/DOESN'T TELL OTHERS ABOUT ME</i>			0.88		
*	21. <i>OTHERS USE TO JUDGE ME/OTHERS WONT USE TO JUDGE ME</i>			0.81		
*	22. <i>DOES NOT PORTRAY AN IMAGE OF ME TO OTHERS/PORTRAYS AN IMAGE OF ME TO OTHERS</i>			0.80		
*	23. Part of my self-image/ Not part of my self-image			0.74		
*	24. <i>ESSENTIAL/NON-ESSENTIAL</i>	0.86				
*	25. Undesirable/Desirable	0.35	0.59			
*	26. <i>BENEFICIAL/NOT BENEFICIAL</i>	0.82				
*	27. Vital/Superfluous	0.79				

TABLE 2 (CONTINUED)

Study ^a					Factor					
1	2	3	4	5	1	2	3	4	5	
*										
**							0.70			
*							0.76			
*					0.80					
*					0.64					
*					0.72					
*					0.63					
*					0.85					
*					0.61					
**					0.54					
**					0.41					
***							0.79			
***							0.69			
**					0.52					
**					0.58					
***							0.82			
**					0.51					
*										
							0.77			
*							0.79			
**							0.89			
*									0.37	0.40
*									0.48	0.36
*									0.35	0.52

NOTES: (i) Loadings below 0.30 have been omitted.
(ii) Reverse coded Items: 2,6,7,8,10,11,13,15,17,19,20,21,23,24,26,27,31,
32,35,36,37,39,43,44,45,46,47,49

^a Study 1: Laurent and Kapferer (1989) (English translation)
Study 2: Ratchford (1987)
Study 3: Higie and Feick (1988)
Study 4: Zaichkowsky (1985)
Study 5: McQuarrie and Munson (1987)

Items 1-16, which formed the first set (taken from the Involvement Profile), yielded four factors (using the scree test and the eigenvalue criteria) that together explained 61% of the total variance (the varimax version showed the variance explained by Interest/Pleasure, RiskImp, Sign and RiskPro factors to be 36%, 12%, 7% and 6% respectively). Oblique rotation of the factors was used for interpretation. The Sign, RiskPro and RiskImp sub-scales were recovered as distinct dimensions. However, the sub-scales for Interest and Pleasure loaded on the same factor. One may recall that factors corresponding to these two sub-scales had the highest correlation amongst all the factors in the Kapferer and Laurent (1985) study. The inter-factor correlations of Interest/Pleasure with the Sign, RiskPro and RiskImp dimensions were 0.47, -0.08 and 0.46 respectively. Sign was correlated 0.02 and 0.45 with RiskPro and RiskImp respectively. The two dimensions of risk were correlated 0.11.

Items 20-49, which formed the second set were also factor analyzed. Again, using the scree test and eigenvalue criteria, four oblique factors were recovered, accounting for 64% of the variance. The dimensions which emerged were: Relevance, Pleasure, Sign and Risk (these accounted for 40%, 14%, 6% and 4% respectively in the varimax version). Relevance had a correlation of 0.44, 0.32 and 0.15 with Pleasure, Sign and Risk respectively. Pleasure was correlated 0.56 and 0.33 with Sign and Risk respectively. Sign and Risk had a correlation of 0.47.

It may be observed that the two sets, which were thought to be parallel versions, *did not yield similar factor dimensions*. Only Pleasure and Sign were common facets. Relevance emerged as a dominant dimension in the second set, but was absent from the first. The first set showed the two facets of risk, RiskImp and RiskPro, to be distinct, while all items related to risk loaded on the same factor in the second set. Hence, it may be expected,

that were both sets to be combined and factor analyzed, five dimensions would result (Relevance, Interest/Pleasure, RiskImp, Sign and RiskPro).

Testing Domain Overlap

Stewart (1981) recommends that a useful application of factor analysis is for testing the domain of various items which relate to the same construct. The present setting provides such an opportunity. Items 1-49 (Set 1, Set 2 and the FCB items) were subjected to an oblique factor analysis. As observed earlier, there is no theoretical justification for orthogonal dimensions. The scree test and eigenvalue criteria revealed five dimensions, as hypothesized. The emergence of the five dimensions from the increased set of variables indicates that the factors are robust.

Table 2 shows the factor loadings of the complete set of 49 items. The five factors are Relevance/Importance, Pleasure/Interest, Sign/Symbolic, Risk Importance and Risk Probability, explaining 59% of the total variance (in the varimax version, the factors accounted for 36%, 10%, 6%, 4% and 3% resp.). The pattern of the item loadings revealed that there were overlapping dimensions from the various scales. The first factor was the unique Relevance aspect of the PII. The second factor, Pleasure showed high loadings of items from the Pleasure/Interest sub-scale of the IP, and the Pleasure sub-scale of the RPII. The Sign factor had high loadings of items belonging to the Sign sub-scale of the IP, and the Self-Expression component of Higie and Feick's Enduring Involvement scale. The RiskImp factor had high loadings from items in the RiskImp sub-scale of the IP, the Risk sub-scale of the RPII, and all the three items from the FCB scale. Finally, the RiskPro factor reflected the RiskPro sub-scale items from the IP and the Risk items from the RPII.

Two salient findings emerge from Table 2. First, the Relevance component of involvement is totally untapped in the current battery of IP items. Interestingly, in Laurent and Kapferer's study reported in JMR (1985), the Importance items had loaded with Risk Importance and were replaced with Interest items in their later ACR and JAR studies (Kapferer and Laurent 1985, 1985/86). Perhaps, a different set of Importance items in the JMR study might have led to a distinct dimension, since Zaichkowsky's Relevance factor does have Importance related adjective pairs, such as "important/unimportant," "needed/not needed," and "essential/non-essential." Also noteworthy is that the RiskImp sub-scale remained as a distinct factor and did not load on the Relevance factor in the domain analysis.

The second salient finding relates to the mapping of Risk in the RPII on the Risk-related dimensions of IP. The three items of Risk load about equally on RiskImp and RiskPro factors. Hence, an argument can be made for retaining the two components of risk as distinct facets of IP, if more information is considered desirable. A counter argument, using a parsimony criterion, could be that

the Risk sub-scale of the RPII may be substituted for the two facets of risk in the IP, since the significance of RiskImp may have been boosted by the inclusion of the FCB items in this analysis. However, dropping the three FCB items still yielded the same five factors as in Table 2, with RiskImp and RiskPro remaining distinct.

Table 3 shows the inter-factor correlations of the five dimensions. The correlations of Sign with Pleasure and RiskImp were both 0.58, which is the highest value in the table. Relevance correlated moderately with Pleasure (0.42), Sign (0.33) and RiskImp (0.35). Pleasure correlated strongly with RiskImp (0.49), but not with RiskPro (0.05). The remaining correlations for RiskPro were also low - 0.21 with Sign and 0.23 with RiskImp. While Relevance, Pleasure, Sign and RiskImp appear to be related among themselves, RiskPro stands apart as a unique dimension by itself.

Abstracted Items for Sub-Scales and Performance Testing

Capitalizing on the strengths of different sub-scales offered by earlier researchers, we would now like to offer for further testing a concise set of items, reflecting a multi-faceted operationalization of involvement. The objectives of the pruning phase were the same as those of Laurent and Kapferer (1985/86): short scales (for convenience), multiproduct applicability (for generalizability) and single factored, reliable sub-scales (for psychometric purposes). The three items loading highest on each factor in Table 2 were chosen to yield a smaller set of 15 items for the New Involvement Profile (capitalized in Table 2). Particulars are shown below:

Dimension	Items (From Table 2)	Cronbach Alpha
1. Relevance	Items 24, 26, 34	0.80
2. Pleasure	Items 9, 42, 46	0.84
3. Sign	Items 20, 21, 22	0.84
4. Risk Importance	Items 15, 16, 18	0.80
5. Risk Probability	Items 5, 6, 7	0.56

The performance of the New Involvement Profile was compared to the other available scales in terms of ability to predict some of the consequences of involvement used in previous studies: greater information search, perception of differences among brands, and preference for a particular brand (Zaichkowsky 1985, McQuarrie and Munson 1987). Three items were used to capture the first proposition: "I would be interested in reading about this product," "I would pay attention to an ad for this product," and "I would compare product characteristics among brands for this product." The last two consequences were assessed using one item for each: "I think there are great differences among brands of this product" and "I have a most preferred brand of this product" respectively. All five statements were rated on a five-point scale from strongly disagree (1) to strongly agree (5). The

TABLE 3
Inter-Factor Correlations

	Factor 1 Relevance	Factor 2 Pleasure	Factor 3 Sign	Factor 4 RiskImp	Factor 5 Riskpro
Factor 2: Pleasure	0.42	1.00			
Factor 3: Sign	0.33	0.58	1.00		
Factor 4: Riskimp	0.35	0.49	0.58	1.00	
Factor 5: Riskpro	-0.02	0.05	0.21	0.23	1.00

TABLE 4
Regression Analysis: Various Scales Regressed on Consequences of Involvement

Consequence	Standardized Coefficients					Adjusted R-Sq.			
	Relv.	Hed.	Sign	R-Imp	R-Pro	New IP	IP	PII	FCB
1. Information search	0.17***	0.36***	0.06	0.23***	-0.03	0.35	0.35	0.28	0.25
2. Perception of brand differences	0.07	0.17***	0.12**	0.20***	-0.02	0.16	0.16	0.09	0.13
3. Preference for a brand	0.08*	0.20***	0.11***	0.07	-0.12***	0.13	0.13	0.09	0.06

* p < 0.05
 ** p < 0.01
 *** p < 0.001

three statements for greater information search were highly inter-correlated (alpha = 0.78) and were therefore combined into a single scale.

The results are summarized in Table 4. The predictive ability (adjusted R-squared) of the New Involvement Profile is seen to match the best of the earlier scales. The individual standardized regression coefficients for the five dimensions vary in significance across the five consequences of involvement used as the criterion variables. Every dimension of the New Involvement Profile has a significant impact on at least one consequence, thereby justifying retention of the five dimensions.

SUMMARY AND CONCLUSIONS

A multidimensional approach to measuring involvement was followed in this study. An English translation of Laurent and Kapferer's Involvement Profile and an alternative measure, derived from Zaichkowsky's Personal Involvement Inventory and its modifications, were tested empirically using multiple products. As shown in Table 5, the range of products studied captured a spectrum of involvement scores as measured by Zaichkowsky's PII (1985) and Laurent and Kapferer's latest Involvement Profile (1989).

TABLE 5
Involvement Scores of Products on PII and IP
 (Mean has been standardized to 100 for each column)

Product	PII	IP				
		Interest	Pleasure	Sign	RiskImp	RiskPro
Alarm clock	103	92	83	89	98	94
Batteries	88	77	68	74	83	86
Calculator	97	92	91	96	106	109
Chocolate	81	92	121	89	83	86
Cologne/Perfume	100	108	114	119	114	109
Detergents	88	77	68	74	83	102
Haircut/Styled	111	123	114	126	129	125
Musictapes/records	110	115	129	119	106	94
Newspaper	108	100	91	104	68	86
Radio	115	123	121	111	129	109

Empirical domain testing shows that Zaichkowsky's PII and Laurent and Kapferer's IP have *unique components*. A concise 15 item New Involvement Profile is abstracted from the sub-scales tested in this study, drawing on Zaichkowsky's PII measurement of the Relevance/Importance dimension, and the latest IP's contribution to the other four dimensions: Pleasure, Sign, Risk Importance, and Risk Probability. Obviously, this refinement process needs to be carried still further for understanding the intricacies of the Involvement construct. Specifically, the RiskPro subscale needs to be strengthened and the New Involvement Profile needs further validation on a fresh sample.

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When Do The Measures Of Knowledge Measure What We Think They Are Measuring?

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In order to investigate the effects of knowledge on behavior, researchers have used a variety of methods to measure knowledge. But, research results on the convergent validity of these measures of knowledge are equivocal. Some researchers have found significant correlations between measurement methods such as self-reports, free elicitation, and paper-and-pencil tests, while others have not. This study attempts to explain the inconsistent results. The results suggest that the convergent validity of the different measures may depend on what, and how much, consumers already know about a knowledge domain.

INTRODUCTION

Because of the common assumption that what people know affects their behaviors, researchers have spent considerable effort on exploring the effects of knowledge on consumer behavior (see Alba and Hutchinson 1987). For instance, researchers have investigated the effect of knowledge on information search (e.g., Brucks 1985), assimilation of new knowledge (e.g., Graesser and Nakamura 1982; Johnson and Russo 1984), choice processes (e.g., Bettman and Park 1980), information processing strategies (e.g., Fiske, Kinder and Larter 1983), problem solving processes (e.g., Sweller 1988) and perceptual processes (e.g., Obermiller and Wheatley 1984).

In this research, knowledge has been measured through a variety of methods such as subjective self-perceptions, paper-and-pencil tests (conventionally called objective tests), product ownership, usage experience with a product, and free response techniques such as free elicitation (see Mitchell 1982; Cole, Gaeth, and Singh 1986). These methods of measuring knowledge generally fall into two broad categories, direct and indirect measures of knowledge. Paper-and-pencil tests, or free-association methods such as free elicitation, are direct methods of measuring knowledge. They attempt to measure knowledge stored in memory. On the other hand, measures such as self-reports, or usage experience with a product, are indirect methods. They do not directly measure knowledge stored in memory. Rather, they measure individual characteristics that are thought to be related to people's knowledge in the domain of interest.

In this research on knowledge and behavior, researchers have often used just one of these methods to classify people as being either high or

low in knowledge about a domain. This assumes that one method of measuring knowledge is as good as another. That is, the methods are equivalent in that they all operationalize the same underlying construct--knowledge. But, research results on the convergent validity of these measures of knowledge (across and within the direct and indirect methods) are equivocal. Some researchers have found significant correlations between measurement methods such as self-reports, free elicitation, and paper-and-pencil tests or questionnaires (e.g., Heneman 1974; Klimoski and London 1974; Cole, Gaeth, and Singh 1986; Dacin and Mitchell 1986; Marks and Olson 1980; Marzano and Costa 1988). But, other researchers report little or no correlation between such measures (e.g., Seigel and Pfeiffer 1965; Kanwar, Olson, and Sims 1981; Marzano and Costa 1988).

Moreover, in some studies the different measures of knowledge have produced opposing predictions about behavior, thereby suggesting that the different methods are not measuring the same construct. For example, Brucks (1985) found that consumers' self-perceived knowledge was unrelated to the number of attributes about which they acquired information when making choices. However, when questionnaires were used to measure consumer knowledge she found that more knowledgeable consumers acquired information on more attributes than did the less knowledgeable consumers. Other researchers have reported similar results (Lichtenstein and Fischhoff 1977; also see Park, Gardner, and Thukral 1988). Indeed, some researchers have gone so far as to suggest that some of these methods may be measuring concepts or constructs other than knowledge. For instance, Park and Lessig (1981) suggest that subjective measures such as self-reports may be measuring consumers' self-confidence rather than their knowledge in a domain. Other researchers have made similar suggestions (see Lichtenstein and Fischhoff 1977).

Since researchers often use just one of the various methods to measure knowledge, it is important for us to understand why past research on the convergent validity of these measures has produced conflicting results. In order to choose among these alternative methods with any confidence, we need to know when these methods are, or are not, valid measures of knowledge. Otherwise, we may never be certain of the validity of our research.

In this study we make an attempt to develop such understanding. We first review some of the methods that have been used to measure knowledge. Next, we develop and test hypotheses about the conditions under which these alternative measures of

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knowledge are likely, or are not likely, to show convergent validity. We then test these hypotheses.

THE MEASURES: A REVIEW AND ANALYSIS

Of the direct and indirect methods, first consider two indirect methods of measuring knowledge--usage experience and self-reports (or self-assessment)². When researchers use the amount of product experience to operationalize consumers' knowledge they assume that past usage and experience is directly related to consumers learning and knowledge. Unfortunately this assumption is often invalid (Brucks 1985; Mitchell 1982). Because of differential product involvement, consumers with similar amounts of usage experience may have learned different amounts about a product domain. In fact, some consumers who neither own, or use a product, but hope to do so in the future, may actively seek information about it, and accumulate large amounts of knowledge about it. For example a teenager who does not currently own a car may be highly knowledgeable about cars (Mitchell 1982). Thus, operationalizations such as ownership, or past usage experience, may erroneously classify knowledgeable individuals as being relatively less knowledgeable, or vice versa.

Moreover, there is considerable evidence that a person's self-assessed knowledge is often an inaccurate representation of actual knowledge (see Gentner and Collins 1981; Fox and Dinur 1988). As conventional in knowledge research, by actual knowledge we mean knowledge as measured by performance on conventional tests of knowledge such as objective multiple-choice tests (Abelson 1979; Saegert and Young 1982). Gentner and Collins (1981) suggest several reasons for the discrepancies between self-perceived and actual knowledge. One reason, which is particularly relevant to this study, is how much people already know in that domain (see Park, Gardner, and Thukral 1988). This literature suggests that, relatively more knowledgeable people provide more accurate self-reports than relatively less knowledgeable people. Gentner and Collins (1981) argue that because people usually learn about domain related concepts and terminology first (Brucks and Mitchell 1981; Brucks 1986), relatively less knowledgeable people are likely to judge their expertise in a domain by how many domain related concepts they know or think they understand, rather than what needs to be learned. That is, they are likely to judge their expertise by the number of domain related concepts they can recall from memory. This is particularly true for people who have not undergone formal training in a domain. For instance, research in

educational counselling and assessment indicates that self-assessment of knowledge or learning is likely to be more accurate for students who have received feedback on their relative learning, than for students who have not received such feedback (see Laing 1988; Park, Gardner, and Thukral 1988). Consequently, errors of judgment regarding self-assessed knowledge are most likely for people who are not only relatively less knowledgeable in a domain, but have also learned the little they know through informal means, e.g., experience, rather than formal training (by formal training we mean situations where learning is accompanied by objective feedback on how much has been learned, or not learned).

In summary, two major testable propositions emerge from the above discussion. First, self-report measures of knowledge are likely to be highly correlated to objective measures of knowledge for relatively knowledgeable people who have undergone formal training (e.g., college courses) in a domain. But, the correlation between these two measures of knowledge is likely to be insignificant for people who are relatively less knowledgeable. This is particularly true for people who have learned the little they know through less formal means (e.g., experience), without objective feedback on how much they actually know. Second, as earlier discussion indicated, people who have acquired their knowledge about a domain through informal means are more likely, than people who have received formal training, to judge their knowledge in a domain by the number of concepts that they can recall from memory.

The number of salient concepts in memory (that is the number of concepts a person can recall) is precisely what free response measures of knowledge such as the free elicitation method³ attempt to operationalize. In the free elicitation method the experimenter says a word (a cue or probe) and asks the subject to verbalize all the thoughts that occur in response to that word. The concepts that subjects mention in response to the initial probe are recorded and then are used as probes themselves to further explore consumers' cognitive structures for a particular knowledge domain (down to some "level"). By using several domain related initial probes the researcher attempts to elicit as many concepts as possible. Obviously the elicitation procedure can continue indefinitely. Typically, the researcher uses empirical procedures to pre-select the combination of initial probes and levels that produce the largest number of unique domain related concepts, within the constraints of the subject time available (see Kanwar 1987). The total number of unique domain-related concepts

²Usage experience may be measured by a question such as "how long have been using microwave ovens _____?" And, self-assessed measures may be obtained through questions such as "on this 7 point scale could you please tell us how much you think you know about _____?"

³See Mitchell (1982), Kanwar, Olson, and Sims (1981), for a discussion of the theoretical basis of the free elicitation method.

elicited by each subject then serves as an index of the number of salient concepts in memory⁴.

Thus, because the free elicitation procedure measures the number of salient concepts in memory, the index it produces is likely to be highly correlated with self-report measures of knowledge for people who have acquired their knowledge, about a domain, through informal means. But, for people who have received formal education in the knowledge domain, this correlation is likely to be insignificant.

HYPOTHESES

In summary, we can generate two hypotheses regarding the conditions under which the different measures are likely to exhibit, or not exhibit, convergent validity.

- H1: Self-assessed and objective measures of knowledge are likely to be highly correlated for relatively knowledgeable people who have undergone formal training in a knowledge domain, but not for people who have learned what they know through less formal means (e.g., experience).
- H2: The free elicitation and self-assessed measures of knowledge are likely to be highly correlated for people who have acquired knowledge about a domain through informal means, but not for people with formal training in the domain.

METHODS

The study was carried out over two separate 1 to 2 hour sessions. During the first session, the free elicitation method was used to measure consumers' knowledge about nutrition and food. The second session occurred about a month later. During this session subjects filled out a questionnaire designed to obtain objective and subjective measures of subjects' knowledge about food and nutrition, and subjects' demographic characteristics. Subjects also conducted some other tasks during both sessions, but these are not relevant here.

Knowledge Domain

We selected nutrition and food as the knowledge domain of interest because it met two major criteria. First, we needed a knowledge domain in which formal training is usually available. The food and nutrition knowledge domain fulfilled this criteria because formal training programs on nutrition are available in most colleges and universities. Second, we needed a knowledge domain in which people can acquire knowledge through experience, rather than formal training. Again, the

food and nutrition knowledge domain met this criteria. People not only make food decisions daily, but are being constantly exposed to nutritional information and concepts through the general media and processed food labels. Thus, they have ample opportunity to learn about food and nutrition without undergoing formal training. In addition, because food is important to health and well being, people are likely to be motivated to acquire such knowledge.

Subject Characteristics

In order to generate evidence on the issues raised above we needed two heterogeneous groups of subjects. We needed subjects who differed in the extent of their knowledge, formal training, and experience, about food and nutrition. One group of subjects had to have learned about food and nutrition through formal programs, such as college courses, that provide objective feedback on the learning that has occurred. A second group of subjects had to be not only relatively less knowledgeable than the first group, but to have learned about food and nutrition more through experience, rather than formal training. Consequently, we used two very different groups of subjects in this study--housewives and undergraduate students in nutrition.

Altogether 62 women participated in this study. Thirty one were female undergraduate students majoring in nutrition at a large eastern university. The remaining 31 subjects were adult women, mostly housewives, who resided in the same town as the university. However, data for four subjects had to be dropped because they either did not complete the procedures or were adult women who had had college level courses in nutrition. Since these latter subjects had learned about food and nutrition through both experience and formal training they did not meet our needs for subjects who had learned mostly through experience or formal training, but not both. Hence, they were dropped. Subjects were paid \$5 per hour for their participation.

The average adult woman in the sample was 36 years old, married, had 2 children, and a family income between \$15,000 and \$20,000. She had 15 years of formal education, cooked about 83% of the family meals and bought 82% of the food for the household. None of them had college level courses in nutrition.

The average student was a 22 year old single woman, lived in a household of 2.4 people, and had about 15.6 years of formal education. She prepared about 69% of the meals in her household and bought about 75% of the food. Since all these students were nutrition majors they had had formal college level courses in nutrition.

As this description indicates, the housewives had greater responsibilities and broader experience in choosing foods, whereas the students had more formal education in nutrition. Thus, the undergraduate nutrition students were likely to have acquired their knowledge about food and nutrition through college level course. The housewives, on the other hand, were likely to have acquired their

⁴Kanwar, Olson and Sims (1981) define this property of knowledge structures as dimensionality.

knowledge through their greater experience in making food choices.

Procedures

As mentioned earlier, the free elicitation procedure was administered during the first of the two sessions. Briefly, for this procedure, subjects were told to verbalize all the thoughts they had in response to a word the researcher would say (e.g., nutrition). Subjects were also told that the same procedure would be repeated with several words.

The procedure was first carried out with a practice probe to make sure that the subject understood the procedure. The researcher said the word "cars" and recorded the subjects responses (first level responses) to this probe on a pre-developed form. Whenever the subject stopped talking, the researcher asked her if she had any more thoughts. If she did, they were recorded as described. If she did not, the researcher picked the initial response to the "car" probe and used it as a probe, again recording her responses. After the subject had finished articulating her (second level) thoughts to this probe, the researcher used the next first level response as a probe. The researcher conducted this procedure until all first level responses had been used as probes. Once the subject had understood the procedure the researcher conducted the free elicitation procedure, as described above, for each of six pre-selected probes. The six probes were presented in a random order for each subject. The entire session was unobtrusively tape recorded with the subject's permission.

The six probes used in this study were selected because pre-tests and previous work had demonstrated that these concepts were effective in tapping different portions of consumers' knowledge structures for food and nutrition.

Two judges later used transcripts of the tape recorded elicitations to code it for the number of unique nutritional concepts elicited. To aid them in the coding, the judges used a pre-developed list of food and nutritional concepts. The inter-judge reliability was above .8. Disagreements between the two judges were resolved by a third judge.

The questionnaire used to measure subjects knowledge in this study was developed on the basis of the questionnaire used by Kanwar, Olson, and Sims (1981). Since Cronbach's Alpha for the 23 item questionnaire developed by these authors was only .68, the questionnaire was expanded to 85 factual multiple-choice questions on food and nutrition. These items were selected from a larger set of questions used in nutritional research. The questionnaire was tested with 150 undergraduate business students at a major south eastern university. Cronbach's Alpha for this expanded questionnaire was .84. As is common, the total number of correct responses to this questionnaire was used as an indicator of subjects knowledge about nutrition. The questionnaire also contained questions on subjects' demographic characteristics and nutritional education levels, in addition to a single

item 10 point scale designed to measure subjects' self-perceptions about their nutritional knowledge.

RESULTS

Table 1 presents the results of this study. As this table shows, the self-report measure of knowledge was significantly correlated with the scores on the knowledge test, for subjects who had had formal training in nutrition. However, for subjects who had not had such training, the correlation was not significant. Thus, the results support the first hypothesis. Consumers who have had formal training are able to assess their knowledge more accurately than subjects who have acquired their knowledge about a domain through informal means.

As Table 1 shows, the results also supported the second hypothesis. For consumers who did not have formal training in nutrition, the free elicitation measure of knowledge was significantly correlated with subjects "self-assessment" of their knowledge about nutrition. However, the correlation was not statistically significant for subjects who had had formal training. Thus, it seems that when people are in doubt about their level of expertise in a knowledge domain, they use the number of concepts that they can recall from memory to make judgments about their expertise in the domain. But, people who have undergone formal training in a domain, receiving formal feedback during this process (as in college courses), are likely to rely on the more accurate formal feedback (e.g., performance on examinations) to judge their knowledge.

DISCUSSION

As we mentioned earlier, researchers have commonly used a variety of direct and indirect methods to measure knowledge. Recent research on the validity of these measures has been equivocal, with some studies reporting high convergent validity, and others reporting low or no convergent validity, between the different methods. This study provides an explanation for these inconsistent results. For example the results of this study explain why Kanwar, Olson and Sims (1981) found insignificant correlations between objective measures of knowledge and the free elicitation and repertory grid measures of knowledge. These authors used secretaries and housewives as subjects. This study's results suggest that the insignificant correlations occurred because such subjects are unlikely to have had formal training in nutrition. If these authors had used people who had had formal training in nutrition, the results may have been quite different.

In sum, this study's results suggest that alternative measures of knowledge may be equally valid under some circumstances, but not others. For instance, indirect and direct measures such as self-reports and objective tests are equally valid for measuring the knowledge levels of people who have had formal training in the domain of interest, but not for people who have not had such training. This difference arises because people who have had formal

TABLE 1
 Correlations Between the Free Elicitation, Paper-and-Pencil, and Self-Report Measures of Knowledge for People With, and Without, Formal Training in Nutrition.

	Self-Report (or Self-assessed) Measure Of Knowledge	
	Yes	No
1. Knowledge Score	.43*	.25
2. Free Elicitation	-.08	.49*

Note: Correlations greater than .4 are significant at $p < .05$.

training in the domain seem to use different criteria to evaluate their knowledge about a domain than people who lack formal training. The latter, in the absence of formal evaluation of their knowledge about a domain, appear to use criteria such as how much information they can recall from memory to evaluate their knowledge about a domain. However, those with formal training are able to evaluate their knowledge about a subject more objectively because of the feedback they have received during their training or education.

However, the results of a single study can not be used to make major generalizations without further research. First, similar research must be conducted with knowledge domains other than food and nutrition. Second, this study was based on just three methods of measuring knowledge-- self-reports, free elicitation, and objective tests. However, several other methods such as product ownership, usage experience, the repertory grid, and response times (see Mitchell 1982), have also been used to measure knowledge. Research is needed to determine if the results of this study are also true for these methods. Third, some caution must be used in interpreting the results of this study because undergraduate students, unlike housewives, are constantly exposed to multiple choice tests. Thus, students may outperform housewives on such tests not because they have greater knowledge in the domain of interest, but because they are more proficient in taking multiple choice tests. Consequently, this study's results may reflect such differences in the test taking abilities of housewives and students. Finally, the relatively small sample size, although acceptable in an exploratory study, may have limited the power of the study. Future studies can address the latter two problems by using larger samples of subjects who have similar backgrounds except for the source of their learning-- experience or formal training.

In conclusion, this study's results suggest that researchers investigating the effects of knowledge on behavior must be careful in their

selection of the methods they use to measure knowledge in a domain. Not all measures are equally valid for all subjects. The methods used to measure knowledge must be suited to the characteristics of the subjects used in the study. Otherwise, the research is likely to result in misleading conclusions.

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Individual Differences in Value Stability: Are We Really Tapping True Values?

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ABSTRACT

A study was conducted which examined individual differences in the stability of a target value in the Rokeach Value Survey (RVS). Participants in the experimental conditions received a persuasive communication arguing for social recognition (a Rokeach terminal value) or one arguing against social recognition. Participants in the control condition received no communication. All participants ranked and rated the values of the RVS and completed a scale measuring private self-consciousness. As predicted, a significant persuasion by private self-consciousness interaction was observed for the evaluation of the value social recognition, indicating that those low in self-consciousness were more persuaded by the manipulations than participants high in self-consciousness. Discussion considers the theoretical implications for uses of value scales in marketing and consumer behavior.

INTRODUCTION

The last fifteen years have seen an increasing interest in research on values and their relationship to consumer behavior. Since Rokeach (1973) first developed the Rokeach Value Survey (RVS), consumer researchers have had a relatively easy instrument with which to attempt to assess personal values. With this in hand they have suggested that relationships exist between values and purchase of a particular product class (Howard 1977), choice criteria for a variety of products and services (Pitts and Woodside 1983, 1984; Vinson, Scott and Lamont 1977) and measures of advertising effectiveness (Sherrell, Hair and Bush 1984). Some have critiqued the RVS (Munson 1984), while others have offered other instruments for value assessment (Holman 1984; Kahle, Beatty and Homer 1986). Finally, the use of values as a market segmentation tool has been suggested (Kahle and Kennedy 1988).

While some have evaluated the validity of the RVS, the results have been decidedly mixed (Coyne 1988; Thompson, Levitov and Miederhoff 1982). Little research has investigated the ability of self-report surveys to accurately ascertain an individual's true value structure. This paper addresses these concerns, presents a study which indicates that individual differences may moderate such self-report tasks, and suggests weaknesses in a priori assumptions of links between values and behavior.

Values as a Construct

Values are considered to be relatively enduring beliefs that individuals possess and these beliefs are prescriptions for behavior (Rokeach 1973). As both Kluckhohn (1951) and Rokeach

(1973) indicate, values are statements of the ideal. That is, our values tend to suggest positive modes of behavior and positive ends. As Kluckhohn says, values are a statement of the desirable, not what the person may actually desire. In other words, they are often the conceptualization of how one *ought* to act in a situation, rather than how one *wants* to act.

Values have been defined in a variety of ways, although their abstract nature and endurance tend to be central to most definitions. Rokeach defines a value as "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence (Rokeach 1973, p. 5)." Kahle calls values "social cognitions and adaptation abstractions" which involve preferences or evaluations (Kahle 1984, p. 7). Posner and Munson (1979) state that values consist of beliefs about what the individual considers just, fair, or desirable.

Values have generally been distinguished from attitudes, which are considered to be less abstract than values. Rokeach (1973), for example, states that an attitude refers to an organization of beliefs around a specific object or situation, while a value refers to a specific belief. Rokeach sees values as occupying a central position in the individual's cognitive makeup. Values serve to guide actions, attitudes and judgments, and therefore are determinants of attitudes as well as behavior. As Rokeach points out, others (Allport 1961; Watson 1966; Woodruff 1942) have also noted this relationship of attitudes depending on or reflecting values.

It has generally been assumed that values guide behavior, although evidence of strong relationships between values and behavior is virtually nonexistent. While it is not essential that values be related to behavior to hold that values exist as mental entities, the usefulness of values as an explanatory construct is weakened to the extent that they show little relationship to behavior.

Value Surveys

Virtually all contemporary methods for assessing personal values involve a self-report survey instrument. These procedures require subjects to either rank a set of values (the RVS, Rokeach 1973) or rate values on a Likert-type scale (the LOV Scale, Kahle, Beatty and Homer 1986). The assumption is that subjects are able to access their value structures and accurately detail this structure in the ranking or rating procedures.

Alternative explanations are also reasonable. It could be that when confronted with a value instrument, some individuals merely indicate their *attitudes* towards these words rather than accessing

inner feelings regarding *enduring beliefs*. The effectiveness of the scale then relies on the extent to which these attitudes accurately reflect the more abstract value structure. It is also reasonable to assume that there are individual differences in the ability to accurately report value structures. Some individuals may be better able to report their abstract values than others, depending on the extent to which they have considered their values in the past.

Should this be the case, a variety of implications exist. First, if the individual is not adept at accessing true values, the choice of values may indeed more closely approximate an attitude judgment. The reported value structure then may be dependent upon the myriad of situational demands which affect such attitude judgments. Secondly, the causal chain is called into question. If indeed, as Bem (1972) asserts, attitudes can be inferred from behavior, then it is reasonable to assume that the reported values might also be inferred from behavior. Finally, if the reported values more closely resemble attitude judgments, then the stability or consistency of the stated values should be low. This would call into question the legitimacy of the reported value as an "enduring belief."

Individual Differences

One individual difference variable which may differentiate responses to a value survey is private self-consciousness, as defined by Fenigstein, Scheier and Buss (1975). They define the construct as "the consistent tendency of persons to direct attention inward (p. 522)." Thus, private self-consciousness is the tendency to be aware of inner aspects of the self, and people high in private self-consciousness should be "particularly conscious of their own thoughts, feelings, attitudes, motives and behavioral tendencies (Carver and Scheier 1981, p. 46)." By such definitions, it is reasonable to expect that those high in private self-consciousness would be more aware of their values and value structure, and the part it plays in their psychological makeup. Given this, it would also be reasonable to think that this heightened awareness of personal values should lead to increased "sureness" with regard to the importance of particular values, and should therefore prove to be more impervious to manipulation. Others have found results supporting this line of reasoning. Scheier, Carver and Gibbons (1979) found subjects high in private self-consciousness to be more resistant to external suggestibility; Froming and Carver (1981) found private self-consciousness to be inversely correlated with compliance.

With this in mind, a study was designed to test the following hypotheses:

H1: Individuals scoring low in private self-consciousness will show a significant difference in value assessment as a function of a persuasive communication aimed at altering their evaluation of one of the values.

H2: Individuals scoring high in private self-consciousness will be unaffected by persuasive communications intended to change their assessments of particular values.

It was hypothesized that there would be a difference in the effectiveness of the persuasive communication depending on the degree of private self-consciousness. People high in private self-consciousness presumably have better and easier access to their inner motives and attitudes, and hence their values as well. They also presumably access this information, or self-schema more frequently, and this leads to enhanced availability of the schema (Carver and Scheier 1978) and a greater likelihood that the schema will be reaccessed and used (Srull and Wyer 1979, 1980). Consequently, they should be more confident of their value structures and hence less prone to a persuasive manipulation than individuals who are low in self-consciousness. On the other hand, individuals who are low in private self-consciousness, because they are less aware of their values, would be expected to be persuaded by the manipulation. Low self-conscious individuals receiving a communication arguing for a particular value should evaluate that value more positively than individuals receiving a communication arguing against the value.

METHOD

Participants

The participants in the study were a convenience sample of 130 undergraduate students in an introductory course at a large midwestern university. Participation in the study satisfied a course requirement.

Design and Overview

The study was a 3 (persuasive communication manipulation) X 2 (order of value surveys) X 2 (high private self-conscious vs. low private self-conscious participants) factorial design. Participants either received a written persuasive communication arguing in favor of social recognition (a Rokeach terminal value), a persuasive communication arguing against social recognition, or received no communication (the control). To avoid experimental demand neither of the communications explicitly used the term social recognition, rather they talked in terms that were deemed to be related to the value social recognition. It was anticipated that these communications would make salient either positive or negative aspects of one's concern with the recognition of others. Participants then completed the Rokeach Value Survey in one of two orders. Half of the participants received the terminal values to evaluate first, then the instrumental values while the other half received these in the opposite order. The third factor was the level of private self-consciousness of the participants as determined by their score on a private self-consciousness scale.

Procedure

Participants were told that they would be completing several studies during the course of the experimental hour. Participants in the two persuasive communication conditions received written instructions which explained that the first study was part of a project designed to assess message content. The communication was said to have been excerpted from an article written by a syndicated columnist and had appeared in a national news magazine. After reading the excerpt, the next page of the booklet asked questions related to their recall as well as the content, clarity, appropriateness, etc. of the message. A manipulation check asking if they agreed or disagreed with the writer's position was included in this page of questions.

All participants were next administered a Rokeach Value Survey of instrumental and terminal values and asked to rank these as suggested by Rokeach. For participants who had experienced a persuasive communication (the experimental conditions), the value survey was introduced by a new experimenter and they were told that the questionnaire to follow was a different study. Half of the participants received the instrumental value set first while the other half received the terminal set first. After rank ordering the two sets of values, the next page of the booklet asked the participants to go back and assign a number from 0 through 10 to each value to indicate its importance to them from "no importance" to "extreme importance."¹

After completing the value survey, the participants proceeded to the next part of the booklet which contained the ten-item private self-consciousness questionnaire. The instructions indicated that the participants should evaluate each of the items on the 6-point scales with end points of "certainly, always true" to "certainly, always false."

RESULTS

The manipulation check of the effectiveness of the persuasive communications was the question of whether the participants agreed, disagreed, or had no opinion regarding the position advocated in the written communication. Across both persuasive communication conditions, 78.8% of the participants agreed with the position advocated by the communication that they read, 12.5% indicated that they had no opinion, while only 8.8% disagreed. There were differences across the two conditions, with a greater likelihood for participants

in the pro condition to agree with the communication (89.7%) compared to participants in the against social recognition condition (68.3%).

Because some concern has been expressed regarding the factor purity of the Fenigstein, Scheier and Buss self-consciousness scale (Burnkrant and Page 1984; Mittal and Balasubramanian 1987), a factor analysis was performed on the ten-item scale (principal axis factoring with varimax rotation). As was found in the aforementioned studies, the private self-consciousness scale yielded two dimensions (rather than one as postulated by Fenigstein, Scheier and Buss): self-reflectiveness and internal state awareness. Table 1 presents the results of this factor analysis. The first factor, *self-reflectiveness*, relates to the extent to which individuals examine their motives while the second, *internal state awareness*, deals primarily with awareness of feeling states. Two of the ten items did not reliably load on either dimension. The self-reflectiveness dimension was deemed to be the most appropriate as an indication of the extent to which a person would be aware of their values and thus more appropriate for the current analysis.

Therefore, the five item self-reflectiveness subscale was used to divide the participants into low and high private self-consciousness conditions. (Even though the scale more accurately assesses self-reflectiveness, we will continue to use the term private self-consciousness for the sake of continuity in this paper.) The Cronbach's Alpha for the scale was .78, indicating high internal consistency. Participants were then classified as being high or low in private self-consciousness based on a median split of their total score on the five items of the self-reflectiveness subscale.

In the present study, the dependent measures of interest were the participants' ranking and rating of the value *social recognition*. An analysis of variance was performed on each of these measures with the independent variables being manipulation condition, order of values measured, and level of private self-consciousness of each participant. (The rankings of the values were transformed following the approach recommended by Hays (1967) and used by Pitts and Woodside (1984) such that they could be analyzed using parametric techniques.)

A similar pattern of results were obtained for the ranking and rating of the value *social recognition*, therefore, for the sake of brevity only the results relating to the rating of the value will be presented here. As predicted, there was a significant persuasion by private self-consciousness interaction effect ($F(2,118) = 7.92, p < .001$). Figure 1 shows this interaction effect for the *ratings* of the value *social recognition*.

As is clear from Figure 1, the persuasive communication had the expected effect in the case of participants low in private self-consciousness. That is, participants low in private self-consciousness who read a communication advocating social recognition rated it more positively than participants reading a communication against social recognition and more positively than the control

¹Both a ranking and rating of the Rokeach Values were included in this study. The ranking was included as this is what was originally recommended by Rokeach and is commonly used. A paper currently in preparation by the authors suggests, however, that a rating of each value may be preferable to the typical ranking. Therefore, both ranking and rating measures were collected in this study.

TABLE 1
Factors and Factor Loadings of the Self-Consciousness Scale

Scale Item	Factor 1	Factor 2
<u>Self-Reflectiveness</u>		
I'm always trying to figure myself out.	.74	-.26
I reflect about myself a lot.	.77	.03
I'm often the subject of my own fantasies.	.52	-.02
I'm constantly examining my motives.	.67	.27
I sometimes have the feeling that I'm off somewhere watching myself.	.58	.13
<u>Internal State Awareness</u>		
I'm generally attentive to my inner feelings.	.16	.82
I'm alert to changes in my mood.	.26	.41
I'm aware of the way my mind works when I work through a problem.	-.05	.47
<u>Neither Dimension</u>		
Generally, I'm not very aware of myself.	.16	-.35
I never scrutinize myself.	-.36	.20

Note - Items with loadings at least half the highest loading are considered as part of a factor.

group. An analysis of the simple main effect of persuasion among participants low in self-consciousness indicated that this pattern of mean differences was significantly different ($F(2,118) = 6.61, p < .002$).

It was anticipated that there would be little or no effect of the manipulation on participants high in private self-consciousness. Figure 1 suggests a slight shift in the opposite direction among these participants. An analysis of the simple main effect of persuasion among participants high in self-consciousness indicates, however, that these means did not differ significantly ($F(2,118) = 2.38, p > .09$). Therefore, the interaction effect was due primarily to the differences in means among participants low in private self-consciousness, as predicted.

Although not predicted, an order by private self-consciousness interaction was observed ($F(1,118) = 7.45, p < .01$). Figure 2 presents this interaction for the rating of social recognition. As the figure indicates, the order in which the values were rated had an effect on the evaluation of the specific value social recognition. An analysis of the simple main effects of order at each level of self-consciousness indicates that the differences in the rating of social recognition for individuals low in self-consciousness was significant ($F(1,118) = 10.01, p < .005$), while the slight difference in the means for the two orders of evaluation for the high self-conscious participants was not ($F(2,118) = .53, p > .40$). Therefore, there was less stability in the evaluation of the value social recognition as a function of order among participants low in private self-consciousness than among high private self-conscious participants. Participants low in private

self-consciousness rated social recognition (a terminal value) higher when it was evaluated before the instrumental set of values than when it and the other terminal values were rated after the instrumental set. The rating of social recognition among high private self-conscious individuals was resistant to the effects of the order of the evaluations.

DISCUSSION

The results of this study provide considerable support for our reasoning that degrees of private self-consciousness are related to value stability. This was shown by the differences in the evaluation of the value social recognition as a function of the nature of the persuasion and the level of private self-consciousness of the participants. It was found that the reported values of the participants low in private self-consciousness were more affected by the communications arguing for or against social recognition than were the reported values of participants who were high in private self-consciousness. The stability among those high in private self-consciousness was anticipated because it was assumed that they were more "in touch" with their values and hence their beliefs about the value were more resistant to the effects of the mild persuasion effort presented in the experiment. Therefore, the hypotheses of this study were strongly supported by the results.

A potential alternative explanation of the results of this study is experimental demand. To the extent that participants low in self-consciousness are more compliant (Froming and Carver 1981), they may be more likely to indicate a shift in their beliefs about social recognition because they

FIGURE 1
Mean Ratings of Social Recognition By Persuasion Condition and Level of Self-Consciousness

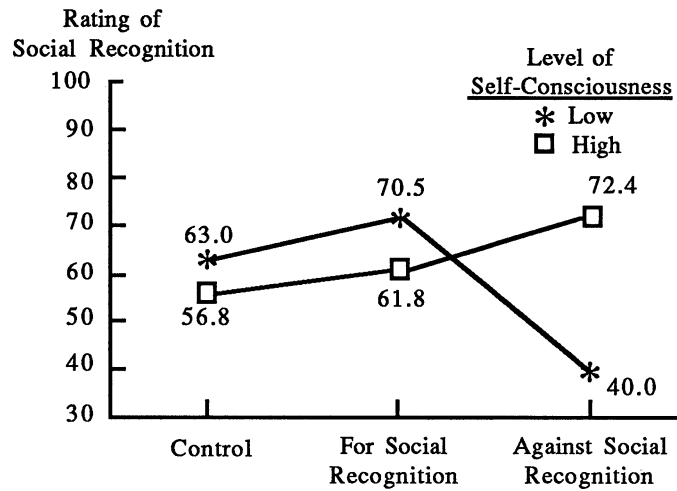
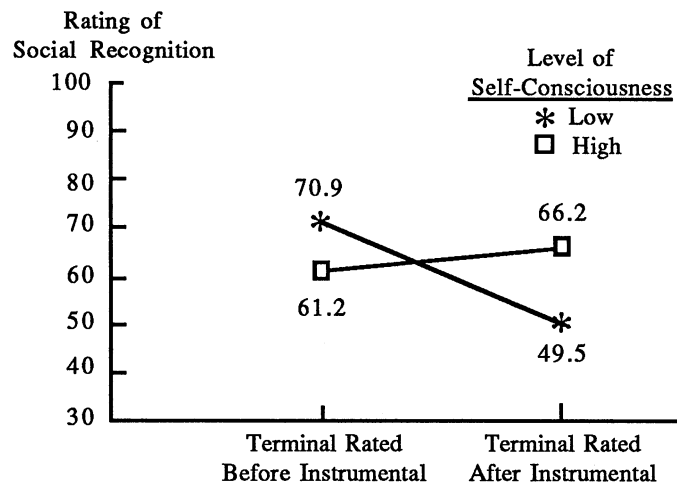


FIGURE 2
Mean Ratings of Social Recognition By Order of Value Surveys and Level of Self-Consciousness



believed that is what they were supposed to do. While this demand explanation can not be entirely ruled out, pilot testing of the research instruments and procedure showed no indication that experimental demand would be a problem. Furthermore, during the experiment, participants were lead to believe that reading of the communications and the completing of the value surveys were parts of entirely different tasks for different experimenters.

A relationship between order of instrumental and terminal values and degree of private self-consciousness was found in this study. Although this effect was not specifically predicted, it is consistent with the reasoning of the current authors regarding the extent to which different participants are aware of their value structure. Differences in the evaluation of the value social recognition were found for participants low in private self-consciousness as a function of order of the evaluation of the values; this order effect was not apparent for those scoring

high in private self-consciousness. Since those low in private self-consciousness were presumably less aware of their self-schema and values than persons high in private self-consciousness, the order in which they evaluated the various values appears to have affected their evaluation of the value social recognition. Individuals who were high in self-consciousness were more aware of their values and hence their evaluations of any particular value were not affected by the order in which the evaluations were made.

The study raises some interesting questions regarding value surveys, their generalizability, and their use in consumer behavior and market segmentation. The results seem to indicate that true values are not so easy to capture, especially via self-reported value scales. Such self-report tasks may indeed capture the value structure for *some people*, but it may be highly dependent on the extent to which the individuals typically engage in self-reflection. On the one hand, individuals who typically engage in self-reflection may be able to report their values fairly accurately. On the other hand, individuals who are not self-reflective may have difficulty assessing their true values when confronted with a value instrument and may therefore default to the easier task of inferring their beliefs about their values from recent behaviors. If this is the case, then clearly any behavioral predictions or segmentation conclusions based on this type of data is somewhat risky, particularly for individuals who are not self-reflective and who do not consider their values routinely. Perhaps a more in-depth or comprehensive questionnaire which assesses a wider scope of values, attitudes and behaviors might be more useful and provide a more reliable measure of the predispositions that affect some individuals' consumption behavior. Clearly, the relation of values to consumption behavior is an important area of concern; this study simply indicates that more work is necessary in the assessment and measurement of consumer values.

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Issues in Measuring Abstract Constructs

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INTRODUCTION

The three papers presented in this competitive session attempt to clarify different constructs of involvement, knowledge and values. The paper by Jain and Srinivasan deals with trying to reduce a large number of possible indicators of involvement to a small number and then interpreting the resulting grouping of items as types of involvement. The paper by Kanwar, Grund and Olson attempts to demonstrate that self-report measures of knowledge may be representative of objective knowledge structures when elicited from people formally trained in that area. The paper by Shrum, McCarty and Loeffler looks at the interaction between private self-consciousness and value stability. The link among the papers lies only in their attempt to clarify the abstract constructs, therefore each paper will be discussed separately.

"AN EMPIRICAL ASSESSMENT OF MULTIPLE OPERATIONALIZATIONS OF INVOLVEMENT"

In the last five years I have read more than a dozen papers on improving measures of involvement. This fact leads me to believe that when a researcher disagrees with how others have offered to measure involvement, that researcher feels it is easy to construct their own "better" or more suitable measure of involvement. This is truly a noble cause, however, I believe it is difficult to improve on a measure in a purely empirical fashion as attempted in this paper.

First of all the present paper draws on items reported in several studies on involvement. However, the items in each of the previous studies were developed for several different purposes based on different conceptualizations of involvement. Laurent and Kapferer (1985) wanted to measure involvement with products and first conceptualized involvement as having five facets, namely importance, pleasure, sign-value, risk probability and risk importance. Therefore, they developed items to represent five dimensions. On factoring the items, they found importance and risk importance of the product to be indistinguishable in the minds of their respondents. Zaichkowsky (1985) developed a context-free measure of involvement applicable to products, advertisements and purchase decisions. Items were selected for the scale by "expert judges" to represent a single definition of involvement, namely personal relevance as reflected by needs, values and interest. Ratchford (1987) items related the decision of purchasing a product, not involvement with the product per se. The scales by Higie and Feick (1989) and McQuarrie and Munsen (1987) incorporate several items from Zaichkowsky (1985) along with items that these researchers subjectively felt captured a more hedonic enduring aspect of involvement with products.

I am unsure of the usefulness of combining measures developed for different purposes to see what emerges. Basically, you will get out what you put in. If you put five dimensions in, you should get five dimensions out. That aside, let me comment on the methodology. There is great variation due to the 10 products. Two products are more hedonic (chocolate, cologne) than the others and should elicit a different factor structure (Zaichkowsky, 1987). I would guess, based on my own experience, that if we factored each product separately, a different solution or structure would appear for each product. Some products are just very different in the type of involvement they elicit. This fact is demonstrated in Table 5 of the Jain and Srinivasan paper. What are the implications of irrelevant dimensions for some products?

What the Jain and Srinivasan paper contributes is another measure of five facets of involvement. If shorter is better, then maybe it is better, but there is no test of stability of the 15 item scale, criterion validity is not checked and the construct validity study provided is vague. Who were the respondents, what was the sample size, and what was the context of the study? Conceptually, what is the relevance of the five facets of involvement found in Tables 4 and 5? This part of the paper needs much more elaboration.

The bottom line is that this paper empirically offers the literature some variations on current measures of involvement. The success of the paper may be left to other researchers' use of the suggested measures. This is now a cold topic for consumer behavior researchers. I do not think there is much interest in one more paper that empirically attempts to suggest a better measure of involvement. However, let me leave the researchers with some ideas on what I think would be a more interesting study on the structure of involvement. Given that (1) there is a great variation among products on average level of involvement, (2) people vary widely on their level of product involvement, and (3) there seems to be different types of involvement, a three-mode factor analysis may shed light on the product/person/facet of involvement structure. This would allow us to investigate the different relationships between products, involvement and people. In other words, what kind of people view what kind of products in what view of involvement? Some products may be mainly pleasure products and some mainly risk products. What kind of people view haircuts as hedonic and what kind of people view haircuts as mainly risk? These types of questions are conceptually interesting to me as an involvement researcher. I hope the researchers continue to do work in this area, but implore them to move on from measuring involvement to discovering relationships between consumer behavior and levels of involvement.

"WHEN DO MEASURES OF KNOWLEDGE MEASURE WHAT WE THINK THEY ARE MEASURING?"

The clarification of the concept of knowledge, the process by which we acquire knowledge, and the implications of having knowledge are of fundamental concern to consumer behavior researchers. I would like to think that we all know that simple subjective self-report measures of knowledge are not representative of true objective knowledge structures. However, this paper tries to demonstrate that self-report measures may be correlated with more complex measures when dealing with experts -- experts being defined here as those with formal training. It also suggests that a free-elicitation method of abstracting knowledge is associated with self-reports of knowledge from non-experts. To me there are some complex issues here that have to do with knowledge obtained by experience versus knowledge obtained by training which may be germane to the argument at hand.

That aside, the first problem I had was understanding the free-elicitation method and its validity as a measure of knowledge. I would like to know what the six probes were for nutrition and the number of responses elicited for each group under each probe. The pre-developed list of food and nutrition concepts seems crucial for coding. Where did it come from? How valid is the list?

The decision to increase the objective knowledge test from 23 items to 85 items to increase reliability is misleading. A Cronbach Alpha of .68 for the 23 item test is actually more reliable than the .84 Alpha for the 85 item test. The formula (Nunnally, 1978) for deciding the number of items based on the reliability desired is:

$$k = \frac{r_{kk}(1-r_{11})}{r_{11}(1-r_{kk})}$$

where r_{kk} = desired reliability
 r_{11} = reliability of existing test
 k = number of times test would have to be lengthened (shortened) to obtain reliability of r_{kk} .

Given a reliability of .68 on a 23 item test and a desired reliability of .85, we can solve for

$$k = \frac{.85(1-.68)}{.68(1-.85)} = 2.67$$

Therefore, 2.67 x 23 items = 61 items should give a reliability of .85. The reliability of .84 on 85 items indicates less reliability than the original 23 item test. Clearly some of the 85 items should have been omitted due to low item-to-total correlations. There is no indication if the 85 items are a good measure of nutrition knowledge. We are not told what average scores were on the 85 items or what the variation in scores were among the groups.

Given that the two groups differed in age, marital status and probably with quantity of direct experience with food preparation, it is likely that the free elicitation method tapped into the subjects' knowledge based on prior use. In my research, I find experience or prior product use and subjective knowledge are usually correlated, while prior product use and objective knowledge are not necessarily correlated (Zaichkowsky, 1985b). Is that what we find in Table 1 where free elicitation and subject knowledge are correlated for housewives but not students?

In conclusion, I think the researchers are working in an important but difficult area. As a whole, I believe the topic area is tepid. The reason I say this is because special ACR sessions about knowledge and its relation to other constructs were rejected based on a low level of interest by other researchers. It may not be fashionable to work on this area, but I think many contributions are still to be made with respect to knowledge structures.

"INDIVIDUAL DIFFERENCES IN VALUE STABILITY"

The contribution of this paper is that it nicely demonstrates causes for instability in doing research on values. The usefulness of the construct "self-consciousness" as a covariate for all researchers who work on values is made explicit. This assumes, of course, normality of the data presented in this paper. I could not assess this point accurately, given the presentation of the data. Therefore, I would like to address the data analysis to raise some concerns I had about the paper and the methods used by the researchers.

First of all, the power of the experiment appears very low. If there were 12 treatments (3 communication x 2 order x 2 self-consciousness = 12 cells) and only 130 subjects, then only about 10 people appeared in each cell. Additionally, cell sizes were likely very unequal due to splitting on the self-consciousness measures. The authors were careful not to report on the exact number of people in each treatment. If the distribution among cells was very skewed with these small cell sizes, the reliability of the data analyses as a whole could be questionable.

The manipulation check suffers from a lack of significance testing. The categorical data seems to be open to a chi-square test. I would suggest future work using a scale similar to strongly disagree (1), disagree (2), neither agree nor disagree (3), agree (4), strongly disagree (5), and then do a t-test between groups to determine the strength of the manipulation. Also, one manipulation check question might not be enough. I would suggest two or three for reliability of the measure.

The authors' decision to cut up the self-consciousness scale baffles me. Conceptually an eloquent argument was made for self-consciousness, then some items were picked from the scale and called self-reflectiveness, but the authors continue to refer to self-consciousness. I take issue here with the usefulness of the information in Table 1. A

major question is what percent of the variance is accounted for by the first and second factor? If the first factor accounts for most of variance, then a unidimensional scale of self-consciousness exists. Conceptually, I do not see any difference between self-reflectiveness and internal state awareness. I see no content validity in saying that the item "I sometimes have the feeling that I'm off somewhere watching myself" represents the extent to which individuals examine their motivations and not awareness of feeling states, while the item "I'm aware of the way my mind works when I work through a problem" represents awareness of feeling states and not the extent to which individuals examine their motivations. The point I am trying to make here is that the authors have fiddled with the self-consciousness scale without proving they have done so in a valid and reliable manner. This raises the question in my mind "did the researchers use the full scale and find it didn't work, then scramble to data massaging to 'prove' their hypothesis?"

The authors do not tell us the median score that was used to divide the sample into high and low consciousness. Was it two or three on this five-point scale? Are people who scored two significantly different than people who scored three? Given this split and the likely unequal and small cell sizes, the authors report some strong effects on their dependent variable. Besides the significance of the independent variables, the authors need to report the amount of variance (omega squared) accounted for by each variable. This would give the reader a much better indication of the importance of order self-consciousness and message when measuring values.

Despite the methodological flaws, I really liked this paper as it had a strong conceptual argument. I feel the topic of 'values' will be hot for consumer researchers, mainly due to shifting values of consumers and how that shift reflects on their consumption patterns, for example, the success of green products in grocery stores. Some major issues to address in this line of research are the stability of manipulated values and interaction of overt behavior. If we can easily manipulate values of some people, what is the effect over time? Once a value is manipulated some way, can it be manipulated back to the original point with further communication? Does there have to be an overt commitment to the value via behavior to stabilize the value? We need more studies over long time periods to shed light on the above points. In conclusion, I would encourage the authors to continue research in this area.

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Ad Affect, Brand Attitude, and Choice: The Moderating Roles of Delay and Involvement

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INTRODUCTION

Marketers have long assumed that an individual's reactions toward an advertisement has an impact on their evaluation of an advertised brand and subsequent purchase decision. Based on this assumption, marketers have routinely measured audience reaction to ads (e.g., Schlinger 1979). Recently, Mitchell and Olson (1981) and Shimp (1981) have attempted to present a framework that tries to make explicit the relationship between an individual's responses to an ad and brand attitude judgements. They suggest that the effects of an individual's reactions to an advertisement on brand attitude are mediated by the construct attitude toward the ad. Mitchell and Olson (1981) also present empirical evidence in support of this proposition.

Following the pioneering work of Mitchell and Olson (1981) and Shimp (1981), a number of marketing researchers have theorized about and investigated the relationship between attitude toward the advertisement and consumer decisions under a variety of situations (e.g., Lutz, MacKenzie and Belch 1983; MacKenzie, Lutz and Belch 1986; Mitchell 1986; Moore and Hutchinson 1985; Park and Young 1986). A review of this research reveals that notwithstanding a growing body of research on the effects of attitude toward the ad on brand attitude, there are several limitations in our understanding of the relationship between attitude toward the ad and consumer decision making.

First, with the exception of the work of Moore and Hutchinson (1983, 1985), there is no research that has examined either the temporal stability of ad attitude or the relationship between ad attitude and brand attitude over time^{2,3}. Research

on this topic is important as the effect of ad attitude on brand attitude observed immediately following exposure may change over time.

Second, recent conceptual developments in psychology (e.g., Petty and Cacioppo 1981), their conceptual extension to the marketing context, and empirical tests of these ideas (e.g., Lutz 1985; Park and Young 1986) indicate that the effects of ad attitude on brand attitude judgement are moderated by the degree to which the message recipient is involved (Petty, Cacioppo and Schumann 1983) with processing the message. In situations characterized as low involvement, ad attitude has a bigger impact on brand attitude compared to situations characterized as high involvement. Given the differential impact of ad attitude on brand attitude as a function of message processing involvement, the relationship between ad attitude and brand attitude is likely to be influenced differentially with the passage of time. Since the effect of ad attitude on brand attitude is larger under low involvement, the relationship is likely to change more in cases where the initial attitude is formed under low involvement compared to when it is formed under high involvement.

Third, previous research has not examined the effects of ad attitude on choice behavior. It is not adequate to assume that the relationship between ad attitude and brand attitude will simply generalize to choice as there is evidence to suggest that the antecedents of attitude and choice may be different (e.g., Chattopadhyay and Alba 1988; Loken and Hoverstadt 1985).

This research seeks to examine (a) whether the effects of ad attitude on brand attitude are stable over time, (b) the effect of involvement at the time of processing the message on the ad attitude-brand attitude relationship over time, and (c) the role of ad attitude in influencing choice behavior.

EXPERIMENT

Using a 2x2x2 between subjects design the effects of ad attitude (neutral and positive) on brand attitude and choice as a function of delay (no delay and one week delay) and involvement (high and low) was examined. Subjects, run in small groups, were first presented with a typed sheet of instructions that informed them of the purpose of the study. To manipulate involvement, half the subjects were told

immediately following exposure. Since, in the research presented here, we compare the effects of a very favorable ad attitude with the effects of a relatively less favorable ad attitude on brand attitude, the effects observed by Moore and Hutchinson (1983, 1985) for extremely negatively evaluated ads is not directly relevant.

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²Burke and Edell (1986, 1989) and Edell and Burke (1987) had subjects come to their lab for measurement of a variety of post-exposure responses at different time delays from the time of initial exposure to a set of target ads. However, prior to measuring subject's responses, subjects were all shown the target ads once. This last exposure, immediately prior to measurement, precluded the possibility of examining the effects of time delay on ad attitude and its effects on brand attitude.

³Moore and Hutchinson (1983, 1985) classified ads into five categories ranging from positive to negative. They found that for brands associated with the most negatively evaluated ads, brand attitudes became more favorable after a delay of seven days compared to brand attitudes measured

that we were interested in their evaluation of a new program being considered for airing in the local market (low involvement condition) and half the subjects were told that the purpose of the study was to examine their evaluation of advertisements. These latter subjects were also told that they should pay careful attention to the advertisements as they would be asked questions about the ads following exposure and they would receive up to five dollars depending on the accuracy of their responses to the set of questions that would follow (high involvement). Subjects then saw a fifteen minute segment of a TV program not aired in the area. The target ad was embedded in the program segment. Half the subjects saw the neutral version of the ad and half saw the positive version. Ad attitude was manipulated by altering the visual elements of the ad (see, e.g., Mitchell 1986).

Following exposure, all subjects completed a page containing five filler questions. At this juncture, half the subjects (no delay condition) completed the main questionnaire and the other half were dismissed with instructions to return a week later, ostensibly for another experiment (delay condition). Subjects in the delay condition were administered the main questionnaire during the second session a week later. Following completion of the main questionnaire, subjects were paid and debriefed.

In the main questionnaire, subjects' cognitive responses, ad attitude, brand attitude, and choice behavior were assessed. As well, questions designed to assess level of involvement and experimental demand were included.

RESULTS

Our results showed that subjects' attitude toward the ad had a strong effect on brand attitude. Further, neither delay nor involvement had any effect on either subjects' ad attitude or brand attitude. That is, the ad attitude-brand attitude relationship was not contingent on either delay between ad exposure and measurement or the level of involvement at the time of ad exposure. Our results also showed that ad attitude did not influence choice behavior.

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The Vicissitudes of Product Experience: 'Songs of Our Consuming Selves' in Drama Ads

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ABSTRACT

This paper offers some tentative speculations and conjectures regarding the nature of drama ad processing. It is suggested that viewers of drama ads, in contrast to lecture ads, engage in a highly self-focused and self-participatory mode of processing. Data from an exploratory study are offered as initial evidence in support of this contention. It is suggested that future explorations of drama ad processing must give serious consideration to the role of vicarious participation (i.e., empathy).

INTRODUCTION

As several theorists have recently noted, advertisements are a virtual repository of meanings about consumption experience (e.g., Goldman 1984; McCracken 1987; Pollay 1986, 1987). In contrast to usual terse listings of information regarding product benefits, many advertisements instead provide intriguing images of the rich, social drama surrounding everyday products (McCracken 1987). Often filled with visions of ideal interpersonal relationships, these advertisements rarely provide information about a product's attributes or functional benefits. Instead, these ads simply tell a story about one or more characters' experiences with the product in question; their form is dramatic in nature (Wells 1988).

In his paper, Wells (1988) echoes an observation made by other theorists interested in communicative form (e.g., Applebee 1977; Bruner 1986; Fisher 1984, 1985)--viewers engage in a different sort of processing when exposed to dramas than when exposed to lectures. To date, however, the particular nature of drama ad processing still begs empirical description.

One of America's most celebrated poets, Walt Whitman, apparently understood the nature of this processing quite well. The poem entitled, *Song of Myself* (Whitman 1855/1940), is a magnificent template for those interested in celebrations of self-reflection. Whitman understood that poetic and dramatic forms of communication virtually demand a process of self-participation in and self-reflection on the depicted experiences. Or, as Coles (1987, p. 12) writes, dramas "...nudge us to connect our lives to the lives of various characters in their various stories--to immerse ourselves in a world with plenty of moral drama at work."

This research explores the notion that viewers exposed to dramas, and in particular drama ads, engage in a highly self-focused and self-participatory mode of processing. More

specifically, it is suggested that viewers come to understand the product experiences portrayed in drama ads by becoming vicarious participants in the experiences of drama ad characters.

Cognitive response data from four ads (two lecture and two drama) are offered to support the general contention of self-focused processing. Product evaluation data from the two drama ads are then examined in terms of their relationships to a measure of vicarious participation. Suggestions for the development of a theory of vicarious processing are offered as primary directions for future research.

A CONTINUUM OF ADVERTISEMENT FORM

Modern literary theorists assert that it is instructive to think about communicative form in terms of a continuum (Applebee 1977; Bruner 1986; Fisher 1984, 1985). At one end of this continuum, we find forms which are generally argumentative and lecture in nature. Narrative and drama forms of communication can be found at the other end of the continuum. Aside from serving as a relatively simple way to classify forms of communication, Bruner (1986) claims that this continuum serves to delineate two modes of thought--logico-scientific and imaginative thought. More specifically, Bruner argues the necessary relationship between communicative form and the mode of comprehension employed to make sense of the information contained in that form.

Lecture Ad Forms and Logico-Scientific Thinking

Lecture forms of advertising generally rely upon argumentative conventions of logic and validity for their import (cf. Wells 1988). An ad lectures to an audience by first asserting product claims, and then providing a carefully structured presentation of assertions in support of these claims. In general, lecture forms of advertising use arguments to establish the validity of asserted claims by providing a structured set of reasons (i.e., evidence) which logically defend those claims (see Boller, Swasy and Munch 1989).

Lecture advertisements, replete with argumentative thrusts and parries, are perhaps best thought of as purveyors of definitive product meanings. That is, lecture advertisements seek to convince an audience of the product's objective reality. Good lecture advertisements provide substantive information about the attributes and functional benefits of products to utility-maximizing viewers (cf. Resnik and Stern 1977; Shimp and Gresham 1983). After all, how can viewers make "informed" product choices unless they possess the facts regarding the features and benefits of competing product alternatives?

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It is important to note that viewer acceptance of a product's "objective reality" is dependent upon their understanding and acceptance of the argumentative logic presented by the ad lecture. Viewers are not likely to accept the product claims until they discern, assess and accept the arguments offered in support of those claims (cf. Perloff and Brock 1980)

Wells (1988) writes that viewers process lecture advertisements "at a distance." Viewers assess the quality of the presented evidence, judge the authority and credibility of the source, and primarily counterargue the logical linkages between the product claims and their supporting evidence. Viewers process lecture ads "...at arm's length and use the outcome to help them think about how to behave" (Wells 1988, p. 15).

Stated differently, viewers tend to process lecture ads in argumentative fashion. That is, they qualify, challenge, and judge the arguments step by step (Applebee 1977; Bruner 1986). Viewers first identify which statements of evidence are used to support particular product claims. Next, they assess and counterargue these presented relationships with respect to their own understanding of what constitutes a logical relationship (Jaccard 1981; Reynolds and Burgoon 1984).

Drama Ad Forms and Imaginative Thought

In contrast to lecture ads, dramatic forms of advertising depend upon narrative conventions of plot and character for their import. Drama ads are foremost a story about one or more characters' experiences with a brand or service. Drama ads contain a plot--the correlative arrangement of story events and actions (Chatman 1978; White 1980). And drama ads also contain characters--protagonists given particular physiological and psychological traits, and through who's actions, brand-related experiences are conveyed to the viewing audience (cf. Martin 1986; Todorov 1977). However, unlike other forms of narrative (e.g., novels, tales and myths), pure dramas do not make use of a narrator.

In a pure drama, the actions of characters simply unfold--they are enacted or performed instead of told or recanted. Whereas narrated stories tend to provide overt interpretations of character actions with descriptions of their mental states and motives, dramatized stories require that their viewing audience provide these interpretations (Booth 1961; Iser 1976; Martin 1986). Overt narration tends to distance an audience from the characters. Specifically, narration prompts an audience to view the depicted experiences as "someone else's." In contrast, dramatized stories tend to prompt an audience to view the depicted experiences as "their own." Dramatic forms invite audience participation in the portrayed experiences. Through their imaginary apprehension of the characters' mental states and motives, audience members share in the enactment of the story actions (see Aristotle's *Poetics*).

Drama ads can be thought of as purveyors of meanings about the relationship between product and

self. That is, drama ads seek to convince viewing audiences of the subjective relevance of the advertised product. Wells (1988) writes that dramatic forms of advertising generally provide viewers with free samples of many of the emotional and psychosocial consequences associated with product use. And as viewers imaginatively project themselves into the perceptual and emotional perspectives of the ad characters, they learn not the objective reality of the advertised product, but the relevancy it holds to the management of their own lives (cf. Wells 1988).

SOME TENTATIVE CONJECTURES

As already implied, the major theoretical assumption underlying this research is: "There exists a necessary relationship between ad form and the processes employed by viewers to make sense of the information embedded within that form." In essence, the form of an ad provides viewers with a conceptual framework through which they can articulate product-related meanings. Lecture forms of advertising (with their reliance on principles of argument) provide viewers with a structured, and often sterile, system of attribute-benefit logic through which product meanings can be gleaned. The focus of viewers' processing will be directed toward the advertised product (object focused), and necessarily argumentative in nature.

In contrast, drama forms of advertising (with their reliance on principles of narrative) provide viewers with a story regarding the vicissitudes of product experience. Viewers are offered the opportunity to learn of the product's self-relevancy by imaginatively participating in the product-related experiences of a passionate, experience-seeking character. The focus of viewers' processing will be directed to the portrayed experiences (self focused), and necessarily imaginative or empathic in nature.

Based upon these ideas, and the preceding review, the following conjectures are offered.

Conjecture 1: Moving along a theoretical continuum of communicative form, advertisements which are increasingly lecture in form will invoke processing that is increasingly argumentative in nature.

Conjecture 2: Moving along a theoretical continuum of communicative form, advertisements which are increasingly dramatic in form will invoke a focus of processing that is increasingly self, as opposed to product-oriented.

The notion that drama forms of advertising invoke self-oriented thinking can be extended a bit further. Recall that drama ads provide viewers with a particular experiential perspective to articulate product meanings--the self-identity of an ad character. Provided that viewers imaginatively participate in the experiences of an ad character, their self-oriented thinking will be guided by the perceptual and emotional perspective of this

character. The greater a viewer's extent of imaginative participation in the experiences of an ad character, the more he or she will learn of the product's self-relevancy (cf. Wells 1988). But more importantly, the qualitative nature of what viewers learn is dependent upon the specific character they choose to imaginatively participate with. As such, a third conjecture can be offered.

Conjecture 3: Within dramatic forms of advertising, the nature of viewers' articulation of product-related meanings is dependent upon the specific character with whom they choose to imaginatively participate.

METHOD

In this study, a 1 X 4, between-subjects research design was employed. Two hundred student subjects were randomly assigned to one of four "ad-form" treatment conditions. Subjects assigned to treatment condition 1 were exposed to a television ad which was pure-form lecture; treatment condition 2--lecture voice-over with visual drama vignettes; treatment condition 3--drama with narrated voice-over; treatment condition 4--pure-form drama.

Subjects were recruited from a large liberal arts class, and received the sum of five dollars for their participation. The study was conducted in a laboratory setting, and consisted of exposing subjects, in groups of 15 or less, to the treatment advertisement, placed directly behind a segment of "soft news" from CNN. The programming context was designed to place subjects in a "television viewing mode," making them feel more comfortable with the task of viewing a television commercial. Immediately following exposure to the treatment ad, subjects completed a cognitive response task, as well as ad and product-related evaluations. For those subjects assigned to the drama conditions, measures of vicarious participation were also taken.

Ad Stimuli

As defined by the research design, four different television ads were employed. All treatment advertisements were Subaru automobile commercials. Two Subaru advertisements were lecture in form (one pure-form; one with visual drama vignettes), and two advertisements were drama in form (one with overt narration; one pure-form).

In the pure-form lecture ad, the primary line of argument was concerned with establishing the validity of a quality claim. In addition to other pieces of evidence, the spokesperson in this ad stated that, "In a recent consumer survey, consumers rated Subaru second only to Mercedes Benz in terms of customer satisfaction."

In the lecture ad with visual drama vignettes, the primary line of argument was concerned with establishing the validity of a road handling claim. Subjects exposed to this ad were offered dramatic visual evidence regarding the automobile's road handling ability under poor driving conditions.

The drama ad with overt narration featured a middle-aged, country veterinarian as the main

character. In terms of the storyline, the ad begins with a very concerned looking farmer placing a late-night call to a doctor (the audience does not yet know that the doctor is a veterinarian). The farmer tells the doctor that he thinks, "...she's ready." The doctor responds, "I'll be right over." Next, the doctor is shown driving through inclement weather in his Subaru wagon to the farmer's house. After the doctor's arrival, the farmer and his two daughters are featured anxiously awaiting word from the doctor regarding the condition of "the patient." The ad ends with a pronouncement from the doctor that mother and baby (a cow and her calf) are "...doing just fine." The narration primarily consists of statements regarding how dependent this veterinarian is upon his Subaru.

The pure drama ad featured an intelligent (although impish) college-aged individual as the main character. In terms of the storyline, this character was first featured asking his father for advice regarding the purchase of a new car. The father says, "Get another Subaru--it's been good to us." Immediately following the "advice scene," the son is shown speeding along back country roads in his new sports car. During the drive, the audience was treated to an examination of all the new features in this sports car. The main character arrives home to find his father, with a dismayed look upon his face, stating, "I thought we agreed you'd buy a Subaru." The son responds, astonished that his father would presume to doubt his car-buying ability, "But dad...I did!"

Procedure

Upon entering the laboratory, subjects were individually greeted by the researchers, and asked to take a seat in front of two television monitors. Subjects were seated at tables arranged in a U-shape around the monitors. A questionnaire packet and pencil were placed directly in front of each subject.

When all of the scheduled subjects had arrived and been seated, the researcher read a general description of the study. In short, subjects were told that that would be asked a number of questions about their reaction to a television commercial. After reading the general description, subjects were given the opportunity to ask questions regarding their role in the study. When all of the questions had been answered to their satisfaction, they were asked to read and sign two copies of an informed consent form. After all of the informed consent forms had been signed and collected, subjects were shown the news segment and the appropriate treatment ad. When the questionnaires had been completed, subjects were debriefed as a group, paid five dollars, and thanked for their participation. The total time for each session was less than one hour.

Measures

A total of five measures were used in this study. Cognitive response measures of (1) counterarguments and (2) ratio of self-to-product thoughts were employed to address the first two conjectures. Measures of (3) vicarious participation,

(4) attitude toward the product and (5) perceived self-relevance of the advertised product were employed to address the third conjecture.

Cognitive Response Measures. Immediately following exposure to the treatment ad, subjects were instructed to list all the thoughts that occurred to them during exposure. In accord with the conjectures of interest, subjects' thoughts were classified as (1) counterarguments, (2) self-related, (3) product-related, or (4) other by two trained judges. Interjudge agreement was 87 percent, and disagreements were resolved by a third judge.

Cognitive responses were classified as "counterarguments" if they consisted of statements of specific disagreement with what was shown or stated in the ad regarding the advertised product. The actual measure of counter-argumentative thinking (CA) consisted of the ratio of the number of counterarguments divided by the total number of thoughts in the response protocol. Cognitive responses were classified as "product-related" if they were (1) general statements (positive, negative or neutral) for the advertised product, or (2) specific statements about certain features or consequences of the advertised product. Cognitive responses were classified as "self-related" if they were (1) statements regarding some past experience the subject was reminded about, (2) statements which reflected an emotional feeling, or (3) statements regarding subjects' identification with the portrayed characters and/or events. The actual measure of self-predominant thinking (S/P) consisted of the ratio of the number of self-related thoughts divided by the number of product-related thoughts.

Vicarious participation measure. The extent to which subjects believed they vicariously participated in the experiences of ad characters was measured using a ten-item, six-point Likert scale known as the VEDA scale (Boller, Babakus and Olson 1989). The VEDA (Viewer Empathy in response to Drama Ads) scale consists of items such as, "I felt as though I were right there in the commercial experiencing the same thing," and "While watching the commercial, I felt as if the characters thoughts and feelings were my own." Scores on each of the individual items were summated to create the final measure (VP). Coefficient alpha was 0.96.

Attitude toward the product. This measure (Ab) consisted of a three-item, seven point Semantic Differential scale. Scale endpoints included Like/Dislike, Positive/Negative, and Good/Bad. Coefficient alpha was 0.97.

Perceived self-relevance of the product. This measure (PSR) consisted of a seven-item, six point Semantic Differential scale, derived from the Zaichkowsky (1985) Personal Relevance Inventory. Examples of scale endpoints include, Relevant/Irrelevant, Meaningful/Not Meaningful, and Beneficial/Not Beneficial. Coefficient alpha was 0.95.

RESULTS AND DISCUSSION

To address the first two conjectures, a MANOVA was performed, with ad form as the independent variable; CA and S/P as the dependent variables. The multivariate results indicate a significant effect due to ad form ($F=10.06$; $df=6$, 390 ; $p<.001$). Univariate ANOVAs indicate that ad form has a significant effect on both S/P ($F=15.54$; $df=3$, 196 ; $p<.001$), and CA ($F=7.44$; $df=3$, 196 ; $p<.001$). Mean values of CA, and standard deviations, across all four levels of ad form (pure lecture; lecture with drama vignettes; drama with overt narration; pure drama) are 0.32 (0.29); 0.20 (0.26); 0.13 (0.20); 0.12 (0.16), respectively. Subsequent contrasts indicate that cell means 2, 3 and 4 are not significantly different at the 0.05 level. Mean values of S/P, and standard deviations, across all four levels of ad form are 0.15 (0.40); 0.33 (0.82); 2.54 (3.13); 1.20 (2.15), respectively. Subsequent contrasts indicate that cell means 1 and 2 are not significantly different at the 0.05 level.

In sum these results provide initial evidence in support of the first two conjectures. Lecture forms of advertising tend to invoke argumentative thinking. In contrast, drama forms of advertising seem to invoke more self-oriented thinking, relative to the extent of product-oriented thinking. Within these results, however, an anomaly can be noted. Specifically, the ratio of self-to-product thinking in response to the pure drama ad was significantly less than that in response to the drama ad with overt narration.

One possible explanation for this finding is that subjects exposed to the pure drama ad vicariously participated in the experiences of the character who was actually feature driving the advertised automobile (i.e., the son). In contrast, subjects exposed to the drama with overt narration may have vicariously participated in the experiences of characters who were not featured using the product (i.e., the farmer and or his daughters). If this were indeed the case, we should expect more product-oriented thinking from subjects exposed to the pure drama ad because the character with whom they participated was featured actively thinking about the product.

As part of the VEDA scale, subjects were also instructed to indicate which of the featured characters they most strongly identified with. Nearly all of the subjects (98 percent) exposed to the pure-drama ad indicated that they most identified with the "son." However, only 32 percent of the subjects exposed to the drama ad with narration indicated that they most identified with the "doctor." This being the case, we should expect to find any relationships between the extent of vicarious participation and product-related evaluations to be stronger amongst subjects exposed to the pure drama than those exposed to the drama with narration ad. Simple Pearson correlations confirm this expectation. For those subjects exposed to the pure drama ad, the correlations between VP and Ab, as well as VP and PSR are 0.46 and 0.52, respectively. For those subjects exposed to the drama ad with narration, the correlations

between VP and Ab, as well as VP and PSR are 0.29 and 0.01, respectively. Apparently then, the types of meanings created during exposure to a drama ad depend upon the extent of vicarious participation, as well as the particular character with whom viewers choose to participate.

IMPLICATIONS AND CONCLUSIONS

The purpose of this paper was to explore the notion that viewers exposed to drama ads engage in a highly self-focused and self-participatory mode of processing. The results of the current study suggest that this particular notion is indeed viable. Viewers exposed to drama forms of advertising, in contrast to lecture forms, engaged in less argumentative thinking and more self-predominant thinking. And more importantly, the results suggest that viewers exposed to drama forms of advertising engage in self-oriented thinking from the perspective of another self-entity (i.e., an ad character).

I believe that it is instructive to think of ad forms as conceptual frameworks through which viewers are able to articulate product meanings. And the conceptual framework offered by drama ads consists of the complex perceptual, cognitive and emotional perspectives of an ad character. Future explorations into the nature of drama ad processing should start with careful consideration given to the vicarious relationships audience members establish with key characters.

Such research, however, presupposes an adequate conceptualization of empathy. At present, consumer researchers know precious little about empathy and its effects. Future research needs to ask some hard questions regarding, (1) Why do viewers empathize--what motivates them to engage in this form of processing, (2) How do viewers empathize--what sorts of cognitive subprocesses are employed to imaginatively project oneself into the thoughts and feelings of another, and (3) What sorts of meanings do viewers create during empathic episodes--are these meanings qualitatively different than meanings produced during episodes when they are not empathizing? Answers to these and other similar questions will likely enlighten our understanding of the ways in which drama ads provide "songs of our consuming selves."

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A Citation Analysis of the ACR Proceedings: A Knowledge Development and Social Exchange Perspective

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ABSTRACT

One way to assess the scientific status of a publication is to conduct a citation analysis. Such an analysis provides insights about the knowledge flows concerning ideas written in a publication. Here we study the conference proceedings which accompanies the annual Association for Consumer Research (ACR) Conference. We find that proceedings authors draw on a very diverse literature for inspiration. In turn, the proceedings has had an increasing impact on published work in related scientific disciplines.

INTRODUCTION

Scientific disciplines rely on both formal and informal mechanisms to foster the development, dissemination and application of knowledge. The scientific journal perhaps best embodies the formal system serving rigorous quality control and archival functions among many others. Colloquia and certain aspects of professional association meetings are examples of informal mechanisms where ideas are usually exchanged relatively early in their development and through direct face-to-face interactions.

The professional conference also has certain qualities that combine both formal and informal mechanisms. For example, a published conference proceedings, such as those of the Association for Consumer Research, involves peer review and thus some level of certification for the ideas they contain. Proceedings also provide archival functions and provide a basis for establishing intellectual ownership or recognition for contributions made. At the same time it is recognized that many of these ideas are in their early stages of development and are sometimes offered in a more informal or tentative (brainstorming) spirit than when the same basic idea may be later offered in a core scientific journal. In many disciplines, publication in a proceedings is considered sufficiently informal that it does not preclude later publication of the same idea (with suitable improvements, of course) in a formal journal. Thus the published conference proceedings represents an interesting vehicle to study if one is interested in the development of knowledge in a particular discipline.

The key objective of this paper is to make a partial assessment of the role of the ACR Proceedings in knowledge development in the field of consumer research. That is, what are the sources of the ideas which are presented in ACRP? And, perhaps more importantly, what sorts of future work does the ACRP influence and/or inspire? Do cognate

areas (such as psychology, sociology) "recognize" ACRP by citing it (thereby conferring status), and to what degree do ACR researchers recognize other disciplines by citing their works? A social exchange framework is used to identify and explore the nature of knowledge flows between ACR and other disciplines. The principal methodology is a citation analysis of the ACR proceedings (ACRP) to determine: a) what literature the ACRP cites; and b) conversely, what literature cites the ACRP. This effort is particularly appropriate as the ACR conference celebrates its twentieth anniversary (and the *Journal of Consumer Research* its fifteenth year of publication).

PUBLISHING AS A SOCIAL EXCHANGE PROCESS

It is possible to conceive of the citation process as a social exchange where, over an extended period of time, published authors exchange ideas (manuscripts, which include citations of others' work) for future recognition (partly in terms of reciprocal citations). In this context, we are viewing citations as frozen footprints which bear witness to the transfer of an idea (Cronin 1984). That is, the author who includes a citation to a previous work is acknowledging receipt of that idea and is conferring recognition of its importance upon the cited author.

Previous citation analyses which have been conducted in the consumer behavior literature have concentrated upon the sources of ideas (see, for example, Leong 1989). Our approach is different in that we also investigate the literature which has been influenced and/or inspired by the proceedings. This is of potentially greater interest from a knowledge development perspective. In fact, Price (1986) advocates thinking of the role of citations from a cumulative advantage perspective. He suggests viewing old papers as the citation base from which new literature grows, rather than conceptualizing new papers as simply referring back to the old. Such a view better accounts for the ways extant knowledge is used in subsequent knowledge developments.

Our identification of the literature which is eventually influenced by the ACRP provides one way to judge the efficacy and efficiency of the conference as an informal exchange network. Thus, by examining citing and cited patterns of proceedings articles, it is possible to gain some insight into the nature of the relationships between consumer research and other related areas, thereby tracking knowledge exchanges across the traditional

TABLE 1
Cross-Disciplinary References by ACR Researchers^a

Areas Cited ^b	YEAR				Total
	1984	1985	1986	1987	
Marketing	15.1	14.0	13.3	12.1	13.7
Psychology	16.0	13.7	15.2	6.9	13.3
Consumer research	7.6	7.4	9.0	9.3	8.3
Communication and journalism	1.5	1.1	1.3	1.0	1.3
Business-general	1.5	.7	.8	1.7	1.2
Sociology	1.2	1.1	.7	1.5	1.1
Popular press	.2		1.0	.9	.5
Medicine		.8	.2	.4	.3
Economics	.2	.4	.2	.4	.3
Operations research	.4		.2	.4	.2
Family	.2	.4	.3		.2
Gerontology	.7				.2
Social Science-general	.5	.3			.2
Recreation	.2			.4	.1
Science-general				.3	.1
Geography	.2				.1
Political science			.2		.1
Nutrition	.5		.2		.1
Anthropology			.2		.1
Other ^c	53.8	60.3	57.2	64.7	58.7
Total Citations	3380	2759	3134	2462	11735

^a In percentages.

^b The absence of a value indicates that there were too few citations in a given year for SSCI to report.

^c Less than .1 percent.

boundaries among the social sciences (Garfield 1979).

METHOD

Citing and cited data were collected from the *Social Science Citation Index (SSCI)* database for the four years 1984-1987. SSCI first began tracking ACRP in 1984. Citing in this case refers to journals which ACRP authors have referenced, and cited refers to the journals whose authors have referenced ACRP articles. The 1987 Citing Journal Listing includes entries for most of the more than 1,400 journals fully covered by the SSCI, provided that issues of the journal did appear during that year. While a few journal references contain citations to many kinds of items besides journals, for our analysis we included only citations to journal articles themselves and citations referring to the popular press (e.g., *The Wall Street Journal*, *Newsweek*). Throughout we are interested in making comparisons to Leong's findings for the *Journal of Consumer Research (JCR)*.

RESULTS

Each year SSCI calculates an impact factor for each journal, which is a measure of the frequency with which the "average" article in a journal has been cited in a particular year. It is a ratio between citations and published citable items corrected for frequency of publication, age of journals, and size of journals. In a sense, the impact factor is an indicator of the relative importance of a journal to researchers working in that field (Lutz 1989).

ACRP's status has been slightly growing over the years, as indicated by its increasing impact factor: 0.352 in 1984, 0.301 in 1985, 0.414 in 1986, and 0.449 in 1987. In comparison, JCR's ranking based on the impact factor has been relatively high and improving over the years (Leong 1989). For example, JCR's 1987 impact factor was 2.167, ranking it 39th among all social science journals.

Citing Patterns

Table 1 shows the cross-disciplinary references by ACRP researchers. As might be

expected, the most influential areas are: marketing (13.7%), psychology (13.3%), and consumer research (8.3%). There is a substantial drop in influence when moving to the next most important areas: communication and journalism (1.3%), business-general (1.2%) and sociology (1.1%). After sociology there is a sharp drop to the seventh area, popular press, which accounts for only .5 percent of the references over the four-year period. This order varies somewhat from what Leong (1989) found in his study of 5 volumes of JCR where the most cited area was psychology (26.8%), followed by marketing (20.4%), consumer research (18.0%), then economics (5.6%), mathematics and statistics (4.2%), sociology (4.1%), and communication and journalism (3.8%). JCR tended to cite psychology more frequently than marketing while ACRP cites marketing more frequently. For JCR the first three areas account for over 65 percent of the total references, while for ACRP they account for only a little over 35 percent. Also, while JCR draws from economics, mathematics and statistics, and sociology as secondary intellectual hinterlands of consumer research (4 to 6 percent of citations, Leong 1989), ACRP draws less strongly from these quantitative sources (.3% economics and 1.1% sociology, no mathematics and statistics).

Several trends are suggested by Table 1. We find that references to the marketing literature are decreasing over the four-year period, from 15.1 percent to 12.1 percent, while references to consumer research are slightly increasing, 7.6 percent to 9.3 percent. Leong (1989) also found a tendency toward greater reliance on consumer behavior sources for referencing, indicating an increasing self-sufficiency of consumer researchers. As an informal test of whether consumer researchers are more likely to cite their own core discipline and less likely to cite literature from related fields over the four-year period, we selected four core disciplines most often cited by ACRP authors (marketing, psychology, communication and journalism, and business-general) and compared the percent of references accounted for by these journals versus the percent of consumer behavior references over time. In 1984 this ratio was 0.22 while in 1987 it is 0.43, suggesting that ACRP authors are more likely to cite consumer behavior literature and less likely to cite literature from four related areas in 1987 than in 1984.

ACRP authors tend to rely more heavily on psychology and business journals than economic and quantitatively oriented academic journals, as evidenced by the small number of citations for these journals (see Table 2). *Psychometrika* is cited 42 times in four years, with .4% of total cites; *Econometrica* is cited 9 times (.1%), and *Management Science* 29 times (.2%). Also, ACRP tends to draw more heavily from the popular press (59 cites), especially such business-oriented media as *Newsweek* (12 cites), *The Wall Street Journal* (6 cites), and *US News & World Report* (6 cites).

We find that ACRP, JCR (as reported in Leong 1989, Table 3), and JMR and JM (Goldman

1979, Table 4) rely on very similar literatures. However, some differences in journal citations do exist. First, ACRP and JCR tend to cite JMR and JM less than the marketing journals tend to cite themselves (see Table 2). Second, in concurrence with Leong's JCR findings, the *Journal of Personality and Social Psychology* and *Psychological Bulletin* receive relatively greater attention in ACRP (3.4% and 1.0%, respectively) than they do in JMR and JM, combined (1.7% and 1.0%), but not as much as in JCR (5.9% and 2.2%). In contrast, the *Journal of Business, Psychometrika, Journal of Applied Psychology, Management Science*, and *Journal of the American Statistical Association* all receive higher proportions of references in the marketing journals than in JCR and ACRP.

Cited Patterns

Table 3 reveals a slightly different pattern for cited data than shown in the citing data of Table 1. As might be expected, consumer behavior is the literature most likely to cite ACRP (22.4%), while consumer research is only third in importance in the citing chart. The marketing literature is second most likely to cite ACRP (18.6%) during the four-year period; and consumer behavior and marketing together account for over 41% of all ACRP citations. Over time, the absolute number of ACRP self-citations has decreased (see Table 4, from 258 self-citations in 1984 to 200 in 1985, 205 in 1986, to 158 in 1987). This may be attributed to a general decline in the citing of books and proceedings (Leong 1989). Goldman (1979) found that in the marketing literature journals accounted for the bulk of reference sources, albeit marketing authors relied more on unpublished material than on conference proceedings. However, Leong (1989) found that in comparison to references cited from nonconsumer behavior sources, those from consumer research contain a much higher proportion of citations from conference proceedings than from books and academic journals. Thus, ACRP's incidence of self-citation is relatively small (7.0 percent) compared to authors of JMR (26.1 percent) and JM (28 percent) (Goldman 1979, p. 489).

As shown in Table 3 the psychology literature is the third most likely to cite ACRP (5.5%), while it ranked second in terms of being cited by ACRP. The fourth most likely is business-general (1.3%), which was the fifth most cited. Overall, in contrast to Leong's findings for JCR, the business literature is found to be moderately influenced by ACRP authors. There is a rather sharp fall off after this point, as no other discipline accounts for more than 1% of the cites to ACRP. It is interesting to note that while communication and journalism was the fourth area most cited, it slips to the sixth citing area with less than 1% total references.

While the proportion of citations to JCR has varied without a noticeable trend for the four years, it still remains ACRP's most cited journal (see Table 2). Furthermore, the proportion of citations in

TABLE 2
The Most Frequently Cited Journals in ACR^a

Journal ^b	YEAR				Total (4 years)	
	1984	1985	1986	1987	n	%
Journal of Consumer Research	6.8	7.2	9.6	8.9	949	8.1
Advances in Consumer Research	7.6	7.2	6.5	6.4	821	7.0
Journal of Marketing Research	7.5	5.8	5.9	4.6	714	6.1
Journal of Marketing	4.3	4.7	3.8	3.9	490	4.2
Journal of Personality and Social Psychology	4.5	3.3	3.0	2.5	401	3.4
Journal of Advertising Research	1.7	1.2	1.9	1.4	183	1.6
Psychological Review	1.2	1.1	1.4	.9	135	1.2
Psychological Bulletin	1.5	.5	1.0	.6	112	1.0
Journal of Retailing	1.0	1.1	.6	.7	100	.9
Journal of Experimental and Social Psychology	.8	.9	.9	.4	89	.8
Public Opinion Quarterly	1.0	.7	.6	.6	85	.7
Journal of Applied Psychology	1.2	.9	.7		85	.7
American Psychologist	.6	.9	1.2		85	.7
Journal of Verbal Learning and Verbal Behavior	.4	.7	.8	.5	71	.6
Harvard Business Review	.8	.4	.6	.5	71	.6
Journal of Abnormal Psychology	.8		.6	.4	56	.5
Journal of Advertising	.4	.7	.4	.3	54	.5
Information Processing	.7	.3	.5	.3	53	.5
American Sociological Review	.4	.4	.4	.6	51	.4
Cognitive Psychology	.2	.6	.6	.3	49	.4
American Journal of Sociology	.5	.4	.3	.2	44	.4
Psychometrika	.3	.7	.5		42	.4
Organizational Behavior and Human Decision Processes	.4		.3	.5	36	.3
Journal of Consumer Affairs	.7	.2		.4	40	.3
Journal of Communication	.4		.3	.4	31	.3
Annual Review of Psychology	.2	.4	.4		31	.3
Advances in Experimental and Social Psychology	.3	.3	.4		31	.3
Management Science	.4		.2	.4	29	.2
Journal of Experimental Psychology-Human	.3	.2	.4		28	.2
Psychological Reports	.3	.4		.2	26	.2
Journal of Marriage and the Family	.2	.4	.3		26	.2
Journal of Experimental Psychology	.3	.3	.3		26	.2
Journal of Consulting and Clinical Psychology	.3	.3	.2		26	.2
Journal of Business Research	.3	.2		.4	25	.2
Advertising Age	.2		.2	.4	23	.2
Journal of Social Psychology	.2	.3	.2		22	.2
Personality and Social Psychology Bulletin		.2	.4		19	.2
Medical Care		.4	.2		18	.1
Memory and Cognition		.3	.3		17	.1
Marketing Science			.2	.4	17	.1
Journal of Leisure Research	.2			.4	17	.1
Journalism Quarterly	.2		.3		15	.1
Journal of Personality		.3	.2		15	.1

TABLE 2 (CONTINUED)

Journal ^b	YEAR				Total (4 years)	
	1984	1985	1986	1987	n	%
Human Relations	.2			.4	15	.1
American Economic Review	.2		.2		15	.1
Research in Marketing Journal	.2	.2			14	.1
Journal of Experimental Psychology	.2			.2	14	.1
Journal of Business	.2		.2		14	.1
Marketing News			.4		13	.1
Journal of Psychology-General		.2	.2		13	.1
Gerontologist	.4				12	.1
Newsweek			.2	.2	12	.1
Journal of Gerontology	.4				12	.1
Human Communication Research		.4			12	.1
Beijing Review			.4		12	.1
Journal of the American Medical Association				.4	11	.1
Other ^c	49.3	54.8	51.9	59.8	6277	53.5
Percentage of Most Cited Journals	31.4	22.9	27.6	18.1		100.0
Total	3380	2759	3134	2462	11735	

^a In percentages.

^b The absence of a value indicates that there were too few citations in a given year for SSCI to report.

^c Citing of all other journals, each accounting for less than .1 percent of the total annual citings.

economic journals (*Econometrica*, *Journal of Political Economy*, *American Economic Review*) is relatively small and concurs with Leong's (1989) finding that economic journals have paid less attention to consumer research over time.

Citing and Cited Patterns

When comparing citing and cited patterns for ACRP (see Table 5), it is obvious that ACRP draws more from the other disciplines (citings) than it repays (citeds). In only two areas, accounting and public relations, is ACRP cited more frequently than it cites.

More specifically, when comparing the ACRP citing and cited patterns by journals, it appears that there are some imbalances. While ACRP is heavily cited by *Journal of Economic Psychology*, it rarely cites JEP (ratio of ACRP citing/cited = 6.83, see Table 6). Also, the *Annual Review of Psychology* and the *Journal of Advertising* are more often citing ACRP than cited by ACRP (ratios of 1.58 and 1.54, respectively). However, it is interesting to note that 92% of the *Annual Review of Psychology* citations are due to the publication of one article written by a consumer behavior researcher (e.g., Bettman). This argues for an examination of

person-to-person communication flows rather than a focus on journal-to-journal exchanges.

The *Journal of Business Research* cites equally as often as it is cited (ratio of 1.0). With regard to European journals, ACRP is more often cited than citing. According to Table 4 the *European Journal of Marketing* is the tenth most likely journal to cite ACRP (27 cites, 1.4% of total cites) and the *Revue Francaise du Marketing* is the twenty-second most likely (4 cites, .2%), while ACRP does not cite them. This is consistent with Jobber and Simpson's (1988) finding that American marketing journals tend not to cite European journals. This trend continues in other international journals, too. For example, the *Journal of Economic Psychology* cites ACRP 41 times over a four-year period (2.5% of the total cites), but is only cited by ACRP 6 times, producing less than .1% of the total citations.

At the other extreme are some psychology journals heavily cited by ACRP but which rarely cite it in return (see Table 6): *Journal of Personality and Social Psychology*, *Journal of Applied Psychology*, *Journal of Social Psychology* (ratios of 0.01, 0.04, 0.14, respectively). JCR is more cited by ACRP than it cites (.42), as are most of the major

TABLE 3
Cross-Disciplinary References Citing ACR^a

Areas Cited ^b	YEAR				
	1984	1985	1986	1987	Total
Consumer research	10.2	27.2	20.5	16.4	22.4
Marketing	19.3	17.0	21.4	16.4	18.6
Psychology	4.1	2.7	11.3	2.8	5.5
Business-general		3.1		2.2	1.3
Accounting	1.9				.5
Communication and journalism			1.1	.6	.5
Social Science-general			.9		.3
Operations research	1.3				.3
Sociology				1.1	.3
Economics			1.1		.3
Gerontology			.7		.2
Recreation		.6			.2
Public relations		.6			.2
Other ^c	63.2	48.8	43.0	45.3	49.9
Total Citations	462	482	556	464	1964

^a In percentages.

^b The absence of a value indicates that there were too few citations in a given year for SSCI to report.

^c Less than .1 percent.

marketing journals, such as *Journal of Advertising Research* (.08), *Journal of Marketing Research* (.13), *Journal of Marketing* (.17), and the *Journal of Retailing* (.36). Finally, *Public Opinion Quarterly* is frequently cited by ACRP authors, but the reverse is very rare. Overall, ACRP continues to grow as an interdisciplinary publication. Currently, ACRP authors are more likely to draw their citations from related disciplines than they are to cite ACRP itself or the consumer behavior literature in general. Some observers (Price 1970) identify this as a sign of either an evolving or an applied discipline.

DISCUSSION

The ACR conference proceedings serves the role of an informal communication network as the turn around time between the submission of a paper and the presentation of that paper at the conference is relatively brief (six months or so). A subset of the conference papers appear in the proceedings, and we have briefly analyzed the impact of that proceedings on related areas of academic inquiry.

In terms of citing patterns, we find that ACRP authors are quite eclectic and draw from a large number of areas. In fact, ACRP authors are more interdisciplinary in their citing behavior than are JCR authors. Nonetheless, we find that ACRP authors are tied fairly closely to the marketing literature, which provides the main source of their

ideas (14%). There is also a surprisingly strong tendency to cite the business popular press (.5%).

There is some evidence that the consumer behavior field is maturing, as there is an increasing tendency for ACRP to rely on that literature (9.3% in 1987). Conversely, ACRP has had its biggest impact to date on the consumer behavior literature itself, as over 22% of all authors who cite ACRP do so from a consumer behavior journal. Nonetheless, ACRP has had a fairly strong impact on the marketing literature, as marketing authors made over 360 cites to ACRP in the four-year period which we studied. At the same time, ACRP is moderately influential for psychology (108 cites) and business (26 cites) authors. In addition, ACRP has had some impact on foreign marketing journals (31 total cites in the four-year period).

To date, ACRP has made a fairly strong impact on a wide variety of journals, especially in comparison to the impact other marketing-oriented journals typically have on related areas. And yet, ACRP requires a fairly idiosyncratic citation format as potential citers are required to include editors' names (and there are frequently multiple editors) as well as a place of publication. Under this format, a citation to an ACRP article can sometimes take up two times as much space (or more) than a citation to a traditional journal article. Perhaps ACR should

TABLE 4
The 31 Journals that Most Frequently Cite ACR^a

Journal ^b	YEAR				Total (4 years)	
	1984	1985	1986	1987	n	%
Advances in Consumer Research	55.8	41.5	36.9	34.1	821	41.8
Journal of Consumer Research	10.2	22.8	19.4	28.2	396	20.2
Journal of Marketing Research	5.6	4.4	2.5	6.3	90	4.6
Journal of Marketing	3.0	5.0	5.2	3.4	83	4.2
Journal of Advertising	1.9	4.8	6.7	2.2	83	4.2
Annual Review of Psychology			8.8		49	2.5
Journal of Economic Psychology	3.5	1.5	2.5	.9	41	2.1
Journal of Retailing	2.6		2.3	2.4	36	1.8
Journal of Consumer Affairs		3.1	1.1	2.4	32	1.6
European Journal of Marketing	.6	.6	2.7	1.3	27	1.4
Journal of Public Policy & Marketing	3.0	2.3			25	1.3
Journal of Business Research		3.1		2.2	25	1.3
Journal of Advertising Research	.9		2.0		15	.8
Journal of Consumer Policy		1.2		1.1	11	.6
Accounting Organizations and Society	1.9				9	.5
Public Opinion Quarterly			1.1		6	.3
Journal of Product Innovation Management	1.3				6	.3
Journal of Experimental and Social Psychology				1.3	6	.3
Akron Business and Economic Review			1.1		6	.3
Kolner Zeitschrift Fur Soziologie				1.1	5	.3
Journal of Voluntary Action Research			.9		5	.3
Revue Francaise du Marketing	.9				4	.2
Gerontologist			.7		4	.2
Public Relations Review		.6			3	.2
Journal of Personality and Social Psychology		.6			3	.2
Journal of Applied Psychology	.6				3	.2
Journal of Social Psychology		.6			3	.2
Journal of Leisure Research		.6			3	.2
Industrial Marketing Management	.6				3	.2
Communication Monographs				.6	3	.2
Acta Psychologica				.6	3	.2
Other ^c	7.4	7.3	6.1	11.2	155	7.9
Percentage of the 31 Most Citing Journals	23.7	24.7	28.8	22.8	1809	100.0
Total	462	482	556	464	1964	

^a In percentages.

^b The absence of a value indicates that there were too few citations in a given year for SSCI to report.

^c Citings by all other journals, each accounting for less than .1 percent of the total annual citings.

TABLE 5
A Comparison of ACR Citing and Cited Patterns
1984, 1985, 1986, 1987 By Areas

Areas	Ratio of Citing ACR	Cited by ACR	Citing/Cited
Consumer Research	439	1032	.43
Marketing	366	1645	.22
Operations Research	6	29	.21
Business-general	25	135	.19
Economics	6	34	.18
Recreation	3	17	.18
Gerontology	4	25	.16
Psychology	108	1585	.07
Communication and Journalism	9	150	.06
Sociology	5	130	.04
Accounting	9	0	0
Public Relations	3	0	0

TABLE 6
A Comparison of ACR Citing and Cited Patterns
1984, 1985, 1986, 1987 By Journals

Journals	Citing ACR	Cited by ACR	Ratio of Citing/Cited
Journal of Economic Psychology	41	6	6.83
Annual Review of Psychology	49	31	1.58
Journal of Advertising	83	54	1.54
Journal of Business Research	25	25	1.00
Journal of Consumer Affairs	32	40	.80
Journal of Consumer Research	396	949	.42
Journal of Retailing	36	100	.36
Gerontologist	4	13	.31
Journal of Leisure Research	3	17	.18
Journal of Marketing	83	490	.17
Journal of Social Psychology	3	22	.14
Journal of Marketing Research	90	714	.13
Journal of Advertising Research	15	183	.08
Journal of Experimental and Social Psychology	6	89	.07
Public Opinion Quarterly	6	85	.07
Journal of Applied Psychology	3	85	.04
Journal of Personal and Social Psychology	3	401	.01

consider shortening its citation format, in the spirit of eliminating barriers to future citations.

In many academic institutions, proceedings publications count very little toward promotion and tenure. Here we uncover some evidence that the ACRP is at least as prestigious as some journals, in terms of contributing to new knowledge in a wide variety of fields. ACRP papers are noticed and do inspire additional, follow-up work. It would be interesting to track the influence which specific ACRP papers have had by utilizing SSCI data to conduct a network analysis.

In this brief study, we have examined a small portion of academic knowledge use. One way that an academic can make use of a published paper is by reading it and subsequently citing that paper in a future publication. There are, of course, other ways that academics may utilize the knowledge contained in a journal article and there are other ways that non-academics may also use such knowledge. For example, a manager may read something and then think about a strategic problem in a new way. It would be interesting to expand the scope of investigation and look into other ways that ACRP articles may make a difference. In a similar vein, it would also be enlightening to examine the impact that non-published ACR presentations have. Over time, there is a trend for authors to elect not to publish their ACR papers in the proceedings; but these papers also have the potential to contribute to knowledge through an informal exchange network. Explorations of such informal networks require something other than a citation analysis.

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Metaphor In Promotional Communication: A Review of Research on Metaphor Comprehension and Quality

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ABSTRACT

Metaphorical comparisons are frequently used in advertising to generate beliefs or to enhance the image of a product or service. Yet, very little research has appeared in the marketing literature which has discussed the nature of metaphors, their cognitive processing, or their effects on inference and evaluation. Researchers have provided virtually no guidelines for the creation of more effective promotional metaphors. This paper discusses various models of metaphor comprehension and quality, and suggests guidelines for both marketing practice and future research.

INTRODUCTION

Metaphors abound in everyday conversation, in literature, and in advertising and other promotional efforts. A metaphor is usually described as an explicit or implicit statement that one concept is another concept. Marketers use metaphors in slogans ("Budweiser: The King of Beers," "Today's Chevrolet: The Heartbeat of America," "Nissan Trucks: The Hard Bodies," "Samsonite: The Survivor"), names ("Mustang" for a car, "Opium" for a perfume, "Trojans" for prophylactics), and other types of promotional devices. Marketers also employ metaphors to explain products and services to consumers by translating technical concepts into different and more understandable terms.

Despite marketers' frequent use of metaphors, the consumer behavior literature has had little to say about such issues as how consumers comprehend metaphors or how to create a metaphor that is apt, comprehensible, memorable, and encourages desired inferences and favorable affect about its subject (for exceptions to this neglect, see Kehert-Ward (1986) and the special session on metaphor noted in this volume of the Association for Consumer Research Proceedings).

This lack of recognition is unfortunate for several reasons. First, the study of metaphor has long been of interest to other disciplines. These include philosophy (for a review of historical and recent perspectives see Johnson 1981), psychology (for reviews see Billow 1977, Ortony 1979), linguistics (e.g., see Lakoff and Johnson 1980), literary criticism (e.g., see Johnson 1981, and Sacks 1978), and the aesthetic study of the visual arts (Arnheim 1969, 1974; Gombrich 1963, 1972a, 1972b). In the philosophy of science literature Black (1962), Kuhn (1979), Ward and Ruekert (1984), Arndt (1985), and Mick (1986) among others have suggested that metaphors can be powerful tools for the development of scientific theory (e.g., the cybernetic metaphor for cognitive activity).

Second, despite this long history of scholarship, theoretical issues about metaphor are far from being resolved. In fact, interest in the study of metaphor has increased in other disciplines enough to prompt Johnson (1981) to comment that, "We are in the midst of metaphormania. Only three decades ago the situation was just the opposite: poets created metaphors, everybody used them, and philosophers (linguists, psychologists, etc.) ignored them" (p. ix).

Third, scholars of consumer behavior might make interesting contributions to this interdisciplinary discussion. The mass of people may be more likely to be exposed to new metaphors through promotions than through poetry. Thus, the character of promotional metaphors and their relation to mass culture deserve study. Furthermore, promotional metaphors are usually intended to be apt, comprehensible, memorable, and to influence consumer beliefs and affect. These qualities of metaphor are the subject of controversy in other disciplines and further theoretical and empirical work seems necessary to help resolve these controversies.

To illustrate how promotional metaphors could be useful vehicles for the study of these issues, consider how the issues of comprehension, persuasion, and aptness are relevant to understanding the effectiveness of the metaphorical slogan "Nissan Trucks: The Hardbodies." To be effective, a promotional metaphor must minimally be comprehended by its intended audience. In other words, the audience must be able to see how trucks might be meaningfully related to people who have fit, hard-muscled bodies. An effective promotional metaphor should also help persuade consumers that a product or service has desirable characteristics. The "hardbody" metaphor seems intended to encourage consumers to infer that Nissan trucks have the characteristics of a fit body including strength, endurance, vigor, longevity, freedom from ills, and good looks. Young adults, an important market segment for compact pick-up trucks, are both likely to understand the term "hardbody" and to value such characteristics in themselves and trucks. If consumers make favorable inferences, their attitude to the product should improve. Furthermore, a promotional metaphor that is perceived as "apt" (that is, good, clever, and insightful) may create a more favorable attitude toward the promotion itself (Aad) which might also favorably influence attitude toward the product.

As this example suggests, marketing scholars have the opportunity to make significant advances in the study of metaphor that are both theoretically interesting and practically useful. From a theoretical perspective, issues such as how metaphors are perceived, processed, and remembered have fascinated scholars for decades, and fit with

marketing scholars developing interest in the study of symbol perception, processing, and meaning (e.g., Solomon 1983, Mick 1986, Sherry and Camargo 1987, Hirschman 1988). From an applied perspective, many promotional campaigns are based on a metaphor but metaphors vary widely in their success. People regard some metaphors as trite, inappropriate, or confusing, and others as apt, clever, illuminating, and memorable. The best promotional metaphors have become popular symbols of American culture, and have helped create legends around a few products. For example, the Ford Mustang's name suggests such associations as speed, freedom, independence, and even rebellion that probably helped increase the product's appeal to young people in the sixties (Iacocca 1984).

The purpose of this paper is to encourage students of consumer behavior to become more interested in the study of metaphor. All of the perspectives noted earlier cannot be adequately discussed in a short paper, so this review will focus on recent work in psychology which has attempted to explain how metaphors are comprehended and what makes one metaphor more apt, comprehensible, and memorable than another. Since the study of metaphor has become highly interdisciplinary, reference to work in philosophy and linguistics will also be made.

WHAT IS METAPHOR?

The question of what a metaphor is, and how a metaphor can be identified, is a complex issue. The simplest definition is that a metaphor is a statement that one concept is another. This is generally true, but is not sufficient to identify and distinguish metaphors from other statements. For example, by itself the statement that "Baking Soda is a rug deodorant" does not seem metaphorical. Many theorists have added the restriction that metaphors are literally untrue, or in the terms of linguistic theorists, "semantically deviant" (Matthews 1971). In this view, we recognize a metaphor by its violation of linguistic selection restrictions which govern what sense a lexical item can assume in relation to other lexical items in a sentence (Katz, 1964). For example, we recognize that the statement "Nissan Trucks (are) Hardbodies" is metaphorical by noting the incompatibility of, among other things, the marker [+ made of steel] attached to trucks and the marker [+ made of flesh] attached to hard bodies. However, Loewenberg (1975) and others have criticized this view by arguing that it focuses on literal falsity as a defining characteristic of metaphor when in fact falsity is a frequent but not a necessary characteristic of metaphorical statements. For example, a consumer might say that, "My stock broker is a gambler" and, if the broker plays cards, convey a literal and metaphorical truth. Loewenberg (1975) suggests that metaphors can only be identified by considering the context beyond the sentence in which the statement occurs. Johnson (1981) agrees with this view suggesting that "our identification of an utterance as metaphorical does seem to involve some

strain between the normal sense of the utterance and the total speech situation in which it occurs" (p. 23). In identifying metaphor, an important part of the speech situation may be the listener's inference about the speaker's intention. People assume that communication is purposeful (Grice 1975) and rely partly upon their perception of the communicator's intention to decide whether a statement should be interpreted as metaphorical or not. The consumer who encounters the statement "Nissan Trucks: The Hardbodies" could take the statement literally. After all, trucks do have hard (steel) bodies. But the consumer may note the statement is part of an ad and expect colorful metaphorical language that describes cars and trucks in human and animal terms that appeal to the truck's intended consumers. Such extra-linguistic contextual knowledge may facilitate the consumer's recognition of the statement as metaphorical and then guide the consumer's efforts to interpret the metaphor. For example, the consumer could think of many ways that a Nissan truck is like a well-muscled body (e.g., the more muscle mass a body has, the more calories are required to maintain the body) but, once again, the consumer realizes advertisers intend to convey favorable attributes about their products and this inference no doubt encourages focus on attributes like strength and durability.

The issue of what metaphors are and how they can be identified is far from resolved despite the long history of scholarship on this issue. But as the Nissan truck example illustrates, the study of promotional metaphors seems capable of furthering understanding of these issues.

THEORIES OF METAPHOR COMPREHENSION AND APPRECIATION

Theories of metaphor comprehension and appreciation are concerned with how people derive meaning from non-literal statements. Three major schools of thought or theories--the anomaly view, the comparison view, and the interactionist view--have dominated discussion of metaphor processing and evaluation. These theories are particularly interesting from a marketing perspective because they each suggest different guidelines for constructing effective promotional metaphors.

Prior to discussing these theories, a few terms need definition. Consider the metaphor, "Today's Chevrolet: The Heartbeat of America." The subject of a metaphor (e.g., "Today's Chevrolet") is called the tenor. The thing the tenor is compared to is called the vehicle (e.g., "The Heartbeat of America"). As noted, two important dependent variables in the study of metaphors are comprehensibility and aptness. Comprehensibility is merely whether people grasp the metaphor's intended meaning, and has often been measured in past studies as a simple rating of how understandable a metaphor seems (Katz, Paivio, and Marschark 1985). "Aptness" is a construct that seems to be unique to the metaphor literature. Apt metaphors are usually described as

good, pleasing, and appropriate metaphors (Katz, Paivio and Marschark 1985).

The Anomaly View

The anomaly view is perhaps the least developed account of metaphor comprehension and aptness of the three to be reviewed. Essentially, the emphasis in the anomaly view is on dissimilarity between subject and tenor. Anomaly theorists have focused on attempting to account for how people understand literally meaningless statements such as "Chevys are the heartbeat of our country." Scholars with this perspective tend to be linguistic theorists who see a metaphor occurring when the rules of a grammar are violated by a literally untrue assertion (e.g., Campbell 1975, Chomsky 1964, Katz 1964, Ziff 1964). Most of these scholars' theories focus on how linguistic rules are dropped, loosened, or changed to allow the tenor and vehicle of the metaphor to be compared, at least at a more abstract level. In their view, the motive for this process is to reduce the anomaly created by the comparison of unlike concepts.

Anomaly theorists tend to focus on dissimilarity as the source of aptness in metaphor (e.g., Campbell 1975). To these scholars, differences create tension, incongruity, and novelty. The perspective suggests that better metaphors will compare dissimilar concepts, at least to the point where the metaphor becomes incomprehensible.

At least two problems decrease the anomaly view's value as a theory of metaphor quality (Tourangeau and Sternberg 1981). First, as the concepts compared in a metaphor become more and more disparate, the metaphor may become incomprehensible. If comprehension is a necessary, but not sufficient, condition for aptness, the anomaly view fails for extreme examples. For example, "Nissan Trucks are Milkshakes" seems neither comprehensible nor apt. A second problem is that beyond suggesting that more dissimilar concepts are more apt, the anomaly view says little about why dissimilar comparisons are more apt or how they are understood. Usually, anomaly theorists rely on feature-matching to explain how people try to understand a metaphor like "Nissan Trucks are Milkshakes" In this case, the perceiver might search for similarities between Nissan Trucks and Milkshakes, perhaps noting that both cost money, are enjoyed by young people, etc. Although similarities can be found, their relation to the aptness of the comparison is not apparent. The analysis of feature matching seems to contribute little insight beyond the comparison view, to be discussed next.

The Comparison View

The comparison view has a long history in the literature on metaphor, and a number of different versions of this view have been advanced (Johnson 1981). In its simplest form this view asserts that we comprehend a metaphor of the form A is B merely by finding the set of similarities between A and B. In other words, the meaning of the metaphor

is the set of similarities between the concepts. Comparison theories also often suggest that a metaphor will be perceived as more apt to the extent the two things compared have more attributes in common.

Recent versions of the comparison view have been advanced by Johnson and Malgady (1979) and Ortony (1979). Johnson and Malgady (1979) advance a relatively simple model of metaphor comprehension that begins with the assumption that the meaning of a word can be represented by a set of features. When two words are combined in a metaphor, "the meaning of the word combination is determined by an additive summation of the feature sets or vectors for the words making up the compound." They suggest that the shared features of a metaphor are "raised in salience" in the resulting representation of the compound. They acknowledge that their model says nothing about how features are matched or whether some features are more likely to be matched than others. However, this shortcoming has long been a focus of criticism of the comparison view.

Black (1955) criticized the comparison view by noting that any two objects are to some extent similar, yet 1) not all comparisons are perceived as metaphors, and 2) even if a comparison is perceived as a metaphor (e.g., consider the metaphor "men are wolves"), we tend to ignore some similarities between men and wolves (e.g., both have backbones) and focus on others as the meaning of the metaphor. Black's criticism is essentially that a theory of metaphor comprehension and aptness needs to say more than merely "similar features are matched."

Tourangeau and Sternberg (1981) share this criticism but go farther by pointing out that the meaning of a metaphor often is more than the sum of the two term's shared characteristics, particularly if the focus is on literally shared characteristics. For example, the metaphor "Men are wolves" encourages us to see that both men and wolves are predatory, but men and wolves are predatory in different ways. The features are only similar, and therefore not exactly matched in similarity. In fact, the metaphor encourages us to apply attributes of the vehicle's predacity to the tenor's predacity that do not match. That is, the metaphor encourages us to "raise the probability" that attributes such as "voracious, ruthless, and insatiably murderous" apply to men. Of course, naturalists would likely disagree that the last mentioned attributes characterize wolves. Thus, a metaphor may create meaning beyond the usual meanings of matching attributes. According to Tourangeau and Sternberg, a metaphor may be more than the sum of its parts.

Ortony (1979) developed a version of the comparison view that attempts to deal with criticisms like Black's that "matching" is not a sufficiently specific account of metaphor comprehension. Ortony argues that people focus more on some matching features in interpreting a metaphor than others. More specifically, he suggests that people interpret a metaphor by

matching salient features of the vehicle to non-salient features of the tenor. He does not maintain that these matching features need be exact and literal matches, but only matches to "similar" features of tenor and vehicle. Ortony's work deals with some but not all the criticisms of the comparison view. Tourangeau and Sternberg (1981) point that Ortony's view does not focus on the way in which metaphors seem to reinterpret or create attributes. Furthermore, they note that his view acknowledges the presence of dissimilarity between the tenor and vehicle but does little to attempt to account for the possible contribution of dissimilarity to the perception of a metaphor as more creative, novel, and apt.

The Interaction View

Interactive theories of metaphor comprehension argue that the subject and vehicle of a metaphor interact to create a new meaning that is more than the intersection of the two concepts' feature sets. The interaction view emphasizes that a metaphoric comparison may encourage the perceiver to reinterpret both the tenor and the vehicle. The meaning of the metaphor results not just from a feature-by-feature matching of the literal features of tenor and vehicle but from a matching of characteristics in each concept that may be created by the metaphor itself. For example, the metaphor, "1988 Jaguar XJ6: A New Breed of Cat Prowls the Road," encourages the perceiver to reinterpret the literal meaning of "cat prowling for food," to include elements of status competition instead of competition for food, and to include elements of elegance, grace, and sophistication that might otherwise not be salient aspects of the image of a cat prowling.

Tourangeau and Sternberg (1981) have advanced the most recent and complete interactive model of metaphor comprehension. Their "domains-interaction" model argues that the best, most "apt" metaphors are those that show a close point-by-point correspondence between two widely separate domains or categories. This model considers two kinds of similarities. One is between-domain similarity, the similarity between the domains, or categories, of the tenor and vehicle. According to the model, a metaphor tends to be perceived as more apt, but less comprehensible, to the extent the tenor and vehicle are from disparate categories. However, the model acknowledges that the metaphor must at least be comprehensible to be perceived as apt. The other type of similarity, called within-domain similarity, is the degree to which the network of beliefs about the tenor is perceived as corresponding to the network of beliefs about the vehicle. For example, Proctor and Gamble's Dove soap has a metaphoric name. Obviously, soap and birds are widely separated domains. However, P&G has designed and promoted Dove soap to have attributes similar to a Dove. For example, the soap is white, gentle, and, like a Dove is thought to be pure and "innocent," i.e., lacking in harmful additives. According to the model, the comprehensibility of a metaphor should increase to the extent within-

domain similarity increases. However, if tenor and vehicle are from similar domains, the metaphor will seem less apt because it is an obvious, trite, "easy" comparison.

The domains-interaction model incorporates insights provided by the anomaly and comparison views but goes beyond either. From the anomaly view, the domains-interaction approach borrows the suggestion that a comparison of more disparate categories may be perceived as more "metaphorical" or clever than the comparison of similar categories. However, the comparison of extremely disparate categories often seems bizarre rather than apt. The question that arises is under what circumstances comparison of disparate categories seems apt. For the answer, the model borrows from the comparison view the insight that comparisons that are more complete are perceived as better. Tourangeau and Sternberg (1981) as well as Trick and Katz (1986) have tested this model and overall their results support the relationships the model hypothesizes between within and between category similarity and measures of metaphor comprehension and aptness. However, the interaction model still needs further development. Like the comparison view, the model is still somewhat vague about a variety of issues such as what is or is not a metaphor, the process of metaphor comprehension, and more specifically the process of within-domain attribute matching.

The interaction model provides suggestions for the creation of more effective promotional metaphors. Better metaphors will use tenors and vehicles chosen from disparate categories that occupy similar positions within their categories. In attempting to create such metaphors, marketers should consider how the vehicle (e.g., "Hardbodies") is similar to, and illuminates salient attributes of the tenor (Nissan trucks) that the advertiser wishes to emphasize. Ideally, the vehicle might suggest a novel, clever, attention getting but understandable comparison that causes consumers to think about salient competitive advantages of the advertised product, and perhaps encourages them to add favorable affect or beliefs about the vehicle to their associations about the product.

In further research using the domains-interaction perspective, Sternberg and Nigro (1983) have investigated how the presentation of a metaphor, specifically the order in which its terms are presented, influences perception of the metaphor's aptness. For example, they asked subjects to rate the aptness of different arrangements of a metaphor. Two of the forms are shown below:

- (1) Bees in a hive are a Roman mob.
- (2) Bees are a Roman mob in a hive.

They found that subjects rated the second arrangement as more apt than the first. Their explanation for this result is that the second form increases the perception of tenor-vehicle interaction relative to the first form. In the first form, the sentence is merely "Bees in a hive = Roman mob." In the second form, the terms of comparison are

mixed across the "are." This type of research might be relevant to advertisers interested in presenting their metaphors in the most effective way.

Stages of Processing

The views of metaphor processing discussed above focus on the characteristics of metaphors that influence their perceived aptness and comprehensibility. Another stream of research on metaphor processing has focused on the issue of whether the processing of non-literal statements requires more stages than the processing of literal statements. A three-stage model of non-literal and metaphoric language processing has been proposed and supported by Grice (1975), Clark and Lucy (1975), Searle (1979), and Janus and Bever (1985). These researchers begin with the assumption that people expect linguistic interactions to be governed by a "cooperativeness" principle in which communications are assumed to be truthful and informative. In the first stage of discourse processing, the model assumes people automatically construct a mental representation of the literal meaning of a phrase such as "Today's Chevrolet: The Heartbeat of America." Second, the perceiver tests this literal interpretation in context to determine if it is plausible and appropriate. Taken literally, the above phrase, which involves not one but two metaphors, makes no sense at all because Americans do not share a beating heart, and today's Chevies cannot be heartbeats. If the perceiver rejects the literal interpretation as the intended meaning, he or she then searches for the intended non-literal meaning. In this case, the perceiver might realize that "heartbeat" is an implicit metaphor for "collective values and folkways" and then begin to search for the relationship between Chevies and the national character.

The three-stage model implies that metaphors, unlike literal statements, are not understood automatically, and require more cognitive effort and time to understand than literal statements. In support of the three-stage model, Janus and Bever (1985) have found longer reading and processing times for metaphors as compared to literal statements.

For advertisers, the implications of this model include the possibility that consumers might take longer to comprehend metaphoric communications, but also might tend to process such communications more deeply than literal comparisons.

As an alternative to the three-stage model, Glucksberg, Gildea, and Bookin (1982) have argued that metaphors and literals are processed in the same way "using the same cognitive and inferencing machinery." In support of their contention, they cite Ortony et. al.'s (1978) finding that metaphors take no longer than literals to process, and that their own finding that metaphor meaning is accessed simultaneously with literal meaning (also see Glidea and Glucksberg 1983).

As with many controversies in the metaphor literature, the stages of processing debate has not

yet been resolved and therefore presents an opportunity to consumer researchers.

OTHER ISSUES

Memory

Very little research has focused on the factors that make one metaphor more memorable than another. The few studies available indicate that metaphors differ from one another in their memorability and that the vehicle may be more important than the tenor of a metaphor in organizing people's comprehension and memory of the metaphor. Marschark and Hunt (1985) asked subjects to rate metaphors on a set of measures of metaphor characteristics. Later they tested the subjects' unaided and aided recall for the metaphors. They found that only their measures of the number of interpretations subjects could give to the metaphor and the imageability of the metaphor's tenor were consistently related to recall. Verbugge and McCarrell (1977) performed a series of experiments involving cued recall and concluded that the vehicle of a metaphor is more important than the tenor for guiding comprehension of a metaphor, and organizing memory for its meaning. Further research on factors that influence the memorability of metaphors seems needed and could be a useful contribution by consumer researchers, especially considering the probable significance of the issue to advertisers.

Imagery

Marketers often present metaphors to consumers visually instead of verbally or in writing. Despite the prevalence of visual metaphor in the arts (paintings, photography, movies) as well as advertising, there have been few empirical studies of the role of imagery in the comprehension, appreciation and memory of metaphors, although the literature on interactive imagery seems highly related to this issue (e.g., Alesandrini 1983).

The few studies that have explored imagery and metaphor usually note Paivio's (1979) perspective on the role of imagery in metaphor. From his dual-coding theory, Paivio predicted that imagery should benefit comprehension and memory for metaphor. Several studies support these predictions (Marschark, Katz, and Pavio 1983; Katz, Paivio, and Marschark 1985; Marschark and Hunt 1985). Paivio also predicted that vehicle imagery is more important than topic imagery in the comprehension of metaphor. He suggests that, "metaphor processing begins with and is guided by the vehicle, especially if it has high image evoking properties. In metaphorical terms, a high-imagery vehicle functions as a particularly efficient 'conceptual peg' for retrieval of conceptual information" (Paivio and Clark 1986, p. 98). In a set of studies, Paivio and Clark found overall support for this hypothesis. Katz (1989), in a study of the vehicles that subjects chose to complete metaphors, found that his subjects preferred concrete over more abstract vehicles. This finding also

seems to provide some support for the importance of imagery, and particularly vehicle imagery, in metaphor appreciation although Katz studied concreteness and not imagery per se.

Context

Metaphors, like other types of communication, occur in contexts. Developing research shows that the context a metaphor occurs in can influence its interpretation and the ease with which it is comprehended (Shinju and Myers 1987, Inhoff et al. 1984, McCabe 1983). These laboratory studies suggest that the contexts in which promotional metaphors occur may influence their meaning. For example, if an ad using the "Nissan Truck: The Hardbodies" metaphor appears in a sports magazine, the comparison to an athletic body may be emphasized. Once again, further research on context effects seems warranted in consumer settings.

FUTURE RESEARCH

The opportunities for future research on metaphors in promotional communications are numerous and interesting. Only a few of the possibilities can be suggested. The models of metaphor comprehension and quality discussed earlier have not been thoroughly validated. In particular, the domains-interaction approach has only been tested in a handful of studies. So opportunities exist to further compare, develop, and refine these or new models of metaphor processing in the context of consumer behavior. As suggested earlier, issues concerning memory for metaphor, the role of imagery in metaphor processing, and the influence of context on metaphor perception seem ripe for study by consumer researchers.

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An Introduction to Semantic Variables In Advertising Messages

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ABSTRACT

This article presents a new way to analyze the technical composition of language used in advertising messages. Three semantic variables, reports, inferences and judgments, known collectively as the "semantic trichotomy", are introduced with a review of the general semantics literature. A new conceptualization which adapts these notions for future experimental study is provided. Two preliminary studies provide the main focus of this paper to prove that this distinction is clearly discernible in consumers' minds, an essential step prior to further experimental study.

INTRODUCTION

A review of marketing and communication literature suggests a need for the study of elements of the English language which contribute to the creation of persuasive messages. A semantic dimension, hereafter referred to as the "semantic trichotomy", is proposed as one systematic way of analyzing the technical composition of language.

This topic has been selected in light of the need for systematic ways of analyzing and constructing messages. Numerous researchers have pointed out that relatively little work has been done in analyzing the technical composition of advertising messages (Fishbein and Ajzen, 1981; Petty and Cacioppo, 1986). Issues, such as strong vs. weak arguments, or argument length, and other factors which influence the effectiveness of the message as constructed, have been widely addressed by persuasion researchers (Petty and Cacioppo, 1984). However, little attention has been paid to confronting the language itself and asking the question, what elements of the language contribute to the creation of persuasive, or not so persuasive messages? (Petty and Cacioppo, 1986). For this reason, Fishbein and Ajzen (1981) have said that "the general neglect of the information contained in a message ... is probably the most serious problem in communication and persuasion research" (p.359).

At least three taxonomies superficially resemble the semantic trichotomy: the Fishbein and Ajzen (1981) distinction *descriptive, inferential and informational beliefs*, the Holbrook (1975, 1978) notion of *factual and evaluative messages* and the notion of *concrete vs. abstract sentences* (Begg and Paivio, 1969; Paivio 1971; and Yuille and Paivio, 1979). Each of these approaches can be shown to be quite different from the semantic trichotomy.

This paper presents the first, necessary step in the process of developing and exploring the effects of these three semantic variables. In the first section, the semantic trichotomy is introduced presenting definitions from the general semantics literature. A new conceptualization is then presented in order to 1) provide a way to clearly separate the semantic trichotomy for later experimental study and

2) explain *a priori* the process through which these variables operate. In sum, this conceptualization provides a way to incorporate the semantic trichotomy into a framework which will be used in later work to generate hypotheses for further study. The final sections present two preliminary studies which demonstrate that the semantic trichotomy is inherently discernible and differentiable.

THE SEMANTIC TRICHOTOMY

The notions of reports, inferences, and judgments are presented in a well-known, classic general semantics book, *Language in Thought and Action* by S. I. Hayakawa (1972). The definitions which are given for these terms in the aforementioned book provide a starting point for developing a semantically oriented approach to persuasion.

Report

Hayakawa (1972) defines a report as a statement about a stimulus based on sensory information, i.e. information which we or someone else has directly seen, heard, or felt. Furthermore, Hayakawa states that for a statement to be a report, it must be capable of verification, either directly or indirectly. Further, people often draw conclusions mistakenly when they confuse inferences and judgments for reports (Hayakawa, 1972; Korzybski, 1947).

Condon (1985) uses the term 'statement of description' to describe what Hayakawa calls a report. He argues that these types of statements are generally more believable. Condon also states that reports generally do not create debate. Rather, they are accepted easily (Condon, 1985).

Inference

Hayakawa (1972) defines an inference as a statement about matters which are not directly observed. Unlike a report which is based directly on the sensory information at hand, the observed sensory information is used as a starting point to draw conclusions. This process of drawing conclusions is called abstraction. There are numerous levels of abstraction. For example, one can reason that one's dentist bills will be lower if one uses a toothpaste which reduces plaque and retards tooth decay. Or one can reason that one will be more attractive to members of the opposite sex.

Condon (1985) emphasizes the lower verifiability of inferences as compared to reports. According to Condon, some inferences are immediately verifiable; others take longer to verify; still others are totally unverifiable. Rosenthal (1971) adds that if a message lacks verifiability, the pre-existing knowledge of the listener may be essential to interpret the message in terms of its "truth" or meaning.

This discourse concerning verifiability is very interesting, but an inference which cannot be verified is still an inference, eliminating this as a distinctive feature. Furthermore, if some inferences can be verified, then how does one tell the difference between a verifiable report and a verifiable inference?

Condon re-states the Korzybskian notion that an inference often has less truth value. This lower truth value is explained by Gorman (1962) in terms of the strength of the predictions about the future which can be made.

Judgment

Hayakawa (1972) defines a judgment as an expression of the writer's evaluation, often including approval or disapproval, of the event, persons or things being described. He provides this example: The report statement "The Senator was the only one who voted against the bill" can be turned into a judgment with the sentence "The Senator courageously stood by his principles and voted against the bill." The judgment has been made that the Senator has behaved in a morally superior fashion. In effect, the author is giving his stamp of approval. According to Condon (1985), a statement of judgment adds the values of the person making the judgment to the meaning of the statement.

Values do not provide the basis for a clear definition, since neither reports nor inferences include the person making the statement. Agreement does not distinguish a judgment from the others. Consensus can be extensive. For example, few would argue with the judgment "tall willowy blondes are beautiful".

NEW CONCEPTUALIZATION

The basic concepts of two theories, Kelley's attribution theory and Chaiken's heuristic model of persuasion, are used in developing the new conceptualization. While none of the attribution approaches works in its entirety to explain the semantic trichotomy, Kelley's explanation of causes of observable actions (Kelley, 1967, 1972a, 1972b) is the most useful approach for separating the semantic trichotomy so that operationalization can take place. Further, Kelley and Chaiken's work provide insight into the mechanisms which may be operative in the persuasion process. In the case of the semantic trichotomy, the "causes" of the statements are not actions, but rather underlying beliefs about the meaning of the information provided. These underlying beliefs communicated by the semantic trichotomy mediate the persuasion process. The cause for an event is seen as part of the individual or part of the environment. This basic notion can be applied to situations in which people are presented with messages and must interpret their meaning and assess their validity.

An important implication of the attribution framework is that persuasion involves message recipients engaged in logical, consistent cognitive processing. An alternative to the systematic approach to message learning has been proposed by

Chaiken (1980, 1982) and another similar version has been developed by Petty and Cacioppo (1981, 1984, 1986). Chaiken's heuristic model and Petty and Cacioppo's peripheral route to persuasion suggest that some message processing involves relatively little cognitive effort.

The concepts of report, inference and judgment can be viewed as message content terms which provide a set of information to consumers upon which various attributions are made. The persuasion process which occurs can be described in this way. (Figure A)

When message recipients hear or see a report, a high level of attribution to the stimulus occurs. When message recipients hear or see a judgment, a high level of attribution to the person occurs. In the case of inferences, the level of attributions lies somewhere in between reports and judgments.

The reading of a report, inference or judgment invokes a causal schema based on the stimulus x person x abstraction data revealed in the statement, suggesting heuristic information processing. This triggers the corresponding set of beliefs based on the data pattern. The naive psychology of human beings provides us with the ability to make this distinction. Based upon a person's experience with the external environment, one learns the underlying difference in these concepts.

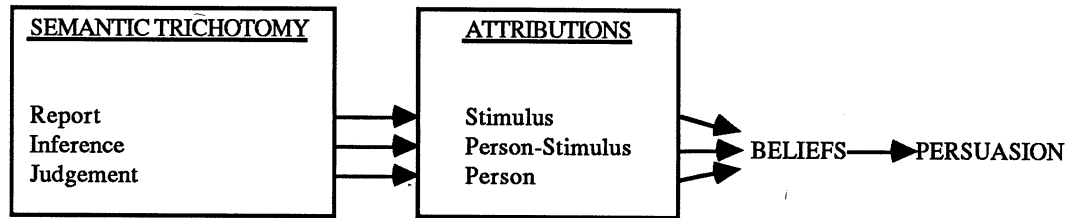
A statement which is pure report, excluding all inferences and judgment, deals with properties of the stimulus in question. This characteristic provides the distinctive feature that separates the semantic trichotomy. The more a statement describes the stimulus exclusively in terms of those characteristics which can be perceived by the senses, the more the statement is a "pure" report excluding inferences and judgments. The perceived veridicality of the statement is derived from the attribution process in which, first, the statement is attributed to the stimulus and is perceived to be part of external reality. This is followed by the perception of the statement or message as more believable. Thus, the message is accepted more readily.

A judgment, on the other hand, is a statement which contains the affective response of the individual expressing the message. A pure judgment is one which only contains statements of how positive or negative the product is. Once again, the naive psychology of the listener/viewer provides the individual with the sense that the message is the property of the person as opposed to the stimulus. Last, a statement of inference contains different levels of abstraction from the stimulus or person.

Two issues which remain are (1) the effect of source on the perception of the product in the message and (2) the presence of systematic or heuristic processing. These questions have been left for consideration in another paper.

The conceptualization discussed here was then used to develop messages for preliminary testing. While it was recognized that the real issue was whether the semantic trichotomy can potentially add to our knowledge of persuasion, it was first

FIGURE A
Conceptual Model of the Persuasion Process



necessary to demonstrate that each member of the semantic trichotomy is perceived as different.

PRELIMINARY STUDIES OF THE NEW CONCEPTUALIZATION

Two preliminary studies were conducted. It was reasoned that if the semantic variables could be identified in an unguided sorting task, then this would be an indication that the report, inference, and judgment messages could persuade respondents differently.

Since it was hypothesized that there may be a source x semantic interaction, source and unmentioned source cells were included in the two studies which follow. However, it is not the scope of this paper to report on this dimension.

In each study, subjects were given 5 1/2" x 8 1/2" cards in random order. The following elements were kept constant:

- 1) For each category, each message was based on the same three attributes judged by the experimenter to be the three most important attributes in the category.
- 2) Each message contained three sentences.
- 3) The number of words on each card was the same plus or minus five words.

Respondents were deliberately given very little information in order to see if the three semantic variables could be identified. Specifically, they were instructed to sort the cards on the basis of the number of *types of statements* they perceived. Furthermore, they were told that the number and size of the piles was completely up to them. No other information was provided.

In each preliminary study, chi-square analysis of the data was performed to determine whether respondents were able to perceive the differences in the semantic trichotomy. Expected frequencies were developed based on perfect recognition of the distinction as will be explained below. Using the hypothesis that the observed frequencies are equal to the expected frequencies, it was expected that the chi-square values would *not* be significant if respondents were able to correctly place the statements into three or four piles.

Generally, scientific studies seek to reject the null hypothesis. However, chi-square analysis

provides a clear way to analyze this sorting study; consequently, the experimental hypothesis is that there will be little deviation from the expected pattern. Thus, if the semantic trichotomy is real in subjects' minds, then observed frequencies will be equal or close to equal to the expected frequencies resulting in *no* significance.

The observed frequencies used to compute the chi-squares were defined as 'the number of subjects placing a report message of that category into a report dominant pile'. The dominant semantic variable in each pile was defined as the 'variable with the majority of cards in the pile'. For example, if a pile contained five cards with three report messages, one inference message, and one judgment message, it was labelled a report pile.

First Preliminary Study

Thirty-one Mercy College students participated in this experiment: Fourteen received cards with the messages introduced by a high source and seventeen received cards with the messages introduced by no source at all. Two levels of inference, referred to as "high" and "low", were included in this preliminary study. Five consumer categories were used: toothpaste, bar soap, shampoo, disposable diapers, and floor cleaner. Two sets of expected frequencies were developed (See Tables 1 and 2).

Results. Subjects were unable to correctly place the cards into piles when the results were tallied using two levels of inference. The difficulty of sorting into four piles was due to the respondents' inability to perceive the difference between the low and high inference categories.

When the chi-square analysis was performed combining the low and high inference messages, respondents were generally able to perceive the differences in the semantic trichotomy. The differences between the observed and expected were not significant for all five categories for the non-source data and not significant for four out of five for the source data. Thus, the null hypothesis was not rejected (See Tables 1 and 2).

In light of this first preliminary study, a number of changes in the stimulus materials were made. First, the two inference levels were eliminated for the second preliminary study; second, the floor cleaner and disposable diaper categories were replaced by categories which, according to the

TABLE 1
First Preliminary Study

Chi-Square Statistics By Category
Non-Source Data/3 Semantic Variables

<u>CATEGORY</u>	<u>MESSAGE TYPES</u>	<u>OBSERVED FREQUENCIES</u>	<u>EXPECTED FREQUENCIES(1)</u>	<u>CHI-SQUARED VALUES</u>
TOOTH- PASTE Ss=17	Report	14	17	0.53
	Inference	29	34	0.74
	Judgment	11	17	<u>2.12</u>
				3.39
SHAMPOO Ss=17	Report	15	17	0.24
	Inference	32	34	0.12
	Judgment	13	17	<u>0.94</u>
				1.30
BAR SOAP Ss=17	Report	15	17	0.24
	Inference	32	34	0.12
	Judgment	14	17	<u>0.53</u>
				0.89
DISPOSABLE DIAPERS Ss=17	Report	14	17	0.53
	Inference	28	34	1.06
	Judgment	13	17	<u>0.94</u>
				2.53
FLOOR CLEANER Ss=17	Report	15	17	0.24
	Inference	26	34	1.88
	Judgment	12	17	<u>1.47</u>
				3.59

* significant at $\alpha = .10$

** significant at $\alpha = .05$

*** significant at $\alpha = .01$

(1) The inference cell is larger than the other two cells because the 'low' and 'high' inference cells were combined.

TABLE 2
First Preliminary Study

Chi-Square Statistics By Category
Source Data/3 Semantic Variables

<u>CATEGORY</u>	<u>MESSAGE TYPES</u>	<u>OBSERVED FREQUENCIES</u>	<u>EXPECTED FREQUENCIES(1)</u>	<u>CHI-SQUARED VALUES</u>
TOOTH-PASTE Ss=14	Report	10	14	1.14
	Inference	24	28	0.57
	Judgment	8	14	<u>2.57</u>
				4.28
SHAMPOO Ss=14	Report	10	14	1.14
	Inference	22	28	1.29
	Judgment	8	14	<u>2.57</u>
				5.00
BAR SOAP Ss=14	Report	10	14	1.14
	Inference	24	28	0.57
	Judgment	7	14	<u>3.50</u>
				5.21
DISPOSABLE DIAPERS Ss=14	Report	11	14	0.64
	Inference	21	28	1.75
	Judgment	8	14	<u>2.57</u>
				4.96
FLOOR CLEANER Ss=14	Report	8	14	2.57
	Inference	15	28	6.04
	Judgment	8	14	<u>2.57</u>
				11.18**

* significant at $\alpha = .10$

** significant at $\alpha = .05$

*** significant at $\alpha = .01$

(1) The inference cell is larger than the other two cells because the 'low' and 'high' inference cells were combined.

judgment of the experimenter, are more salient to the student population from which subjects were recruited.

The six categories chosen for the second preliminary study were toothpaste, bar soap, analgesic, shampoo, cake mix and dog food. Improvements were made in the operationalization and a low credibility source condition was added.

Second Preliminary Study

Sixty-six students from Mercy College and The King's College were used to conduct the sorting exercise. Subjects for each of the three source conditions received a stack of eighteen cards containing one report, one inference, and one judgment message for each of the six categories. The procedure used in the sorting exercise was the same as the first preliminary study. Messages for

one category are shown in Table 3. Expected frequencies appear in Table 4.

Results. Chi-square analysis revealed that almost all subjects were able to sort the cards into three categories. In all three source conditions, the observed frequencies were very close to the expected frequencies. The chi-square values were below one in the low and unmentioned source conditions, i.e. no statistically significant differences were found between the expected and the observed as predicted. The chi-square value in the high source condition was slightly higher ($\chi^2 = 1.71$), but still not statistically significant (See Table 4).

CONCLUSIONS

These two preliminary studies show that the distinction between report, inference and judgment is real in subjects' minds, although the terminology is

TABLE 3
Second Preliminary Study

Stimulus Materials
Pharmagesic Aspirin-Free Pain Reliever

REPORT

Pharmagesic aspirin-free pain reliever is a safe, effective medicine clinically formulated by health care scientists to work fast within ten minutes to relieve pain. Pharmagesic aspirin-free pain reliever has been shown in long-term clinical testing to get rid of severe, painful headaches and even dental pain in minutes after use. And the thin, smooth safety coating that surrounds each uniquely shaped caplet helps you easily and painlessly swallow Pharmagesic aspirin-free pain reliever.

INFERENCE

Pharmagesic is the aspirin-free pain reliever that works fast for today's modern person who is too busy to take time out from a hectic schedule. Pharmagesic aspirin-free pain reliever eliminates headaches and dental pain so you can concentrate on what you have to do and what you really want to do. You'll be ready to take the world on and you'll know you can win when you easily swallow Pharmagesic aspirin-free pain reliever.

JUDGMENT

Pharmagesic aspirin-free pain reliever is an excellent, fantastic medicine that receives extraordinary praise from all who use it whenever a pain reliever is necessary. Pharmagesic aspirin-free pain reliever will quickly show everyone who tries it that this remarkable formula is worth going out of one's way for. With the exceptional help of this incredible product when you need it, we know that you'll be satisfied and pleased with Pharmagesic aspirin-free pain reliever.

High Source Version (begins with this introduction)

The following statement about Pharmagesic aspirin-free pain reliever was made by Dr. Michael Stevenson, research physician from U.C.L.A.

Low Source Version (begins with this introduction)

The following statement about Pharmagesic aspirin-free pain reliever was made by Jeffrey Arnold, a movie usher from Brooklyn, N.Y.

TABLE 4
Second Preliminary Study

Chi-Square Statistics
All Categories Combined By Source Condition

<u>CATEGORY</u>	<u>MESSAGE TYPES</u>	<u>OBSERVED FREQUENCIES</u>	<u>EXPECTED FREQUENCIES</u>	<u>CHI-SQUARED VALUES</u>
UNMENTIONED SOURCE Ss=21	Report	21	21	0.00
	Inference	18	21	0.43
	Judgment	20	21	<u>0.05</u> 0.48
LOW SOURCE Ss=21	Report	20	21	0.05
	Inference	18	21	0.43
	Judgment	20	21	<u>0.05</u> 0.53
HIGH SOURCE Ss=24	Report	24	24	0.00
	Inference	20	24	0.67
	Judgment	19	24	<u>1.04</u> 1.71

* significant at $\alpha = .10$

** significant at $\alpha = .05$

*** significant at $\alpha = .01$

not. Further study will be needed to deal with the larger issue of whether the notions of reports, inferences and judgments can potentially add to our knowledge of the persuasion process in advertising. It is hypothesized that the semantic trichotomy impacts on subjects' perception of goods and services and, hence, their intent to buy the products they have seen advertised. Since the preliminary studies suggest differences in the presence of source, this issue will also be incorporated into the model and will be further studied.

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Temporal Variations In The Evaluation of Television Advertisements: The Role Of Key Nonverbal Cues

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ABSTRACT

This study seeks to explain the variations over time in viewer evaluations (degree of liking) of television ads. A multiple regression analysis suggests that key nonverbal cues/dimensions explain a substantial proportion of these variations.

The large number of studies that directly or indirectly address individuals' evaluation of television ads are dominated by *post-exposure measures* involving multi-item scales (e.g., attitude-toward-the-ad), which carry some hidden drawbacks. First, post-exposure measures represent global evaluations of the *entire* ad, and may not provide insights on how individuals react to each of the several segments that span the time-duration of the TV ad. Such insights are potentially invaluable since they could establish a scientific basis to produce TV ads that generate high evaluative impact. Each of the several segments (in a TV ad) includes numerous audio and visual variables, and the analysis of the continuous, instant-by-instant, real-time evaluations of such segments could yield important new knowledge on which variables contribute most to positive viewer impact.

Second, post-exposure evaluations of the ad could be biased by primacy-recency effects: the attitude-toward-the-ad measure obtained may be more reflective of the individual's evaluation of the ad for segments he/she is more likely to remember, rather than a "true" global evaluation of the entire ad.

The above considerations underscore the need for obtaining "online" temporal evaluative measures of the ad; in simple terms, this involves measuring the individual's reactions to the ad over time, simultaneously while he/she is being exposed to the ad. However, only a few studies have focused on over-time measures of ad-related response: Alwitt (1985) and Rothschild et al. (1988) employed over-time electroencephalographic (EEG) measures of brain activity in response to ad exposure to assess whether they reflect variations in the content of the ad; in addition, Thorson & Reeves (1986) have investigated the effects of temporal variations in viewer liking for programs/ads on memory for ads.

Although this research follows the spirit of Alwitt (1985) in that it examines the importance of variations in ad content over time, there are key differences: (a) the dependent variable used in our analysis is different: the "degree of viewer liking" toward the ad over time, and (b) we focus attention on key nonverbal cue categories that account for the variations in the dependent variable. In sum, the study attempts to provide preliminary insights on the relative importance of several nonverbal variables in influencing advertising evaluations. The choice of the explanatory variables is primarily motivated by the heightened research attention paid

in recent years to the role of nonverbal variables in advertising (Hecker & Stewart 1988).

Selection of Nonverbal cue categories for analysis:

Three categories of nonverbal audio and nonverbal video cues (that characterize most TV ads) were chosen for this study: (a) music-related cues, (b) voice-related cues, and (c) camera-related cues. Prior advertising research supports the choice of these cue categories for analyses. For instance, the 18 nonverbal cue classes developed by Haley et al (1984) span all three cue categories above. Similarly, in assessing the role of ad-content on EEG activity in subjects, Alwitt (1985) has focused attention on music-variables (also see Stout & Leckenby 1988 for a discussion on the importance of music as a nonverbal element), while camera cues have been studied by both Alwitt (1985) and Rothschild et al (1988).

Selection of specific nonverbal dimensions within each cue category

Several nonverbal dimensions were selected as appropriate for analysis within each of the three nonverbal cue categories, and these are discussed next.

Music category: Past researchers have focused attention on the role of music in TV ads. Two studies (Hoyer, Srivastava & Jacoby 1984; Alwitt 1985), for instance, have attempted to analyze the impact of the presence or absence of music (music as a binary independent variable) in TV commercials. However, given the richness of nonverbal dimensions associated with music, this binary approach is unlikely to produce significant insights. Indeed, Hoyer, Srivastava & Jacoby (1984) note that dummy-coding of the music variable understates the variance in the variable, thus yielding low correlations with the dependent measure; they also suggest that "more refined measurements (e.g., the amount of music) could have resulted in higher R-squares" (p. 21) in their analysis.

While Haley et al (1984) avoided the problems inherent in the dummy-variable approach to coding music, these authors acknowledge that their coding scheme for the music related nonverbal variables may have been naive, because its focus was limited to a few broad aspects: whether the music was vocal or instrumental, the amount of music included, whether the music was in the foreground or background, and the type of music employed (classical, rock, country, jazz, etc). They suggest that future research needs to employ more sophisticated codes to capture the subtle nuances of the music such as rhythms, melodies, textures, and harmonies etc.

However, our review of the relevant literature suggested that more parsimonious approaches to coding music were possible. Asmus (1983), for instance, argues that affective responses to music can be measured by activity and evaluation dimensions (see also McMullen 1982 and Trolio 1976). Apart from these two dimensions, prior research also shows a relationship between the complexity of the music stimulus and subjects' affective responses (Conley 1981; Crozier 1974; McMullen 1974). In addition, Leblanc (1980, 1982) argues that another dimension (interest toward the musical stimulus) should also be related to affective response development.

Based on these research findings, it was decided to evaluate the musical component in TV ads using the following four scales: (a) Ugly/beautiful (evaluation), (b) passive/active (activity), (c) simple/complex (complexity dimension) and (d) uninteresting/interesting (interest dimension).

Voice-related category: Based on a survey of the paralanguage literature, the following two dimensions were used to score voice-related cues: (a) unpleasant tonal quality/pleasant tonal quality, and (b) slow speech rate/high speech rate.

Support for selecting the first scaling dimension above is derived from past research which suggests that subjects' inferences of a communication's affect depend substantially on the voice's tonal quality (Scherer 1972; also see DePaulo et al. 1980 for a review). Specifically, this line of research argues that atonal and tonal-minor stimuli evoke inferences of disgust (unpleasantness) while the tonal-major acoustic characteristic leads to judgments of pleasantness (or happiness).

Further, studies by Mehrabian and associates (see Mehrabian 1972 for a comprehensive review) and Miller et al (1976) strongly suggest that speech rate is correlated with positive inferences of message affect, thus justifying the choice of the second scale dimension above.

Camera-related category: Alwitt (1985) and Rothschild et al (1988) have focused attention on camera-related visual-nonverbal variables e.g., zooms and cuts. Further, these variables have been studied by several communication researchers interested in the complexity of cues associated with television; it was therefore decided to include zooms and cuts as nonverbal variables of interest for our analysis.

In addition to the several nonverbal variables/dimensions discussed above, we also decided to include another key dimension highlighted in the literature on nonverbal communication: the degree of consistency between the nonverbal and verbal variables. This dimension has been shown to be crucial while inferring the affect conveyed by a message (see Mehrabian & Weiner 1967; Mehrabian & Ferris 1967).

Method

Subjects

104 student subjects participated in this study; each experimental session accommodated only one subject and lasted approximately 15 minutes.

Stimulus Ads

To ensure that the data generated were free of biases due to subjects' prior brand-name/company/advertisement familiarity, we considered several English language TV ads from abroad, in addition to domestic TV ads (aired outside the immediate viewing region) representing products and companies unlikely to be familiar to our subjects. A total of 13 ads were chosen from this sample for the stimulus package, based on the following criteria: (a) each ad was different from other ads in the package (so that a broad range of ad themes could be represented in the study), and (b) the ads represented product categories of interest to student subjects (to enhance the validity of the study).

Procedure

A measurement device called the program analyzer was used to generate "online" evaluations of the TV ads in the stimulus package. These data represented the dependent variable, operationalized as the degree-of-liking for the ad segment the subject was being exposed to at a given instant. The analyzer used in this study consisted of a joystick linked to an IBM personal computer. The joystick served as an impromptu/surrogate Likert scale since it could be moved back and forth by the subject along a given plane, and was similar to the dial-turning equipment used by Thorson & Reeves (1986).

Before commencing the actual data collection, the subject was familiarized with the analyzer equipment with the help of a computer program that generated a visual display of a linear scale on the computer screen; this linear scale contained two anchors ("dislike" and "like" respectively). A feature of this program was that the magnitude and direction of any movement of the joystick would be correspondingly reflected in the movement of the cursor along the linear scale displayed on the computer screen. The subject was asked to practice using the joystick and its linear scale analog for 5 minutes, in order to gain "hands-on" familiarity with the sensitivity of the device. Further, since the valence of the Likert scale anchors were reinforced through pictures of a sad or a smiling face placed at either ends of the joystick plane, the subject was also familiarized with the location of the "dislike" and "like" scale anchors.

Following this familiarization procedure, the subject was exposed to 5 sample ads in an attempt to simulate the conditions characteristic of the actual study; the actual stimulus package was then shown to the subject.

The commencement of data collection via the analyzer was synchronized with the start of exposure to the stimulus package. For this study, the movement of the joystick along the vertical plane generated scale values in the range of 1 to 45 for

"dislike", and between 46 and 90 for the "like" evaluations. The computer sampled the joystick position 5 times every second during the data-gathering session. Any movement of the joystick (i.e., change in the scale values along the "dislike"/"like" scale) in these small time intervals was recorded by the computer along with a record of cumulative time elapsed since the beginning of the data-gathering session.

Thus, if one could separately code the exact (cumulative) time of occurrence of any nonverbal cue of interest in the stimulus package, the data-accumulation procedure described above provides a highly accurate basis for studying temporal variations in ad evaluations directly corresponding to these occurrences of the nonverbal cue. Details of such coding exercises by expert judges are described in the next section.

After the data-gathering session, the subject responded to two self-report items. The first item measured the degree to which the subject thought the joystick movements truly reflected his/her actual evaluations of the ad. This was measured on a 5 point scale (with 1=very unlikely and 5=very likely), and the mean and standard deviation across subjects on this measure (4.223 and .625 respectively) indicated a high level of confidence among subjects that the analyzer data accurately reflected their evaluations.

The second item measured the extent to which the subject was involved with the experimental procedure pertaining to the analyzer. This was also a 5 point scale (with 1=very uninvolved and 5=very involved), and the mean and standard deviation across subjects on this measure (4.485 and .778 respectively) reflected high respondent involvement with the experimental procedure.

The subjects' responses in debriefing sessions revealed that none of them had seen any of the foreign TV ads; however, most of them had seen 4 out of the 6 domestic ads included in the stimulus package. Despite the precaution of only including domestic ads (in the stimulus package) that were not previously aired in the immediate viewing region, several subjects indicated that they were exposed to these 4 ads when they had visited contiguous viewing regions. Since subjects' evaluations of these 4 ads could be contaminated by prior brand/company/ad familiarity biases, they were excluded from subsequent analyses.

Coding of commercials

Of the nine nonverbal dimensions discussed above (4 music-related, 2 voice-related, 2 camera-related and the nonverbal/verbal consistency dimension), we note that the camera-related dimensions (viz., zooms and cuts) are binary (present or absent) variables; the remaining variables had to be evaluated on a continuum (the research interest here was not merely on the impact of the presence of these variables, but on the magnitude of their presence). To use these dimensions as independent variables in a regression analysis, the stimulus package was coded for these

variables by a panel of several expert judges (at least 2 judges in this panel had specialist expertise vis-a-vis each of the three cue categories). All the judges were blind to the purpose of this study during the coding process, which is described next.

Coding Binary Independent Variables

The judges used a "binary-coding" version of the program analyzer to code the two binary variables (viz., zooms and cuts) for all the ads in the stimulus package. This version generated a binary coded time-series based on a button-pressing procedure; judges were instructed to depress the button for each instant of time when the cue under investigation was present in the stimulus package being viewed by them. Whenever the button was depressed, the computer recorded a "1" five times every second; otherwise, the computer recorded a "0" (a similar procedure was used by Alwitt 1985).

Coding Continuous Independent Variables

With respect to the six remaining continuous (i.e., interval-scaled) independent variables derived from the nonverbal cue categories, separate groups of expert judges coded each nonverbal dimension of interest one at a time using the same procedure as the subjects in the study; the only difference in this case was that the judges focused on evaluating the nonverbal dimension of interest. In contrast, the subjects in the study were required to evaluate the ad stimulus on the "dislike"/"like" Likert scale.

Note that these six variables pertained either to the voice-related or the music-related category; further, *neither category was present continuously for the entire duration of the stimulus package*. Since the continuous nature of the coded data generated by the analyzer did not recognize the time segments where voice or music were not present in the ad, it was necessary to avoid the inclusion of such spurious data. This could be accomplished by multiplying for each time period, the continuous time-series data generated by judges (corresponding to each continuous independent variable) with appropriate dummy time-series data on the presence (coded "1")/absence (coded "0") of voice or music in the stimulus package. Therefore, voice and music dummies were also obtained through the dummy coding procedure discussed.

Similarly, the degree of consistency between verbal and nonverbal variables in the ad was evaluated by two members of the judges panel.

Analysis

We used multiple regression analysis to assess the impact of the nonverbal independent variables (continuous as well as binary) on the dependent variable (interval-scaled "dislike/like" measure). We checked for two potential problems at this point: autocorrelation among the residuals, and the data-pooling issue.

Autocorrelation among the residuals

It must be noted that autocorrelation among the residuals might confound regression analysis of time-series data. Stated differently, if the evaluation of one segment of the TV ad affected how the segments following it were evaluated, the unique

TABLE 1
TEST-RETEST RELIABILITIES FOR THE NONVERBAL CUES/DIMENSIONS

Dimension coded	Test-retest reliability
<i>Voice-related:</i> Tonal quality (unpleasant/pleasant)	.75
Speech rate (low/high)	.87
<i>Music-related:</i> Evaluation (ugly/beautiful)	.76
Activity (passive/active)	.72
Complexity (simple/complex)	.70
Interest (uninteresting/interesting)	.78
<i>Verbal/Nonverbal consistency:</i> (inconsistency/consistency)	.92

impact of a given set of nonverbal variables at any given time cannot be assessed accurately. The program analyzer generated data at extremely short intervals for all the variables of interest; and to minimize the autocorrelation problem, we only used data drawn at 2-second intervals from this database. The choice of this data interval is consistent with prior research analyses of "online data" (see Alwitt 1985; Thorson & Reeves 1986), and yielded 15 observations for each of the 9 ads studied, for each of the 104 subjects.

To assess the presence of autocorrelation with this time-series data base, regression analyses were conducted on data from 10 randomly selected subjects. Durbin-Watson tests indicated that autoregression was not a problem, thus providing support for using program analyzer time-series data drawn at two-second intervals.

Pooling Data for Multiple Regression Analysis

The dependent measure ("dislike"/"like" scale) has both cross-sectional (across respondents) and time-series (across time within each ad) characteristics; to perform multiple regression analysis using this variable, a decision on pooling or aggregating the database was necessary.

The pooling approach used here involved: (1) standardizing the dependent measures *within* each subject to minimize individual differences in such responses, and (2) averaging this standardized data across subjects for each time period. Such data pooling will maximize relationships between the nonverbal dimensions of interest and the dependent measure, since it avoids the high variance that may characterize individual subject data.

Reliability for Coding Binary Independent Variables

Phi-coefficients assess the relationship between two discontinuous dichotomous variables

(Ghiselli, Campbell & Zedeck 1981), and are appropriate for estimating the inter-judge reliability of coding a binary variable. The phi-coefficients for the four binary-coded variables (at two-second intervals) given below are acceptably high:

<u>Variable coded</u>	<u>Phi-coefficient</u>
Zooms	.89
Cuts	.98
Music dummies (yes/no binary coding)	.90
Voice dummies (yes/no binary coding)	.95

Reliability for Coding Continuous Independent Variables

As already noted above, the six nonverbal dimensions (4 were music-related, 2 were voice-related) and the nonverbal/verbal consistency dimension were coded on a continuous scale. Test-retest reliabilities computed for these time-series data (coded by judges) are given in Table 1.

Results and Discussion

Table 2 summarizes the results of the multiple regression analysis with the averaged "dislike"/"like" data as the dependent measure; the independent variables were the various nonverbal dimensions described above along with the verbal-nonverbal consistency measure.

On the overall level, the predictors were able to account for a significant part of the variance in the dependent measure ($R^2 = .547$). Table 2 presents the regression results, which are discussed next.

Voice-related category: Although past research indicates that variables such as speech rate and tonal quality should be correlated significantly

TABLE 2
RESULTS OF REGRESSION ANALYSIS
(Dependent Variable - "Dislike"/"Like" evaluation of the ad)

Independent Variables				
No.	Class	Description	Beta	Significance
1.	Voice:	Speech rate	-.028	.705
2.	Voice:	Tonal quality	-.059	.428
3.	Music:	Simple/Complex	-.216	.041
4.	Music:	Uninteresting/Interesting	-.089	.600
5.	Music:	Passive/Active	-.404	.008
6.	Music:	Ugly/Beautiful	.630	.000
7.	Camera:	Zooms	.197	.004
8.	Camera:	Cuts	.044	.493
9.		Verbal/Nonverbal consistency	.032	.644

Equation Summary:

$$R^2 = .547$$

$$\text{Adjusted } R^2 = .515$$

$$\text{Overall } F(9,125) = 16.779 \text{ (} p < .0000001 \text{)}$$

with the affective responses to communication, we note that the beta weights for these variables are not significant in the regression equation. A possible explanation for this may lie in the lack of variation in the data. The expert judges felt that there was little variability in these two variables over the ads in the stimulus package.

Music-related Category: Under the music-related dimensions, three of the four dimensions have significant regression estimates. The beta coefficients for the simple/complex and passive/active dimensions were negative, thus suggesting that as the music in the TV ad increases in complexity and/or activity dimensions, the affective evaluations tend to become more negative. This is consistent with the view of Krugman (1965) who suggests that TV is essentially a passive medium that disseminates messages in a "low-commitment" environment; therefore, the more simple or the more passive the music-related cues, the higher the affective evaluations.

On the other hand, the evaluation dimension characterized by the ugly/beautiful scale suggests that more positive evaluations of music in TV ads have a direct impact on the affective responses generated (note that the beta weight for this

dimension is both positive and higher than the other independent measures). This finding is important, and is consistent with prior research. For instance, there is some evidence that the music content in popular jingles and ads elicit positive evaluations; in other words, the more positive the evaluation of music in a commercial, the higher the likelihood of the ad also eliciting a positive evaluation. Gorn's (1982) research supports a similar inference with respect to the product advertised; in this study, a pen displayed with "liked" music elicited higher brand preference ratings relative to another pen that was paired with "disliked" music.

However, the uninteresting/interesting dimension was not significant, suggesting that affective responses to TV ads are not related to how the music-related cues perform on this dimension.

Camera-related Category: Table 2 also indicates that "zooms" (a camera-related visual nonverbal cue) have a significant beta coefficient (.197); further, the positive sign of this coefficient suggests that zooms in a TV ad directly generate positive affective responses to the ad. On the other hand, the beta coefficient associated with "cuts" was not significant. A possible explanation for this

could be that "zooms" typically promote greater focus on the visual stimulus, thereby increasing its informational content; however, "cuts" are synonymous with "breaks" in the visual stimulus which may disrupt continuity in the message and thereby distract the viewer. Zooms may be expected to have a positive impact on the affective responses to the ad since they enhance focus on the visual stimuli, while the distracting potential of "cuts" may not generate such impact at all.

Nonverbal/Verbal consistency dimension:

While prior literature would predict a significant and positive beta coefficient for this dimension (more consistency should lead to more positive affective responses), the analysis yielded a non-significant coefficient for this variable. This result stemmed from the characteristics of the stimulus package, in that variability across the verbal/nonverbal consistency dimension was minimal (the coefficient of variation for this variable was 0.06), and the impact of this dimension was not unequivocally assessed.

Limitations

Although the independent variables accounted for a good proportion of the variance in the affective responses generated by ads, it must be realized that the pooling technique employed could have inflated the R^2 estimate. The R^2 obtained for such pooled data (involving regression on means) are typically much greater than the corresponding R^2 values based on raw data. Future research could overcome this problem by estimating models (on raw cross-sectional time-series data) that satisfy rigorous statistical pooling tests (e.g., Bass & Wittink 1975).

Despite the above limitations, the study still provides useful, albeit preliminary, insights. The findings pertaining to the music-related nonverbal dimensions are interesting. They indicate that higher the level of perceived beauty, simplicity or passivity (in that order) associated with the music component in TV ads, the higher the likelihood of generating positive evaluations of the ad. Similarly, the analyses suggest that zooms in TV ads contribute to more positive evaluations, while cuts do not register any impact on the dependent measure. These findings were interpreted as conforming to prior findings in the advertising literature.

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How Does an Advertisement Mean -- Cue, Claim, Metaphor, Resonance? Discussant's Comments

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Each of the papers presented today looks at a different aspect of how meaning can be conveyed through advertising. The Balasubramanian paper uses the concept of a *cue* and examines affective meaning in an experimental context. The Berger and Gilmore paper draws on the discipline of semantics to describe several types of *claim* that can be made in an ad. The Ward and Gaidis paper reviews a number of literatures in order to profile various theories about *metaphor*. The concepts of cue, claim and metaphor encompass a great deal of contemporary discussion of meaning in advertising. My discussion begins with an examination of what these concepts do *not* cover; i.e., aspects of meaning in advertising which require other concepts for their explanation. I then offer some reflections about the kind of theory which consumer researchers need in order to take a comprehensive approach to meaning in ads. The discussion concludes with a review of the strengths and weaknesses of the individual papers.

CUE, CLAIM AND METAPHOR

"Cue" is an extremely flexible concept for describing aspects of a stimulus which may prove meaningful to a respondent. Any aspect of a stimulus which can be discriminated or recognized by a viewer can serve as a cue. This flexibility makes cue a useful notion in dealing with a variety of non-verbal aspects of advertising. Cue is also a useful notion in an experimental context: it suggests elemental or basic features of a stimulus which an investigator can add to or subtract from the stimulus in the course of devising manipulations. There are, however, two difficulties with the cue concept when the focus is on meaning. First, the very idea of a cue grows out of a tradition in psychology -- reinforcement and drive theory -- which has often been hostile to the notion of mental process. While the use of cue in a conceptualization does not presuppose or inevitably entail a behaviorist position, cue brings with it the idea of an involuntary or mindless response. The very flexibility of the cue concept can also be a drawback. Since virtually any and every aspect of an ad could potentially serve as a cue, we learn very little about the internal structure of an ad or about how different cues may have different effects. In this sense, to describe an element of an ad as a "cue" provides very little information about what the role of that element may be in the creation of meaning.

A claim is an assertion about truth value. As Berger and Gilmore show, several different types of claims can be distinguished. The idea of a claim is clearly relevant in two contexts: 1) issues of truth in advertising; and 2) issues of the persuasiveness of particular messages. Thus, a study of claims may tell us what meaning is conveyed, and whether a meaning will succeed in being conveyed at all.

"Claim," however, may be of more limited applicability than "cue" in the study of contemporary advertising. It seems to me that a study of claims limits one to a consideration of linguistic statements. The idea of claim seems to break down if we consider a television commercial: *Where* is the claim? Is it only present in words spoken or written on the screen? Or does the commercial as a whole constitute a kind of claim? The second problem with claim would appear to be its restriction to the explicit or the denotative. The idea of a tacit claim seems full of problems. If the claim has to be constructed by the recipient, is it fair to describe it as a claim made in the ad? If it is true that reports, inferences and judgments, as claims, are concepts that can be applied only with difficulty to non-verbal elements of ads, and to connotations of ads, then their utility may be quite limited in the assessment of meaning.

The idea of a metaphor is a rich one. It is clearly able to encompass both connotation and non-verbal elements in ads. Unlike cue, it also carries with it notions about internal structure. My problem with the discussion of metaphor in ads is simple: what about *metonym*? Metaphor is but one figure of speech; what about the others? I have to be suspicious of theories of metaphor that are not included within more general theories about figurative speech. In the absence of a more general framework, one fears that the specific phenomenon of metaphor will be so entangled with the general phenomenon -- figurative speech -- that one will be unable to tell whether the theory claims to explain the one, the other, or both.

RESONANCE: CUE, CLAIM, METAPHOR?

At this point I would like to describe a device for conveying or constructing meaning in advertisements that does not seem to be either a cue, a claim, or a metaphor. Consider the following ads:

1. A man's biceps are shown flexed as he works at an exercise machine. The headline reads, "Arm yourself."
2. A shapely woman is shown from the rear as she works out on a stair machine such as those found in health clubs. The headline reads: "People are starting to stair."
3. An ad to Trident gum has the headline, "Fight cavities with a stick."

Magazine ads of this type are not uncommon (McQuarrie 1989, 1990). I have coined the term *resonance* to describe the aspect that these ads share. Resonance may be defined as an echoing or a doubleness within the meaning structure of an ad, such that one element takes on multiple meanings,

or multiple elements are given a single meaning. A more common term, which describes some but not all instances of resonance, would be wordplay (Grinnell 1987). Two points can be made about the three ads described: 1) the picture and the headline work together to create meaning; 2) resonance requires both a particular structure in the stimulus, and constructive activity on the part of the reader, in order to occur. Thus, the Trident ad is not resonant until the reader supplies the phrase "a stick of gum."

Resonance could be described as an executional cue, but I do not see what is gained thereby. The stair ad contains any number of cues, and this categorization does not illuminate the action of resonance. There are probably claims made or implied by means of the resonant structure, but it is not clear that resonance itself is a type of claim. Similarly, resonance can be described as figurative speech, but it is not the same kind of figure as metaphor. However, this latter category takes us further than the first two (Polloy and Mainprize 1984; Stern 1988). Resonance definitely has a place within the matrix of figures of rhetoric developed by Durand (1987) and discussed in Chebat (1989) and Dyer (1982); it is a *false homology*.

Of course, cue, claim, metaphor and resonance are not the only devices for generating meaning in advertisement. The purpose of introducing the notion of resonance was to demonstrate how diverse these devices are, and to show that they cannot be reduced to one another. Having given some idea of this diversity, the question now becomes: What kind of theory do we need if the goal is to encompass the whole range of devices whereby meaning can be generated in advertisement? At a minimum, the desired theory or body of theory must be able to: 1) handle non-verbal as well as verbal elements; 2) encompass all the various rhetorical figures, and not just metaphor; and 3) include affective as well as cognitive meanings. Anything less condemns us to a piecemeal approach to the study of meaning in advertisement.

Perhaps the best candidate to fill this role is semiotics, as introduced to the consumer literature by Mick (1986), elaborated in Umiker-Sebeok (1987), and further developed in the works of Barthes (1985), Eco (1976), and others. We could also benefit from more works that offer extended interpretations of specific real advertisements, as done most notably by Williamson (1978; see also Dyer 1982; Leymore 1975; Liess, Kline and Jhally 1986; Vestergaard and Schroder 1985). After reading a book like Williamson's it becomes difficult to believe that atomistic ideas such as cue or claim can ever capture the sheer complexity of the meanings that an advertisement can create. As consumer researchers become more comfortable with interpretive techniques (Holbrook 1987; Hudson and Ozanne 1988), the need for theories that can bring order to interpretive activity, whether these be derived from semiotics or from some other tradition, will grow. Since marketers are among the most prolific producers of texts that cry out for interpretation, perhaps we can even hope that some

day consumer researchers will become the producers of, rather than just consumers for, theories of meaning in advertisement.

BALASUBRAMANIAN

Experimental investigations of meaning in advertisements are not easy to pull off, especially when one departs from a strictly cognitive paradigm. The difficulty is compounded when real rather than constructed advertisements are used. What creates the difficulty, of course, is the many threats to internal validity that have to be countered. I think the most important of these threats in this study involve the sampling of stimuli -- an intrinsically difficult problem, as noted by Nunnally (1978). In this case we have a judgement sample of stimuli: thirteen ads selected by the author to meet several criteria. In the case of such a judgement sample, it is impossible to rule out the rival hypothesis that the effects observed for certain properties are really due to some peculiarities of the ads that include those properties, and not the properties themselves. A different judgement sample might yield entirely different results.

A more vexed problem is that a small number of ads chosen unsystematically from the universe of advertisements is unlikely to contain a great deal of variation on some or all of the cues of interest. A solution would be to have judges rate a large number of ads for the presence of, say, beautiful or ugly music, and then sample from the extremes to construct, in effect, treatment cells for each cue of interest. While this would inflate the observed effects of the cue or property, it maximizes the probability that an effect will be found if in fact such an effect exists. The alternative, which is to randomly sample a sufficiently large number of ads to insure that there is enough natural variation on all properties, might lead to an extremely unwieldy array of stimuli.

Still another problem with the stimuli used is the large number of properties (9) in relation to the number of stimuli (13, later reduced to 9). Although sampling at two second intervals does create a greater number of observations, the fact remains that many of the properties are probably only present in a small number of the ads studied -- perhaps only one ad in some cases. This again makes it impossible to rule out rival explanations. If only one or two ads contain a certain cue, then any effects observed may be a function of the ad rather than the property. Hence, the table of significant and null effects must be read as preliminary and suggestive only. It offers no conclusive evidence about the affective consequences of any of the cues investigated. No amount of sophisticated data analysis can overcome these sampling problems.

I have a couple of minor points to make about aspects of the experimental procedure. It does not appear that the order of presentation of ads was varied over subjects. It is easy to imagine that subjects experienced more positive affect and perhaps more involvement with the rating task early in the procedure. If so, and if certain cues were only

present in ads shown at the beginning or the end of the sequence, then the effects uncovered in the analyses are biased to an unknown degree. On another point, inter-rater reliability for judges is just as important in the case of the continuous variables as the dichotomous variables. Test-retest reliability for a single judge is really no substitute. Again, this undermines our confidence as to whether an effect does or does not exist for any of the continuous variables studied.

In conclusion, the author is to be applauded for undertaking to measure temporal variation of cues within an advertisement. The use of the joystick rating method certainly has promise, and none of the difficulties mentioned above is insuperable. However, although continuous rating such as those provided by a joystick are rare in academic consumer research, they *have* been utilized for many years by several commercial providers of copy testing services, such as ASI. It would be interesting to know what sort of data archives exist that might reward study with respect to temporal variation. If a large archive exists, then this might provide a solution to many of the sampling problems discussed earlier. A model for such work would be the study of executional cues by Stewart and Furze (1986).

BERGER AND GILMORE

This paper attempts to integrate literature in the areas of linguistics and semantics with the more familiar (to consumer researchers) literatures on cognitive and social psychology, and also to validate some of the semantic distinctions identified. It is nice to see this effort to go outside of the customary and familiar psychological literature. But the absence of semiotic theory is keenly felt, and I would urge the authors to expand their horizon beyond general semantics. There is an enormous European literature on some of these issues (Eco 1976), and its omission is bothersome.

The fundamental difficulty I have with this work concerns the usefulness of the semantic trichotomy. Are these really three equally fundamental and tightly linked concepts that have to be analyzed as a unit? The connection between a report and an inference seems much more integral than that between a judgement and either one. I doubt that the three types of claim lie on a single continuum, nor do they seem to be related in any geometric or combinatory way, such as primary colors in a color wheel. I would ask the authors: What do we gain by treating all three together? Reports, inferences, and judgments are certainly of fundamental interest to advertisers, just as the authors argue; but to speak of a trichotomy is to suggest that these represent an exhaustive and mutually exclusive list of all the fundamental types of claims that can be made in an advertisement. I am not convinced that this is so.

The linguistic approach that underlies the semantic trichotomy also seems unduly limiting. Too much of the meaning generated in advertisements is both non-verbal and tacit. The

problem is particularly acute in the case of television advertisements, where the question becomes *what* is claimed, and *how*, and by *whom*? Should we focus on the sponsor, the presenter, or the text (broadly construed) of the ad itself? The inference category is particularly problematic. Whose inferences should we be studying: those offered about the product within the ad, or those made by the respondent in response to the ad? I would have appreciated the inclusion of real advertisements analyzed according to the author's scheme. The lack of concrete examples drawn from specific advertisements made the exposition difficult to follow at a number of points.

I would also point out what strikes me as an important flaw in the second experiment described. The whole point of manufacturing stimulus materials in advertising research is to exert the tightest possible control over what is being presented to subjects so that causal inferences are facilitated. The examples in Table 3 do not satisfy this standard; they seem to me fatally prolix. Too much is going on that is neither report, inference nor judgement, or that represents multiple occurrences of one or another of these. Hence, rival explanations for why subjects were able to successfully sort the statements can be offered. I suspect that the sort was done in terms of the extremity or the degree of exaggeration in the claims, and not because the three types of statements reflect some emic distinction made by respondents among types of advertising claims. I would also note in passing my skepticism that anyone in the study really believed that a research physician would use language such as that used in the Judgement text with respect to an over the counter drug.

In conclusion, I think the components of the semantic trichotomy are well worth investigation on their own, particularly in the context of research on misleading or deceptive advertising, or on the persuasive impact of each of these types of claims. In my opinion there would be more value in such pursuits than in attempting to establish the semantic trichotomy as a fundamental organizing principle for claims made about products.

WARD AND GAIDIS

I have less to say about this paper because personally I found it the most satisfying of the three. Again the authors have gone out and tapped into literatures not commonly discussed or cited at ACR. The value added is enhanced because they then go further and integrate some of this work into three distinct models of how metaphors work. The discussion of the models is balanced, illuminating, and rich in implications for future research. I congratulate the authors on a fine review paper.

I would like to second their comment about the role of the marketing function in producing a substantial percentage of the metaphors to which people are exposed. That says to me that consumer researchers potentially can make a significant contribution to the study of metaphors; it is home territory for us. Perhaps this is an area where the

positivistic tradition, with its understanding of experimental design, and the interpretivist tradition, with its firm grasp of the role of the reader in generating meaning, can usefully come together. Both will be necessary to understand what metaphor does or can do in advertisements.

I want to repeat my comment that investigations that do not clearly distinguish metaphor from other types of figurative speech are fraught with danger. We need both: general theories about how figurative speech works, and specific theories about how individual tropes or figures such as metaphor work. But if we do not keep the two levels of explanation separate we will have problems. Hence, a useful test to apply to each theoretical model of metaphor might be: Can this be made to work as an explanation for other rhetorical figures as well? If the answer is yes, then we are probably looking at an explanation of figurative speech rather than an explanation of metaphor per se. For such a general theory, the question would become: How many types of figures does this model illuminate? The problem here is that authors outside the literary tradition tend to be ignorant of the great variety of figures and tropes examined over the years. This is a natural but potentially dangerous blind spot.

One other point is relevant to consumer research on metaphor, and that is the changed meaning of "aptness" when we move from literature and everyday speech to paid messages devised by a corporation to further its goals of profitability, etc. In the traditions summarized by the authors, "aptness" represents an aesthetic judgement. In consumer research aptness will have a second meaning: effectiveness in advancing the sponsor's corporate goals. This raises several questions for research. Are aesthetically apt metaphors also more effective from a managerial standpoint? Does a metaphor have to be apt in an aesthetic sense to effectively serve the manager's pecuniary goals? We can imagine metaphors which are bad from any poetic standpoint but which still do the job asked of them by the person paying for the ad. These are questions about metaphor that may be unique to the consumer context. If we don't pursue them, no one else will.

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The Animal 'Other': Self Definition, Social Identity and Companion Animals

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INTRODUCTION

In contrast to the other orienting perspectives employed by sociologists, symbolic interactionism emphasizes the subjectivity of human social actors. We operate within the context of "webs of meaning" (Geertz 1973) created and transmitted in the course of social interaction; the "reality" shaping and sustaining social life consists of *definitions* rather than objects possessing independent, external, intrinsic characteristics.

The "self" is the central component of the subjective world in which human beings operate. Like other features of social reality, the self is predominantly a *process* rather than a static object. As Charles Horton Cooley (1964 [1902]) emphasized, the self derives from the actor's interactions with others as he or she interprets the intentions and orientations of cointeractants and takes these interpretations into account in the ongoing process of self definition.

It is in the course of the myriad of interactional performances which constitute social life that the self is constructed, adjusted, displayed, and understood by the actor. Not only does one perform for others, performances are also directed at the self. The common experience of being "self consciousness" is the most obvious internal performance situation. The actor's "self concept" is composed of those role based features to which he or she has the most emotional commitment and which, consequently, is most resistant to change. Roles which are most "distant" from the actor's conceptualization of the "real self" are less intimately valued and typically performed in a more instrumentally purposive manner than are the components of self which are routinely performed for the self-audience (Goffman 1959:70@75. See also Blumer 1969; Lindesmith, et al 1977; Denzin 1989a; and Manis and Meltzer 1972).

Since performances directed at others (interactions) and the self (thought) most commonly make use of the (supposedly) unique ability of human beings to employ symbols to encapsulate and carry conventionalized information, words and objects which are socially defined as having meaning are central to the process of self definition and social identity (self presentation) briefly outlined above. Consumer researchers (eg., Solomon 1983; Sirgy 1982) and analysts of material culture (eg., Csikszentmihalyi and Rochberg-Halton 1981; Sanders 1989; McCracken 1988) have emphasized the importance of material objects as symbolic presentations of the self to others and as mechanisms whereby actors construct and bolster their self concepts. In a recent article, Belk (1988) has synthesized a general overview of the complex connections between what one *has* and who one *is*. In his view, things are meaningful principally as symbolic vehicles which human beings use to

"extend" (present, reinforce, exercise control over) the social self. Objects are acquired, consumed, displayed, manipulated, incorporated into rituals, connected to people and events, and otherwise imbued with meaning related to how one presents--both to self and others--what he or she was, is, will be, or wishes to be.

One category of possession/self extension which Belk discusses briefly (pp. 155-156) is pets. He presents pet choice as shaped by the owner's personality characteristics, pets as surrogate family members, pet death as loss of self, pets as transitional objects easing movement through the life cycle, pets as having therapeutic functions, and pets as objects of dominance.¹ In the remainder of this paper I will expand on Belk's analysis of companion animals and their relationship to the social self.² First, I will discuss companion animals as they symbolically represent the social identity of the owner and extend the interaction situations in which the owner acquires information about how he or she is defined by others. Next, I turn to the ways in which the relationship between the companion animal and its human counterpart affects the latter's self definition. Finally, I will present the human-companion animal pair as an acting unit ("with"). Of particular interest here are those social situations in which the animal behaves in such a way to significantly disrupt the more-or-less smooth flow of interaction between the

¹It is interesting, given the widespread popularity of pet ownership in the United States (some 60 per cent of American households contain pets [Cain 1985]) and the economic importance of the pet industry (each year pet owners spend approximately \$4 billion on pet food and \$3.5 billion on veterinary care [Serpell 1986:12; Bulcroft, et al 1986:2-3; Beck 1983:237@238]) that this topic is rarely discussed by consumer researchers. Even more surprising, given the social importance of pets and their impact on social interactions, is the relative failure of sociologists to focus on this significant phenomenon (see Bryant 1979; Bulcroft, et al 1986; Wieder 1980; Hickrod and Schmitt 1982 for exceptions).

²Because of my personal interests, research access, and the dominant focus of the literature on animal-human relationships, this discussion primarily deals with human interactions with domestic dogs. Dogs are the most sociable of the domestic animals commonly kept as companions within Western culture and, therefore, their interactions with people are most amenable to sociological analysis.

caretaker and the other human interactants in the situation.³

COMPANION ANIMALS AS POSSESSIONS: IDENTITY AND STATUS

Americans "possess" an astonishing number of pet animals. Currently, US households contain some 51 million dogs, 52 million cats, 14 million birds, 95 million fish, and 9 million other animals (*Anthrozoos* II #2 [Fall 1988]:133). Historically and cross-culturally the types of companion animals kept, the treatment they receive, and the ways in which they are symbolically defined has varied considerably (see Fogle 1983; Serpell 1986, 1988; Fisher 1983; Tuan 1984). While the dominant reason human beings fostered relationships with pet animals was, and continues to be, the desire for companionship, there has been a consistent linkage between companion animals and social status in western culture. Typically, the keeping of companion animals has been associated with upper-class position. Those with power and economic resources symbolized their advantage by owning non-functional and expensive animal property (Tuan 1984:110; Serpell 1986:38-47; ten Benschel 1984; Bustad and Hines 1984; Ritvo 1988). In turn, pet possession by members of the lower-classes commonly was condemned as inappropriate and wasteful.

To some degree, ownership of certain animals such as pedigreed dogs, cats, and horses continues to symbolize social privilege since they are relatively expensive to acquire and maintain. However, pets as they represent other aspects of self/social identity--rather than being demonstrations of elite status--is a more important factor in contemporary pet ownership.

The type and temperament of the companion animal one chooses and the instrumental purpose for which it is bred are other aspects of identity symbolization. Powerful and aggressive dogs such

as rottweilers and German shepherds, for example, not only have a protective function but also reflect their owners' desires to present social selves which are correspondingly aggressive (Fogle 1983:50, 84-86).

In general, it appears that possession of a companion animal does have a positive impact on the owner's social identity. Lockwood (1983), for example, found that people pictured with animals were judged by undergraduate respondents to be more sociable, content, and easygoing. The significance of the animal as a valued possession symbolizing the owner's material status is, at best, of minimal importance here. It is most likely that this apparent effect on social definition is related to the ability of companion animals to act as facilitators of interaction--an identity enhancing feature that will be discussed in a later section.

Although there is a positive correlation between income and likelihood of pet ownership (Covert, et al 1985), owners themselves rarely define their pet primarily as a publicly displayed symbol of their social and/or economic status. Harris (1983), for example, found only .4 percent of pet owners admitting to having chosen their companion animal primarily for its function as a status enhancer.

PETS AND EXTENDED SOCIAL INVOLVEMENTS

A variety of studies demonstrate that dogs and other companion animals act as effective "social facilitators." For example, 83 percent of those questioned in a Swedish study (Adell-Bath, et al 1979) agreed with the statement, "my dog gives me the opportunity of talking with other people." Similarly, 37 percent of the respondents in Cain's (1983) study of pets in the family said that their companion animals had aided them in making friends or had increased their social contacts.

Like a wide variety of the objects displayed in public--children, kites, unique articles of clothing, tattoos, and so on--dogs act as sources of "mutual openness" (Goffman 1963:131-139; cf., Sanders 1989: 57-61). Dogs and other items openly controlled by actors in public settings provide a shared focus of non-threatening interaction between strangers or casual acquaintances. Common affinity for and experience with dogs offer a relatively neutral and accessible conversational topic. Since, as Cooley (1964 [1902]) emphasized, interactions with others are the dominant sources of information one uses to construct a definition of self, the company of companion animals increases the quantity and enhances the quality of self-defining encounters. In this way, pets reinforce the possessor's positive self-regard and extend key aspects of his or her self into the public arena.

Companion animals facilitate social interaction and extend the situations in which caretakers receive self-definitional information in yet another way. Shared possessions, activities, and interests act as the organizational focus of what

³My research project directed at the general topic of animal/human interaction currently is in its preliminary stages. As a consequence, the observational and interview data upon which this discussion is based are, at this point, somewhat limited. Field data are drawn from participation in an eight week "puppy kindergarten" class and a novice dog obedience course (along with my two Newfoundland puppies and their co-owner) and participant observation in another puppy kindergarten class. In addition, I conducted 6 semi-structured, in-depth interviews with owners of young dogs contacted through these classes. I also collected fieldnotes in the course of my own early experience with the developing relationship between myself and the Newfoundland puppies. These "autoethnographic" data (Denzin 1989b; see also Cooley's [1964 (1902)] discussion of "sympathetic introspection") proved to be especially valuable in providing major insights.

Herbert Gans (1974) refers to as "taste publics". Like antique cars, comic books, polkas, or other items of taste culture, companion animals can act as central elements in extensive social rituals and organizations. Dog and cat shows, breed specific organizations, and animal activity competitions such as obedience work extend the social interactions of pet enthusiasts. Within these subcultural contexts, owners can achieve status and prestige. In this way, enthusiastic involvement surrounding and cooperative work with companion animals expands owners' social encounters and enhances their positive self definitions (see Veevers 1985:15-19).

RELATIONSHIPS WITH COMPANION ANIMALS AND THE LOOKING-GLASS SELF

The self is a social construction built on the information derived from a person's social relationships. As discussed above, companion animals act as facilitators of human-to-human interactions, thereby increasing (and enhancing) self-defining situations. However, the connection between companion animals and the caretaker's self concept is *direct* as well as mediated. Owners consistently define their pets as "persons" with whom they share lasting, intimate, and emotionally involving relationships (cf., Bogdan and Taylor 1989).

One of the most simple forms of personhood assigned to companion animals is seen when they act as surrogates for human others (Veevers 1984:19-26; Beck and Katcher 1983:39-58). Within this assigned role the animal acts as a "stand-in" for a human parent, child, friend, or other significant cointeractant. But companion animals act as much more than surrogates for real or imaginary persons; they are consistently defined as persons in their own right and are the direct focus of person-to-person interaction. From approximately half (Katcher, et al 1983) to three-quarters (Cain 1985) of pet owners define their companion animals as "persons" or as having "person status." In this role as person the animal is talked to (Beck and Katcher [1983:44] found that 80 percent of the veterinary clients they studied talked to their pets "in the same way they talked to people") and confided in. This communicative activity typically is defined as an authentic conversational exchange in that human caretakers believe that the animal understands what they say and responds appropriately (Cain 1985:7).

As a defined person, the companion animal is incorporated into the owner's extant network of relationships. The most common form of incorporation is for the human interactant to regard the animal as either a family member or close friend. Somewhere between 70 (Beck and Katcher 1983:59) and 99 percent (Voith 1983) of pet caretakers define their animals as members of the family and from 30 (Nieburg and Fischer 1982) to 83 percent (Bryant 1982) consider the pet to be a "special" or "close" friend.

Human-pet interactions proceed along the same lines as do human-to-human social exchanges. The social exchange entails mutual acknowledgement of coparticipation in the encounter, mutual definition of the perspective of the other, imaginative estimation of the other's intentional definition of the situation, and mutual adjustment of behavior based on the essential social process of "taking to role of the other."

Human participants in relationships with companion animals are engaged in the "social construction of humanness" in orienting their interactions vis-a-vis their pets. The human caretaker comes to construct the personhood of the animal--seeing him or her as an individual, communicative, feeling, reciprocating, and companionable being who is an integrated member of the group. From this socially defined position the companion animal acts as a "significant other" for the owner and their face-to-face interactions provide important, commonly rewarding, social experience containing direct information which the owner uses as part of the process of self definition.

Human interaction with the companion animal/person presents a variety of rewards. Like all primary relationships, that between people and pets predominantly affords intrinsic, rather than instrumental, social compensations. The research on companion animals persuasively establishes that companionship and affection are the primary advantages of this unique relationship as defined by the human participant. The animal is seen as non-judgmental, accepting, and genuine, requiring nothing from the relationship other than the affectionate reciprocation of attention.

Surveys of pet caretakers demonstrate the significance of the companionship and affection which are central to the animal-human relationship. For example, of the pet owners questioned by Bulcroft and his associates (1986), 94 percent agreed that "pets are an importance source of affection," 85 percent agreed that "my pet accepts me no matter what I do," and 83 percent agreed with the statement, "my pet makes me feel loved." This stable, emotionally rewarding, non@judgmental relationship with the animal is defined by caretakers as reflecting their self worth--heir self definition as deserving affection is reinforced by their experience of the presumed relational definition held by the animal cointeractant.

THE ANIMAL-HUMAN "WITH" AND EXCUSING TACTICS

The ongoing flow of interaction between human beings and the companion animals with whom they are associated is an eminent social exchange. Both members of the animal-human diad mutually construct definitions of the other and the situation and devise plans of action which require them to adjust their behavior relative to these situated understandings. The cointeractants are engaged in "collective action"--adapting their goals and activities within the context of their definition

of the situation so as to achieve some degree of cooperative interaction.

Mutual recognition of the other as cointeractant and imaginative estimation of the other's orientation toward and response to the situation entails the construction of a mutual understanding of the other's "personality." Research accounts (eg., Bulcroft, et al 1986:8; Hearne 1987) testify to the human actor's propensity to define his or her animal as having a distinctive personality and using this definition of the other to orient his or her behavior toward the pet.

The owner's ongoing interaction with the animal based on his or her knowledge of the animal's unique personal characteristics, has significant impact on the owner's definition of self. This intimate connection and the mutual behavioral orientation and control it implies is played out and expected (sometimes even legally required as in the case of "leash laws") when the owner and companion animal appear together in public settings. In this type of situation, the animal and the owner constitute what Goffman (1971:19) refers to as a "with." The mutual "togetherness" of the with is typically symbolized by "with markers" (Goffman 1971:65) or "tie signs" (Goffman 1971:188©237) which display the connection between the parties. Leashes, mutual gaze, physical contact (eg., petting, nuzzling), the owner's calling the animal by name, and a variety of other tie signs are used to publicly demonstrate that the animal and caretaker constitute a with. As a public acting unit, the animal-human with is bound by expectations of propriety and mutual responsibility. The weight of these expectations rests most heavily on the owner who is seen as being most capable of exercising "intelligent self-control" (Goffman 1971:121). Consequently, when the animal member of the with fails to perform in accordance with public expectations the owner typically is held to be responsible. Socially problematic behavior by the animal has the potential of degrading the social identity of the human partner. This judgmental social response by others typically generates the uncomfortable internal experience of guilt, shame, or embarrassment within the caretaker (Goffman 1982 [1956]).

The failure of the animal member of the animal-human with to abide by widely shared expectations of propriety disrupts the more-or-less cooperative, flow of public interaction. The experience of threatened identity and problematically impeded interaction presents an uncomfortable situation for the owner. As in other situations where problematic events occur which disrupt social interaction, the owner with a misbehaving animal is obliged to take steps to regain equilibrium and reestablish the smooth flow of interaction. In so doing, the owner also attempts to restore his or her positive social identity and regain those aspects of

positive self definition which have been degraded by the negative responses of human others.⁴

When encountering problematic situations generated by their animals' misbehavior, owners call up and present definitions of the immediate situation and/or offer accounts of their animals' motives so as to smooth out the disrupted interaction and repair their damaged self esteem. I will refer to the activities of owners in the face of the disruptive behavior of the animal member of the with as *excusing tactics*

It is possible to identify at least seven kinds of excusing tactics employed by owners. These various styles may be used separately or in combination and are typically chosen on the basis of what kind of violation is presented by the animal and the degree of apparent "harm" caused by the infraction.

Situating. Perhaps the most common excusing tactic is seen when the owner emphasizes the unfamiliarity or chaotic character of the immediate situation in which the animal is expected to perform appropriately. In the puppy kindergarten in which I collected field data, observations such as, "I don't know what's wrong with him tonight. He always does it at home. He just gets excited with all the other dogs around," were offered with considerable frequency.

Justifying. Owners also deflect responsibility for their animals' misbehavior by redirecting the blame on the human actor outside the with who is typically the aggrieved party. "You can't just walk up behind her like that" or "he gets really nervous when you touch him there" focus the blame for the infraction on the other person for having behaved stupidly or precipitously.

Redefining. It is common for owners to attempt to defuse the negative feelings generated by their animal by recasting the behavior as a positive rather than negative action. Often the human

⁴Goffman (1971:95-187) refers to these modes of interactional repair as "remedial interchanges." Alternatively, Stokes and Hewitt (1976) discuss "aligning actions" used by interactants to reestablish identities and relationships disrupted by problematic events. Discussions of "disclaimers" (prospective justifications presented to explain potential problems) (Hewitt and Stokes 1975), "accounts" (retrospective explanations) (Scott and Lyman 1968), "neutralization techniques" (explanations presented to self and others in order to ease feelings and ascription of guilt) (Sykes and Matza 1957), and other aligning actions are oriented around the symbolic interactionist perspective on motives. Rather than being seen as initiatory "motors" of human action, motives, from this standpoint, are regarded as *verbal* presentations offered to the self and others which are intended to situate the behavior in question in an *understandable* context (see Mills 1940; Blum and McHugh 1971).

companion labels the behavior as "cute" or "smart" in order to move it back into the realm of permissibility. In my experience, this tactic offers, at best, only limited success as a means of smoothing disrupted interaction.

Behavioral Quasi-Theorizing. Quasi-theories are commonplace cultural explanations employed in everyday interactions to "explain problematic situations and give them order and hope" (Hewitt and Hall 1973:367-368). When used as an excusing tactic, quasi-theories tend to emphasize that the behavior in question is "natural" (ie., justifiable) given the animal's phylogenetic position (eg., "That's the way dogs are") or stage in the developmental process (eg., "I'm sorry she chewed up your purse. She's just a puppy and she's teething").

Processual Emphasis. Related to quasi-theorizing is the excusing tactic which emphasizes that the companion animal acquires behavioral self control in the course of maturation and as part of a training process. Owners often acknowledge that the violation is indeed troublesome and present themselves as "working on" the animal's training in order to extinguish it from their behavioral repertoire. The lesson is in process but has not as yet taken hold to the owner's--or, presumably, to the affronted other's--satisfaction.

Demonstrative Disciplining. When owners confronted by problematic social encounters precipitated by their pet emphasize the animal's stage in the training process, they commonly link this excusing move with overt, commonly rather harsh, corrective actions directed at the animal. Through loudly shouting "NO!", jerking on the leash, striking the animal, and other disciplining gestures, the embarrassed owner symbolically acknowledges the violative character of the act while overtly demonstrating his or her desire to assert effective control.

Unlinking. This is the excusing tactic of last resort. It is a public confession that the animal-human relationship itself is in serious trouble. Frustrated and confused, the guilt-ridden owner publicly acknowledges that the animal other is "out of control" ("I just don't know what to do. I can't get him to stop barking. I've tried and tried but nothing seems to work") and, in essence, dissolves the animal-human with. The fault for the disruptive action is presented as being the animal's and, in turn, the human coactor is absolved of responsibility. Understandably, owners who come to employ this type of excusing tactic with any frequency usually soon end their relationship with the animal.⁵

CONCLUSION

The foregoing discussion has employed the symbolic interactionist perspective and its central conceptual element--the socially constructed self--to briefly explore the relationship between humans and their companion animals. To a major degree, this presentation was initiated by Belk's (1988) wide-ranging and insightful paper on the self as it is connected to and extended by consumer products. Despite scientific critiques (eg., Cohen 1989), Belk's article identifies central features of the relationship between human actors and material culture while constituting a major step in the movement of consumer behavior research out of the traditional confines of the natural science model into the realm of post-positivist social science (see Sass 1986).

I would argue that one of the most apparent, self extending, and emotionally involving relationships meaningfully discussed within the general phenomenon of consumer behavior is that between people and their companion animals. As a unique element in commercial culture, the companion animal provides comfort, protection, love, health, companionship, and an enlarged definition of self like no other thing which can be bought, sold, or traded. Hopefully, it is through the recognition of the special gifts we receive from our animal companions that we will come to remove them from the category of consumer product where they are defined as having commercial value and can be callously discarded when they are used up or otherwise lose their appeal as commodities.

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⁵Compare this discussion with that offered by Cahill (1987) focused on the misbehavior of children in public settings and the remedial actions taken by their caretakers.

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The Role of Possessions In Constructing and Maintaining A Sense of Past

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In the little houses the tenant people sifted their belongings and the belongings of their fathers and of their grandfathers. Picked over their possessions for the journey to the west. The men were ruthless because the past had been spoiled, but the women knew how the past would cry to them in the coming days.

The women sat among the doomed things, turning them over and looking past them and back. This book. My father had it. He liked a book. *Pilgrim's Progress*. Used to read it. Got his name in it. And his pipe--still smells rank. And this picture--an angel. I looked at that before the fust three come-- didn't seem to do much good. Think we could get this china dog in? Aunt Sadie brought it from the St. Louis Fair. See? Wrote right on it. No I guess not. Here's a letter my brother wrote the day before he died.... No, there isn't room. How can we live without our lives? How will we know it's us without our past? (Steinbeck 1939, pp. 117, 120)

The notion of the extended self suggests that we transcend the immediate confines of our bodies by incorporating into our identities, objects from our physical environment (Belk 1988). This conception implies that the self is spatially enlarged by such extensions; that our possessions make us bigger people. However, there is another dimension in which self may be extended: the dimension of time. For besides being defined by our immediate circumstances, we are defined by our pasts and our futures. The self may be temporally enlarged when we announce that we once completed a marathon in under three hours or that we are studying to be a doctor. We also are temporally enlarged, in some circles, by having a lineage that can be traced to the Mayflower or having grandchildren named after us. And we are temporally enlarged by having visited the National Museum of American History or having heirloom silverware that we plan to bequeath to our children. Of the past and future directions in which self may be extended, the present focus is primarily on the past. Having an extensive or rich sense of past implies that we are able to clearly define ourselves and ground our identity in previous personal or group history.

Various forms of amnesia show what happens if instead we are able to think about ourselves only in the present. For instance, in a clinical case he labels "the lost mariner," Oliver Sacks (1985) reveals Jimmie G. who has no memory except for the past few minutes and his first 19 years up to 1945 when he was serving in the U.S. Navy. He thinks World War II has just ended and is baffled by the gray hair he sees in the mirror. He meets his doctor anew each day and has no memory of prior meetings. He is intelligent and can carry on a game

of checkers, but quickly gets lost in chess because the moves are too slow. When he meets his brother, Jimmie is baffled by his unaccountable aging. Without having any recent past, Jimmie has lost all sense of time, continuity with his past, and ability to envision his future. He has, in Sacks' view, lost *himself*.

Even those of us without amnesia lose or fail to recall parts of our past. For this reason our life history is often marked, commemorated, and announced by objects (e.g., Olson 1985). Photographs, souvenirs, trophies, and more humble everyday objects act, in part, as repositories for memories and meanings in our lives. The present paper theoretically explores how such objects aid in creating and perpetuating a sense of past in our lives. The theoretical structure presented has been developed with the aid of fieldwork from the Consumer Behavior Odyssey and several subsequent studies (see Belk, Sherry, and Wallendorf 1988, Belk, Wallendorf, and Sherry 1989, Kassarian 1987, Wallendorf and Belk 1987). Due to space constraints however, the present paper presents only the relevant background literature rather than the results of this fieldwork.

THE INDIVIDUAL REIFIED PAST

Security Objects

"Why," asks Tooley (1978, p. 176) "do we keep one earring, three foreign coins (total value 30¢), a jacket far too small that we will never wear again?" The immediate answer likely to suggest itself is that such objects are kept for sentimental value which has something to do with preserving memories of our past. But why should we want to preserve our past? Why use *possessions* to preserve our past? And do such objects allow us to accurately recall our pasts? Beyond the necessity of having a sense past in order to achieve the integral sense of identity that Jimmie G. lacks, there are other reasons that Western society deems a sense of past to be important. We tend to be especially concerned with having a past when our current identity has been challenged, as may be the case with a divorce (Csikszentmihalyi and Rochberg-Halton 1981, p. 212), a midlife identity crisis (Davis 1979, p. 40), feelings of inferiority (Stillinger 1980), states of excessive change and mobility (Klapp 1969), and lack of confidence in the future (Moriarty and McGann 1983). For as McCracken (1988) eloquently notes:

Surrounded by our things, we are constantly instructed in who we are and what we aspire to. Surrounded by our things, we are rooted in and visually continuous with our pasts. Surrounded by our things, we are sheltered from the many forces that would deflect us into new concepts, practices, and

experiences. These forces include our own acts of imagination, the constructions of others, the shock of personal tragedy, and simple forgetfulness. As Arendt has suggested, things are our ballast. They stabilize us by reminding us of our past, by making this past a virtual, substantial part of our present (p. 124).

The role of possessions in these cases is not only to act as ballast to keep us stable, but to serve as familiar transitional objects that, like the child's security blanket, provide us a sense of support as we confront an uncertain future. It is this apparent function that caused the boom in World War II photography as servicemen were provided and sought to carry with them snapshots as memorabilia of "the girl back home," their families, and their lives in prior times of peace (King 1984). These objects also served as hopeful reminders that war only temporarily ruptures the "flow" of time and that someday "normal" peacetime, loved ones, and familiar activities would be regained and the river of time returned to its proper channel.

Preserving Our Past

Objects of the past are often intentionally acquired and retained in order to remember pleasant or momentous times in one's past. Souvenirs and mementos are intentionally selected to act as tangible markers for retrospective memories in the future. Shopping suggestions are now a staple of travel guides and souvenirs commonly tangibilize the tourist experience. They not only allow us to confirm the experience to ourselves, but they may allow us the conversational cue for telling others about it (Gordon 1986, Cybart 1988). Similarly, family photographs taken especially during seasonal holidays, rites of passage such as graduations, weddings, and anniversaries, vacation trips, and (of children) during infancy, are meant to serve as edited markers and stimuli for future reflection, communication, and consolidation of sense of self. Chalfen (1987) calls the more than 11 billion amateur photos taken in the U.S. each year an investment in creating a memory bank. Hirsch (1981) notes that the development of amateur photography provided nineteenth century poor and middle class families with a visual way to preserve family heritage as could formerly be done only by those rich enough to bequeath heirlooms and estates to future generations of their families. With the mobility of twentieth century North American families, photographs now seem to serve rich and poor alike in this respect.

But as objects for retrospective reflection, photographs (along with home movies and videotapes) may act in a way that is in some respects opposite to that of other possessions. Whereas possessions like furniture, houses, and clothing may act as unchanging objects providing the security of the familiar in our lives, photographs remind us of who we once were in a way that invites comparison and highlights how we have changed.

We may not be wholly different people, since features, expressions, and mannerisms tend to be retained, but the change is undeniable. Other possessions may mark the passage of time by becoming stylistically outdated, physically worn, and sometimes altered by repainting, dying, or rearranging, but these changes do not as directly imply that *we* have changed. The objects we see everyday tend to change slowly and imperceptibly. Only when we see these objects in old photographs or through the eyes of an infrequent visitor do we see that they, like the people who are the normal focus of our photographic records, have changed. Another exception may be objects uniquely associated with a past event. Athletic trophies, awards, wedding gifts, clothing bought for a special occasion, and other such time-marked objects (often associated with rites of passage) are more likely to act as reminders of temporal discontinuity than continuity in our lives. But our favorite chair, our familiar dinner dishes, and our favorite sweater (as long as it is still serviceable and fits) all act as objects of stability in our lives. They provide an embracing feeling of warmth that McCracken (1989) calls *homeyness*.

Nostalgia and Memory

The objects that McCracken sees as participating in feelings of *homeyness* (e.g., crafts, knickknacks, books, seasonal decorations, gifts) are also likely to participate in feelings of nostalgia. Nostalgia has been described as a bittersweet emotion in which the past is viewed with both sadness and longing (Davis 1979, Starobinski 1966, Stewart 1984).

Cognitive Versus Emotional Memories. The first important characteristic of nostalgia is that it involves an emotional rather than a cognitive memory process. It is a wistful mood that may be prompted by an object, a scene, a smell, or a strain of music. As Ruml (1946) reflects:

The nostalgic sentiments are less well understood. Although abundantly represented in literature and in art, they have found no appropriate place in social theory. Nostalgic sentiments being incommensurable in the hedonistic calculus, are regarded as somewhat removed from the hard logic of nature and touched by a bit of moonlight and summer madness (p. 8).

Neisser (1982) suggests that another barrier to understanding emotional nostalgic memories is that the vast majority of research on memory has been in artificial contexts that may bear little relation to remembering in natural contexts.

Sacred Memories. A second important characteristic of nostalgia, as suggested by recent naturalistic studies, is that past times that are nostalgically recalled are sacred times (Belk, Wallendorf, and Sherry 1989). Especially when they are involuntarily remembered, these times are mysterious, powerful (*kratophanous*), unexpected

(hierophanous), mythical, and prompt feelings of ecstasy or flow. These are also the elements that seem to fascinate Proust (1981; originals 1913-1927) in his 3000+ page self reflective novel, *Remembrance of Things Past*. Rather than objects of nostalgia serving as simple cues to propositional memories involving knowledge *that* something occurred, these objects provoke rich textural memories involving knowledge *of* the experience recalled (Belk 1986, Langer 1963). For Proust, this mystery and rich textural detail are clearly evident in the three volumes of memories that well forth from the cup of tea and little *Madeleine* cakes which his mother served him (actually the mother of the novel's Marcel) one day during his ill health:

I feel that there is much to be said for the Celtic belief that the souls of those whom we have lost are held captive in some inferior being, in an animal, in a plant, in some inanimate object, and thus effectively lost to us until the day (which to many never comes) when we happen to pass by the tree or to obtain possession of the object which forms their prison...And as soon as I had recognized the taste of the piece of madeleine soaked in her decoction of lime-blossom which my aunt used to give me (although I did not yet know and must long postpone the discovery of why this memory made me so happy) immediately the old grey house upon the street, where her room was, rose up like a stage set to attach itself to the little pavilion opening on to the garden which had been built out behind it...and with the house the town, from morning to night and in all weathers, the Square where I used to be sent before lunch, the streets along which I used to run errands, the country roads we took when it was fine. And...so in that moment all the flowers in our garden and in M. Swann's park, and the water-lilies on the Vivone and the good folk of the village and their little dwellings and the parish church and the whole of Combray and its surroundings, taking shape and solidity, sprang into being, town and gardens alike, from my cup of tea (1981, 1, pp. 47, 51).

With sacred nostalgic memories evoked by sacred possessions, it is not so much that these objects "stand for" particular events evoked in documentary fashion, as that they are the stimuli for an evolving network of vivid memories; that is, they "lead to" other memories in an interwoven net that grows rich in associations, moods, and thoughts.

Imagining the Past. A third significant aspect of nostalgic memories is that, rich and evocative as they are, they are, like other memories of the past, imaginary rather than "real". As Mead observes, "...the past (or some meaningful structure of the past) is as hypothetical as the future" (1932, p. 12; see also Mead 1929, Lynch 1972, Maines, Sugrue, and Katovich 1983). Mementos, souvenirs,

photographs, and other possessions that may evoke the past for us, are all dumb objects that provide only mute and shapeless testimony that there was a past. Only when we *interpret* these objects do they have meaning. And like our selectivity in deciding which of these possessions we will save and treasure (Belk 1988), we also selectively interpret our hypothetical past in a way that is most pertinent to us, just as we unavoidably do when we read fiction (Larsen and Seilman 1988). As with most fiction reading and all of our approaches to the sacred, we dwell on the nostalgic past for its own sake rather than for some utilitarian purpose (Lowenthal and Prince 1976). Just as Proust comes to realize that it is not the magic potion of the tea that contains his memories, but rather is himself, we must realize that our things are the incarnation of our experiences only to the extent that we can bring them to life through the reflections and interpretations that they stimulate.

It is this imaginary character of our nostalgic memories that allows us to use the past as a safe haven to which we may displace our hopes and ideals (McCracken 1988). Our mythical images of a golden age of childhood, the good old days, or our carefree college years, when life was good and we were our ideal selves, help explain our fondness for adult collections of childhood objects such as dolls, toys, comic books, and Teddy bears (Schlereth 1985). It further accords with Kant's contention that the feeling of nostalgia is a longing for our childhood (1798, Starobinski 1966). And it also accounts for what Tooley (1978) sees as the ideal treasure trove of personal objects:

...souvenirs and bottle caps and trophies and photographs and baseball cards and sea shells and coin collections--things that have symbolic value in their own right (coins), things that have the capacity for stimulating pleasant memories, and things that reinforce a treasured mythology of the self, things that revivify a former version of a self overlooked in the press of the daily and present self; things that recall a time of happiness obliterated by the weight of current unhappiness; things to be touched fondly, turned over musingly, returned to the box, which is in turn shoved back into storage (p. 174).

Authenticity. One final significant aspect of nostalgic memories may seem to contradict the preceding one. Even though our nostalgic memories are essentially un-real and imaginary rather than objective and inherent in the objects that inspire them, we nevertheless insist upon the authenticity of these objects, and insist that unauthentic, faked, or forged objects cannot possibly contain the powerful memories of "the real thing." This apparent contradiction is best understood in terms of the nature of the sacred. As MacCannell (1972) argues, it is the very shallowness and artificiality of our lives that causes us to seek the authentic.

Restated, it is the ordinary profane nature of our lives that causes us to seek the sacred. This restatement is supported by the (sacred) characteristics thought by Baugh (1988) to define authenticity: it manifests itself to us and creates epiphany (hierophany), it is able to transform the world (kratophany), it is totally unique (singularity), and it causes us to suspend our perception of the everyday world (transcendence). However, the additional sacred element of contamination is the property most useful for understanding why we insist upon authentic objects from our past. Because the sacred experience is thought to contaminate only the objects that were present during its occurrence, inauthentic, faked, or forged objects lack sacred power to carry our memories. A similar wedding ring, a photograph of a similar family's Thanksgiving feast, or a car that is like the one we had in college, may provoke a brief nostalgic flashback, but they are clearly inferior to and would hardly be traded for "the real thing." To claim that we once met a person who looked just like Woody Allen is to say much less than saying we once met the real Woody Allen.

This desire for authenticity is time and culture specific. Only in the past several hundred years has Western culture come to revere the original and abhor the copy (Orvell 1989, Trilling 1971). The rise of interest in this sort of authenticity appears to be closely tied to the rise of individualism in Western culture (Belk 1984, Handler 1986). It is also within this temporal and cultural frame that singularity has come to be regarded as a property of the sacred.

Antiques and Old Things

The items considered to this point are those that are intimately connected to our personal past in some way. The role of such objects in creating and maintaining a sense of past is easier to appreciate than the role of other old objects and antiques that have not previously been a part of our personal past. If these objects are heirlooms from our family's past, they aid in aggregate identity as discussed in the next section. But if they are merely old things, even if others consider them sacred or valuable, how can they play a role in our own sense of past? To answer this question we must go beyond McCracken's (1988) concept of displaced meaning, since rather than keeping the past at a safe distance, the collector of old things ("owner" seems too dispassionate) seeks to bring it closer. A more useful perspective to keep in mind is the stipulation that the past, and especially the *nostalgic* past, is imaginary. Because of this hypothetical quality, we may seek to appropriate part of our identity from objects and time periods to which we have not previously been connected. By coming to know these objects and time periods we may come to feel we have knowledge of what it was like to have been a part of them. Their "otherness," presumably superior artistry, and survival in spite of fragility, make them more extraordinary and sacred than objects of the present. As we insinuate ourselves

upon the life of such objects we extend our identity to encompass what we imagine their original era to have been.

Hillier (1981) speaks of collecting antiques as an attempt at "conjuring up the past," based on the hope that "a particular antique has absorbed something of an earlier time, something which we may be able to distil from it" (pp. 71, 78). In this sense the antique acts as a fetish object or talisman. Some antique collectors, in an apparently projective attempt to establish an even closer connection to these objects, even suggest that an antique "speaks" to them because they have had some connection with it in a former life (Cherry 1989).

THE AGGREGATE REIFIED PAST

Self is comprised not only of our individual identities, but also of more aggregate levels such as family, work organization, city, and nation (Belk 1988). What applies at the individual level, also applies at these aggregate level. Americans who once prided themselves on being unencumbered by the past, have become as active as anyone in enshrining their material past in museums, archives, and monuments. These things offer a proof that the past was real and remains meaningful:

Americans must not dismiss the endless viewing of Lenin's refrigerated body and the preservation of the bones of saints as alien superstitions. These, like Dolly Madison's gown, Benjamin Franklin's printing press, and George Washington's uniform, are more than curiosities. They provide direct, three-dimensional evidence of individuals who otherwise exist only as abstractions (Hindle 1978, p. 6).

National, Regional, and Local Possessions

Just as individual antique collectors may appropriate senses of pasts in which they have not directly participated, nations may also try to appropriate pasts that are not their own. This may be done by imitation as with classical architecture in public buildings and classical poses and clothing on public statues, or it may be done more directly by acquiring the art and artifacts of another culture. The more direct appropriation may involve classical works like the Elgin Marbles in the British Museum or "primitive" works like the anthropological artifacts in the Smithsonian collection (Cole, 1985, Meyer 1973). Whereas the acquisition of the classical works attempts, like antique collection, to establish a lineage to the past and appropriate its imagined glories, the acquisition of "primitive" works is more an attempt to demonstrate the superiority of the acquiring nation (Chamberlin 1979). From the point of view of the nation whose heritage has been appropriated however, these transfers often amount to a theft of national selfhood. Repatriation attempts, such as Greece's claim on the Elgin Marbles and Nigeria's claim on the Ashanti regalia also held by the British Museum,

are not often successful however, despite arguments such as Nigeria's that:

'These antiquities are the only authentic objects which illustrate and illuminate the course of our development. This is vital to us as a people, as it enables us to establish our identity, and hence restores our dignity in the community of nations (Chamberlin 1979, p. 113).'

The same concern with magic, sacredness, and authenticity that we invoke in personal possessions is also an important part of aggregate national, regional, and local possessions. Walter (1988) depicts a cup that seems suitable for coffee or tea and notes that it appears boring and possessed of low energy, until its heritage is revealed and our perceptions change:

However, when we learn that the cup is made of amber and...may be as old as 1500 B. C., the energy changes. We marvel that the shape of the humble teacup claims such remote antiquity, but the fabric of the cup evokes even more wonder than the form. Amber, to prehistoric folk, was a sacred substance. It was valued as highly as gold (p. 73).

As Stewart (1984) explains, part of this new reverence is because we see the modern as cold and sterile while the antique is warm and exotic. But a part of the status of antiquities housed in museums is due to the authentication and sacralization that takes place in transferring these objects to the museum. Not only is the museum a sacred temple of modern society (Rheims 1961), but sacralization is aided by removing the object from ordinary use and transferring it to the context of other sacred objects (Belk, et al. 1988).

Over the "life" of a significant object, a number of sacred and profane transformations may take place before it reaches a museum, as Fisher (1975) illustrates with a hypothetical warrior's sword. As an object that the warrior views as both a sign of social status and a key instrument of survival, the sword may obtain personal sacred status for him. Upon his death if the sword does not become a profane spoil of war, the society's priests may obtain it as a sacred symbol of the spirit of the warrior. When the society falls and the sword becomes looted wealth, it enters the profane world. And when anthropologists finally obtain the object and transfer it to a museum, it is once again a sacred object in still another system of meaning. We might also note that in each step in this social biography of the sword it becomes increasingly alienated from its original context, being first appropriated by a more aggregate local society and ultimately by a totally foreign society.

While archaeological, anthropological, and historical museums are those that may seem most relevant to collecting objects that provide an

aggregate sense of past, natural history museums, art museums, and museums of science and industry perform similar functions. And museums are not the only repositories of sense of past at the local through national levels of self. Data collection in economics, meteorology, popular culture studies, and a variety of other disciplines also archive our past. So do libraries, historical societies, and cemeteries which now mark permanent graves rather than recycling the land for other burials. As Shapiro (1985) documents, the impetus for the development of each of these repositories occurred during the mid-nineteenth century in the U.S.. Prior to this time, the view of history seems to have been less linear and more cyclical. This difference is seen more clearly however in the contrast of present view of using the past to construct desired identities versus the medieval European view of a changeless social order and an irrevocable past (Mead 1929). Then, and in preceding civilizations, preserving the past in public institutions was not encountered (Lowenthal 1985, p. 365).

An aggregate sense of past implies a collective memory (Halbwachs 1950). There is some evidence that the salient past differs markedly by generation (Schuman and Scott 1989). The period of late adolescence and early adulthood when adult identity is crystallizing is an especially prominent source of generational memories. This seems to account for the different musical preferences of different generations (Holbrook and Schindler 1989) and the different eras of collectibles preferred by those who have reached midlife (Davis 1979). Collective memory is thus generation-specific.

Family Heirlooms

Unlike anonymous antiques, monuments, landmarks, and museum artifacts, family heirlooms have been directly experienced by individuals and families during their past. Such heirlooms are not universal in a society, but are restricted to higher social classes. These classes are more likely to have furnishings, jewelry, silver, collectibles, paintings, *objects d'art*, and even articles of clothing to pass along (Bossard and Boll 1950), although middle class families who have remained in one place over several generations may also have some heirlooms (McCracken 1988, chapter 3). U.S. blacks who are descended from former slave families may have oral traditions, but have been barred from multigeneration material cultures (Haley 1976). Although it is most common to think of traditional peoples as possessing only oral heritage (e.g., Bateson 1958), there is also a material heritage in groups like the Aranda of Australia (Strehlow 1947). In fact among the Northern Aranda, *tjurunga* objects are thought to be the embodiment of ancestors and are hoarded as most treasured possessions.

Having family heirlooms, collections, or other significant possessions that children or grandchildren are willing to take over can provide a sense of familial self continuity that extends beyond

death. Barthes (1984) reflects after his mother's death that he "finds" her in an ivory powder box, a cut-crystal flagon, a low chair, raffia panels, and the large bags she loved. Even when families do not pass heirlooms to succeeding generations, the continued existence of childhood home and other important objects may provide a sense of continuity or even immortality. When these objects are instead destroyed, we lose a part of our past, a part of our selves:

A picture of Barney's childhood home hung just inside the entrance of his own home. The childhood home had been deeded to his father when his father was a child. Though the house and the land had long since been sold outside the family, Barney expressed dismay when he told me of the experience of driving by some years before and finding it "wiped out." His voice quavered and tears came to his eyes as he told me this story.

The darn thing, last time I was up there, they even stripped the house out of there. The old home, well, I thought the thing would stand forever. That's what happens to everything; nothing comes of nothing anymore (Boschetti 1986, p. 42).

CONCLUSIONS

Previous studies of time in consumer research have ignored the role of possessions in creating and maintaining a sense of past. A sense of past is essential to a sense of self. The self extends not only into the present material environment, but extends forward and backward in time. Possessions can be a rich repository of our past and act as stimuli for intentional as well as unintentional recollections. While few of us undertake as comprehensive a life history review as Proust, our memories constitute our lives; they are us. We fervently believe that our past is accumulated somewhere among the material artifacts our lives have touched--in our homes, our museums, and our cities. And we hope that if these objects can only be made to reveal their secrets, they will reveal the meanings and mystery of ourselves and our lives.

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To Me from Me: A Descriptive Phenomenology of Self-Gifts

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ABSTRACT

Although the concept of gifts to oneself has been mentioned by researchers of gift-giving behavior, no empirical investigations have been conducted on the topic. This paper reports the findings of an exploratory study based on respondents' descriptions of recent self-gift experiences. Some distinguishing aspects of self-gifts are identified and directions for future research are suggested.

INTRODUCTION

Social scientists have noted for many years that gift-giving is a widely practiced and essential component of human relations. Probably the most common form and function of gift-giving is an interpersonal act of symbolic communication, with explicit and implicit meanings ranging from congratulations, love, and regret to obligation and dominance. Other functions include social exchange, economic exchange, and socializing. Since Belk's (1979) discussion of these functions, several additional papers in consumer research have addressed the conceptual side of gift-giving (e.g., Belk 1984, 1987, 1988; Belk, Wallendorf, and Sherry 1989; Sherry 1983) while a few empirical studies have also appeared (e.g., Macklin and Walker 1988; Scammon, Shaw, and Bamossy 1982; Sherry and McGrath 1989).

Across the span of social science and consumer research on gift-giving there is an underlying tendency to draw a dichotomy between goods acquired for giving to others and those acquired for personal use. Researchers like Gronhaug (1972), Ryans (1977), and Scammon, Shaw, and Bamossy (1982) have used this distinction overtly to examine differences in purchase behavior. For example, Ryans (1977) found that consumers buying for personal use were less likely to have a target price in mind than those buying a gift. Nonetheless, the phrase *personal use* is very broad and entails virtually every acquisition a consumer undertakes for him or herself. One outcome of this dichotomy has been a failure to recognize that some personal acquisitions may have dimensions that make them more like gifts than like other personal acquisitions. Such a distinction might lead researchers to a more refined understanding of consumer behaviors involving varied acquisitions for oneself, including situational and motivational determinants, acquisition strategies and processes, and experiential consumption meanings.

The idea of gifts to oneself is not novel, though to our knowledge it has received limited conceptual support and no direct empirical attention. Although focused on interpersonal (dyadic) gift-giving, Tournier's (1961/1966, p. 6) book actually begins with a short discussion of gifts to oneself:

Before giving myself the pleasure of undertaking a new work, I have wanted to finish up other works I have promised. This task is a kind of present which I've given myself and which I enjoy as a reward for finishing off other duties....There are gifts not only for others; there are also those we give ourselves, generous or parsimonious, according to the formation we have had.

Tournier (1961/1966) also maintains that gifts to other people can serve as gifts to oneself, insofar as personal pleasure is anticipated and derived from observing the gift receiver's happiness.

Schwartz (1967) has argued that the presentation of a gift imposes an identity on the giver and, especially, on the receiver (see also Belk 1979). After discussing issues of self-concept in gift-giving, Schwartz (1967, p. 3) goes on to say:

This leads us in to the interesting area of the giving of gifts to oneself. This is normally spoken of in terms of "self-indulgence," opposition to which, stripped to its essentials, represents an unwillingness on the part of the ego to strike a bargain with the id. This inflexibility is dangerous when other people (as sources of satisfaction) are not available, for it makes adjustment to hostile environments unlikely.... The "self-gratifier" is an interesting product of the non-intimate community who, despite his pervasiveness, has received little attention from the social sciences.

For Schwartz (1967), gifts to oneself are nutrients for emotional health when a person is devoid of satisfying interpersonal relations.

Tauber (1972) included *self-gratification* as a significant motive for people's shopping and purchasing behaviors, though he did not associate it with gift-giving to oneself. He proposed that the self-gratification motive leads people occasionally to buy "something nice" for themselves when they are feeling depressed.

Levy (1982, p. 542) appears to have been the first consumer researcher to suggest the possibility of gifts to oneself:

The complexities of gift giving and the meanings of [gifts] might both be further explicated by considering personal use as a

¹The authors are indebted to Lance Brouthers for his help in coding questionnaire responses. Thanks are also extended to Lance and Rich Lutz for helpful comments on an earlier draft of the paper.

form of gift giving to the self--"I owe it to myself." I as subject reward me as object.

Since Levy's comment, Sherry (1983) and Mick (1986) have briefly discussed gifts to oneself. Moreover, recent ethnographic work on gift shops has recorded some shoppers' remarks that reflect a potential richness to this phenomenon that calls for closer examination (Sherry and McGrath 1989).

In sum, self-gifts seem to be a viable concept, but remain a mystery within consumer research. Hence, we conducted an empirical study as a first, albeit exploratory step toward further substantiating and clarifying self-gifts. More specifically, like prior dyadic gift research, this study emphasized the *occasions* of self-gifts. Taking Lutz's (1979) suggestion, an added focus was consumer *motivations* for self-gifts. In general, this study constituted an emic research project aimed at the phenomenology of self-gifts. The study's insights are based considerably on the consumers' own words and actions as revealed through descriptions of self-gift experiences. This basic approach has been used recently in other consumer research, including studies on special possessions (Myers 1985) and impulse buying (Rook 1987).

METHOD

Respondents in this study were 54 undergraduate business students at a large American university who received course credit for their participation. The use of this convenience sample, other than being commonly acceptable for exploratory studies, was also justified based on prior focus group interviews which revealed that many students readily related to the term "self-gifts."

A questionnaire was used to collect information from the respondents. The introduction page noted that gift-giving takes place worldwide and that most of what is known about gifts is based on studies of gift-giving between two people, for example, a husband and wife or a boyfriend and girlfriend. It was then pointed out that we had heard people say that sometimes they give gifts to themselves. These so-called "self-gifts" were identified as the topic of the study. Respondents indicated their gender, age, and marital status at the bottom of the introduction page and then self-paced their way through the remaining four pages of the questionnaire. The term "self-gifts" was not defined for the respondents, mostly because so little is known about the concept and extra detail might have biased their responses rather than encouraging an array of self-gift information.

The next page adopted a "critical incident" technique by requesting respondents to recall the last time they had acquired a self-gift (see Rook, 1987, for another example of this technique). They were asked to "describe in detail the situation (where, when, who, how, why, etc.) that led you to acquire for yourself this particular self-gift." Respondents had a full page to provide their descriptions. The subsequent two pages asked respondents to list additional circumstances and motivations,

respectively, for self-gift behavior in which they had engaged. The final page asked them whether they had any final thoughts, opinions, or feelings about self-gifts.

RESULTS

The sample consisted of 23 males and 31 females, with ages ranging from 19-24. Only two respondents were married.

Traditional content analysis was performed by coding the reported circumstances and motivations, both in the self-gift story and in the subsequent mentions of further circumstances and motivations. Two short lists of potential circumstances and motivations were developed based on prior conceptual discussions of self-gifts and the focus group interviews we had previously conducted. The first author then reviewed the 54 questionnaires in order to check the completeness of the two lists, resulting in the addition of three more circumstances and three more motivations.

Generally speaking, there was an understandable one-to-one relation between certain circumstances and certain motivations for self-gifts, e.g., to reward oneself (motivation) for a personal accomplishment (circumstance). (However, this does not imply that all respondents reported matching circumstances and motivations, nor that we inferred one when only the other was reported.) After the coding lists were finalized, the second author and another doctoral student in marketing independently coded each respondent's entire questionnaire for *explicit* mentions of self-gift circumstances and motivations. The judges agreed on 83% of their codings; joint discussions resolved the disagreements.

Further analysis of the main self-gift stories was strictly interpretive. Both authors read the stories independently and made notes on perceived commonalities across the stories as well as other emergent revelations. The authors then compared their notes while reviewing the questionnaires again, seeking clear evidence and consensus for the interpretive insights discussed here.

Content Analysis and Crosstabulations

The frequencies and percentages of reported self-gift circumstances and motivations appear in Tables 1 and 2. On average, each respondent reported a total of three circumstances and three motivations. As Table 1 shows, the dominant circumstances related to self-gifts are times of accomplishment (e.g., high exam grades), when feeling down (e.g., from poor performance on an exam, from human relationship conflicts), when a holiday arrives (e.g., birthday, Christmas), when feeling stressed (e.g., from too many demands at school or on the job), when there is extra money to spend, and when the item may be especially needed. Table 2 indicates that the most frequent motivations are to reward, to be nice to oneself, to cheer up, to fulfill a need, to celebrate, and to relieve stress. Although there were some circumstances and motivations reported that were not included directly

TABLE 1
Reported Circumstances of Self-Gift Behavior

Circumstance	Frequency	As A Percentage of Total Circumstances Mentioned ¹	As A Percentage of Subjects Mentioning Circumstance
Personal Accomplishment	34	20%	63%
Feeling Down	28	16%	52%
Holiday	19	11%	35%
Feeling Stressed	18	10%	33%
Have Some Extra Money	18	10%	33%
Need	18	10%	33%
Had Not Bought For Self In A While	10	6%	19%
Feeling Good	7	4%	13%
Attainment Of A Goal Is Desired	6	3%	11%
Other	15	9%	28%
Total	173		

n = 54

¹ --These do not not add to 100% due to rounding.

TABLE 2
Reported Motivations for Self-Gift Behavior

Motivations	Frequency	As A Percentage of Total Motivations Mentioned ¹	As A Percentage of Subjects Mentioning the Motivation
To Reward Oneself	34	23%	63%
To Be Nice To Oneself	28	19%	52%
To Cheer Up Oneself	26	18%	48%
To Fulfill A Need	17	12%	31%
To Celebrate	14	10%	26%
To Relieve Stress	8	6%	15%
To Maintain A Good Feeling	7	5%	13%
To Provide An Incentive Toward A Goal	4	3%	7%
Other	7	5%	13%
Total	145		

n = 54

¹ -- These do not add to 100% due to rounding

in the coding lists (i.e., coded as "Other"), fully 92% of the circumstances and 95% of the motivations were classified according to prespecified categories. Given that these categories number nine and eight respectively, it appears that self-gifts are acquired within a relatively confined set of circumstances and motivations, several of which go hand-in-hand.

Bivariate analyses were performed, primarily crosstabulations between gender and the reported circumstances (or motivations). Most of these analyses produced non-significant results. Notable exceptions based on Fisher exact tests included a marginally significant higher frequency of the reward motivation reported by males ($p < .08$, 2-tail) and a significantly higher frequency of the celebration motivation mentioned by females ($p < .02$, 2-tail).

Interpretive Analysis

Levy's (1982) remark that people can perceive themselves as both subject and object in self-gift behavior was supported by several responses. One student wrote that, after some disappointing test grades, "*I took myself shopping*" (emphasis added). Another wrote that, when feeling down, "*I will treat myself to help make me feel better*" (emphasis added).

The stories also revealed a picture of self-gifts characterized by considerable variability and flexibility. Self-gifts ranged from clothing, compact discs, a computer, a stuffed animal, jewelry, and an aquarium (products), to hair styling, restaurant meals, and a spa membership (services), to socializing with friends (experiences). Certain types of self-gifts (e.g., clothing) were reported in multiple circumstances, as described in the self-gift stories.

The stories also illustrated that, like dyadic gifts, self-gifts inhere properties of sacredness that may serve to differentiate them from other personal acquisitions (cf. Belk, Wallendorf, and Sherry 1989). For instance, there can be ritualistic aspects to self-gifts involving patterns or rules of conduct. As one respondent revealed, "I usually reward myself either by going out for an expensive dinner or treating myself to something that I normally wouldn't--a play, perfume, etc." Self-gifts can also have a mysterious quality, not completely understood by the individual, and are capable of producing ecstatic experiences, as this verbatim shows:

The New York Rangers are my favorite hockey team and they have been in first place....For years I have always wanted to buy a Rangers t-shirt, but for some reason I never did. When I bought the shirt I was very excited and could not wait until I could wear it.

Self-gifts can also involve sacrifice, i.e., abstaining from personal acquisitions in preparation for self-gifts. As one respondent wrote, "I don't do it often because I like to save money and therefore when I do

buy myself something that I do not need but really want, it becomes that much more special." Similarly, self-gifts can be sacred by virtue of their opposition to other profane personal acquisitions--for instance, those that occur on a day-to-day basis. As another respondent wrote, "I try not to do it excessively because then it loses its specialness." In other words, excessiveness desacralizes self-gifts by making them more like regular, mundane personal acquisitions (cf. Belk, Wallendorf, and Sherry 1989). In sum, self-gifts appear to be a distinguishable form of personal acquisition based, in part, on their potentially sacred properties.

Another shared aspect of self-gifts and dyadic gifts concerns the role of self-concept. As noted earlier, Schwartz (1967) perceives interpersonal gifts as vehicles of identity imposition. Given that self-definition, self-consistency, and self-esteem are important dimensions of the global meaning of self-concept (cf. Sirgy 1982), it was evident in some respondents' stories that self-concept was crucial to self-gifts and vice versa:

Several weeks ago I ordered a set of champagne glasses and bucket for myself for an early Christmas present. I was leafing through a bunch of Christmas catalogues and saw the set. I will be moving to a new, beautiful apartment in January, and *I've always been a romantic, always loved champagne*, and finally am dating a guy who will drink champagne. So I ordered it. Forty bucks--*I figure I'm worth it.* (emphasis added)

Another story involved a student whose self-concept had developed partly from competitions in horse shows.

I had been studying extremely hard and I did not do well on two exams so I treated myself to compete in a horse show I could not really afford. My thinking was that *I had worked hard enough* over the summer to earn my spending money and worked hard as I could on my exams and that *it was time I did something for myself.* Something I wanted to do and it would relax me--get some fun and *sense of accomplishment out of my efforts.* (emphasis added)

This same respondent wrote that self-gifts "make me feel better about myself." And on a related point, another respondent wrote that "A self-gift tells that I'm a worthy person and I should be appreciated." These quotes suggest that the relationship between self and self-gift may be among the strongest of relationships involving the self and personal acquisitions. Hence, this characteristic may further serve to distinguish self-gifts from many other personal acquisitions.

DISCUSSION

Although a few respondents had difficulty in relating to the idea of self-gifts, most began writing their descriptions within moments after reading the instructions. This fact and the results from this study suggest that self-gift behavior may be fairly common among young American, college-educated adults. The self-gift stories also pointed to several key dimensions of self-gifts, including their variability and flexibility, sacred properties, and critical ties to self-concept. Extrapolating our findings to other populations is not possible. However, informal conversations we have had with other adults of varying ages and backgrounds have suggested that self-gift behavior may be widespread throughout American culture. Additional exploratory and descriptive research is needed across a broader sample.

This study determined that self-gifts can be products, services, or experiences and that they are partly differentiated from other personal acquisitions by their situational and motivational contexts. However, while some respondents mentioned "need" as a motivation for acquiring a self-gift, others openly stated that self-gifts are nonessential. At this point, our conjecture is that self-gifts may at times be needed (e.g., new shoes), but need motivation is probably not a sufficient condition (motivation) for a personal acquisition to be a self-gift.

A related issue concerns the term "self-gifts." One of our respondents commented that all purchases for oneself could be interpreted as self-gifts. From this it appears that future researchers should be careful in using the term "self-gifts" as the sole indicator to respondents about the topic under investigation, unless a wide range of responses is desired, e.g., if the researcher is attempting to uncover additional motivations, circumstances, or other general aspects of self-gifts not identified in the study reported here. Otherwise, at this stage our recommendation would be to use the circumstances and/or motivations of self-gifts that emerged in this study. For instance, respondents may identify more easily and more accurately with the idea of "rewarding" or "cheering up" than with the term "self-gifts."

Exploratory research typically raises more questions than it answers and, as a result, this study provides several directions for future research on self-gifts. The conceptual relation of self-gifts to interpersonal gifts should be investigated more thoroughly. This could lead to further distinctions of self-gifts from other personal acquisitions that could be significant for consumer behavior theory. The dyadic-gift literature might also suggest propositions for self-gifts that could be empirically tested. For example, Belk (1988) has speculated that the most gratifying form of gift-giving may occur when the recipient is a part of the giver's extended self. If so, then a comparative study might demonstrate that an even more satisfying form of gift-giving is self-gifts.

Research could address the socioeconomic correlates of self-gift behavior as well as the extent to which general and more specific types of self-gifts differ as a function of circumstance or motivation. In addition, given that qualities such as practicalness have been shown to vary across dyadic-gift circumstances (see Belk 1979), this same issue should be addressed with self-gifts.

The origins of self-gift behavior require research. For instance, the psychological impact of childhood dyadic-gift experiences on adult self-gift behavior is unknown; studies of parent-child relations and dyadic-gifts may serve as a good starting point (e.g., Belk 1987). On a macrolevel, the cultural influences on self-gift behavior might be considered according to the social history of possessions and consumption (Belk 1984; McCracken 1988).

The relationship between self-gifts and self-concept appears to be especially worthy of future research. For example, past research has shown that clothing often acts as symbolic self-enhancement (Holman 1981) and that improving self-esteem through weightloss has become a national preoccupation in America (Verba and Camden 1987). An investigation of clothing purchases by people who have recently lost weight may offer deeper insights on self-gifts and self-concept as well as the symbolic nature of clothing.

Another question concerns whether self-gifts are sometimes nothing more than *post hoc* rationalizations for dealing with cognitive dissonance, perhaps emanating from guilt or regret over certain personal acquisitions. One way that future research might address this issue is to have respondents indicate whether they determined the acquisition, for example, to be a reward either before or after acquisition. If self-gifts are truly similar to dyadic-gifts, then it would seem that self-gifts are rarely after-the-fact rationalizations.

The measurement of self-gifts needs to be addressed. One major challenge will come from the fact that self-gifts are highly subjective and may not be easily quantified for the purposes of nomothetic research (see Hudson and Ozanne 1987). One approach might be to assess the propensity of consumers to engage in self-gift behavior, perhaps drawing on the circumstances and motivations identified here and having respondents provide frequency estimates based on past behavior. This technique could then help to establish which consumers are most prone to self-gift behavior (e.g., males versus females, young versus old). However, it would not provide new insights about the fundamental role and meaningfulness of self-gifts in consumers' lives. This likely will require more qualitative, phenomenological research.

CONCLUSION

This paper reported an exploratory study of self-gifts involving responses to several open-ended survey questions by a convenience sample of undergraduate business students. Within this context the notion of self-gifts was found to be a

comprehensible concept and representative of behavior that most of the respondents reported having performed. For them, a self-gift was acquired primarily within a select set of circumstances and/or motivations. Descriptions of self-gift experiences pointed to additional distinguishing qualities of self-gifts and a number of directions for future research.

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The Effect of Donor-Recipient Involvement on Consumer Gift Decisions

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The Sherry (1983) model suggests that gift-giving decisions vary by the level of involvement in the donor-recipient relationship. A conjoint task involving a gift purchase was administered to consumers in two conditions: 1) a gift for a new neighbor, and 2) a gift for a best friend. The results showed that the use of expressive and utilitarian attributes, as well as price, differed between the two gift-giving conditions. It was concluded that the results lend support to the Sherry model by demonstrating that level of involvement affects the gift purchase decision.

INTRODUCTION

Gift-giving is a phenomenon of economic and social importance, which has been the focus of a growing body of conceptual and empirical work in consumer behavior. In the economic realm, expenditures for gifts represent more than 3% of the annual budget of the average household (Garner and Wagner 1987). In the social sphere, gifts serve as important symbols in creating and maintaining relationships and in acknowledging important life cycle events (Belk 1979; Sherry 1983).

Conceptual Framework

Sherry (1983) proposed a multidisciplinary model of consumer gift-giving based on a typology with three major components -- the gift, the relationship between donor and recipient, and situational factors. According to this model, the gift-giving process has three stages -- gestation, pre-emption, and reformulation. Gestation resembles traditional consumer decision-making models (e.g. Engel, Blackwell and Miniard 1986), and may be of the most interest to marketers, because it culminates in a purchase.

Gestation begins with a precipitating condition, which is the donor's recognition of a gift-giving situation. During this stage, decision-making is affected both by the gift-giving motives of the donor and by hints from the recipient about his or her needs and wants. The donor evaluates alternative gifts in terms of their attributes and what those attributes communicate to the recipient. Finally, a purchase decision is reached.

According to Sherry (1983), the effect of product attributes on the choice of a gift may vary according to the level of involvement between the donor and the recipient. Expressive gifts are more likely to be given in close relationships, while utilitarian gifts are more likely to be given in distant relationships. Attributes such as price and quality may also be used to define level of involvement. More costly, higher quality gifts are usually given in closer relationships.

One major function of gift-giving is communication (Banks 1979; Belk 1979; Sherry

1983). Because gifts communicate information not only about the recipient, but also about the donor, consumers may engage in "impression management" (Sherry 1983). This suggests that gift-giving decisions are likely to be influenced by social norms.

Previous Research on Gift-Giving

Warshaw (1980) studied the relationship between social norms and perceived expense in the purchase of gifts by college students. The influence of social norms appeared to decrease as the perceived expense of a gift increased. Conversely, the influence of social norms appeared to increase as perceived expense decreased.

Belk (1982) studied the effect of involvement on the gift-giving strategies of adult women. Eighty-seven gift attributes were rated with respect to their importance. Price, quality, and convenience were hypothesized to differ by level of involvement. Subjects were assigned to three experimental conditions in which involvement was manipulated by intimacy of the relationship (close friend, casual friend, close relative) and gift-giving occasion (birthday or wedding). The results of analyses of variance (ANOVA's) showed that high involvement was associated with the importance of price and quality. The effect of the occasion on gift-giving was studied by Devere, Scott and Shulby (1983). Undergraduates rated the importance of 48 attributes of birthday and wedding gifts. In both situations, the most important gift attributes were those related to style, quality, usefulness, performance, and price. Style was more important in the birthday gift, and quality and performance were more important in the wedding gift.

Any resource -- a good, a service, or money -- may be used as a gift. Perhaps the most popular gift is clothing (Belk 1979; Caplow 1982; Jolibert and Fernandez-Moreno 1983). Because clothing conveys information about sex, age, status, and personality (Sproles 1979), a gift of clothing may be one of the most effective ways for a donor to communicate his or her perception of the recipient and the gift-giving relationship. Horne and Winakor (1988) studied gifts of clothing exchanged within families at Christmas, and found that subjects reported style, color, fiber content, and cost to be the most important attributes. Rucker, Boynton, and Park (1986) compared attributes used in gift and nongift purchases of children's clothing, and found that "embellishment" was more important in gifts. Andrus, Silver and Johnson (1986) studied the effect of brand on purchases of clothing gifts, and found that consumers were willing to pay 20% more for a gift in order to purchase a status brand.

Much of the research on gift-giving has been based on methods in which subjects are asked to

report or rate the importance of a set of product attributes (e.g. Andrus, Silver and Johnson 1986; Belk 1979; Devere, Scott and Shulby 1983; Horne and Winakor 1988). The results of such studies provide insight into consumer gift-giving behavior and are useful in generating list of attributes that may affect gift-giving decisions. The results must be interpreted with caution, however, for two reasons. First, self-reports are often poor surrogates for the decision-making process (Achenbaum 1966; Bettman 1979; Nisbett and Wilson 1977). Gift-giving involves social interaction, so subjects may have given socially desirable responses. Second, subjects have rated attributes one-at-a-time, in isolation from the bundle of attributes which typically define a product. Consequently, the results give little information about the psychological trade-offs which consumers are likely to make among product attributes in purchasing gifts.

In this research, conjoint analysis was used to compare gift-giving decisions in two situations, which were varied by level of involvement in the donor-recipient relationship: 1) a gift to a best friend, and 2) a gift to a new neighbor. Use of the conjoint approach was predicated on the assumption that the decision to purchase a gift, like the decision to purchase a product for personal use, involves evaluating and integrating information on multiple product attributes. Because the gift to a best friend was assumed to be more involving than the gift for a new neighbor, it was expected that price, quality, and expressive attributes would be more important in the best friend condition. It was also expected that utilitarian attributes would be more important in the new neighbor condition.

METHOD

Participants

One-hundred mothers were systematically sampled from the P.T.A. membership list (N=197) of a public elementary school in the suburbs of a major metropolitan area in the Mid-Atlantic region. Adult females were used as subjects for two reasons. First, most donors are female. As the "unpaid social directors" and "chief gift-givers" of American society (Schnudson 1986), women purchase 84% of all gifts (Caplow 1982). Second, the decision-making task upon which this study was based involved a gift for a baby shower. Consequently, the use of adult females ensured that the subjects were familiar with the gift-giving situation. Permission to recruit the mothers was obtained from the P.T.A.'s executive board at its meeting in the month prior to administration of the research. To encourage participation, the P.T.A. was promised a \$5 donation for every completed instrument returned to the researchers.

The Gift-Decision Task

Participants were given a set of instructions in which they were told that they had been invited to a baby shower and that the guest of honor had hinted that she wanted one-piece jumpsuits for her

new baby boy. An infant's jumpsuit was defined as a one-piece garment, with feet, to be worn while the baby was either awake or asleep. Half of the 100 mothers sampled were told to assume that the guest of honor was a best friend, and the other half were told to assume that the guest of honor was a new neighbor.

The research instrument consisted of a set of decision-making tasks, based on a 2 x 2⁸ mixed 1/16 fractional factorial design, with full replication (Hahn and Shapiro 1966; Plan 7b). The two main factors were: 1) the relationship between the donor and the recipient (a between-subject variable) at two levels: best friend or new neighbor; and 2) eight product attributes (within-subject variables) at two levels each. Attributes were borrowed from the Sproles (1979) model of fashion-oriented consumer behavior, and levels were selected through a focus group of mothers with demographic profiles similar to those of participants. The eight product attributes and their corresponding levels were: price (\$15.00 vs. \$8.00), color (mint green vs. blue), brand (Carter vs. LACOSTE), fiber (100% cotton vs. 100% polyester), size (6 months vs. newborn), fabric (t-shirt knit vs. terry cloth knit), quality (good vs. very good), and style (classic vs. fashion). In the instrument, all attributes except for style were presented in written descriptions of infant jumpsuits. Style was presented in accompanying sketches. The instrument was pretested with a group of 10 mothers of elementary school children. The results indicated that the two levels of price initially chosen, \$5 and \$20, were perceived to be unrealistically low and high. The levels were adjusted accordingly.

The experimental design involved 16 cases in which infant sleepers were described. This made it possible to analyze main effects for the eight product attributes as well as six two-way interactions. Each of the 16 cases was fully replicated. By replicating the cases, it was possible to estimate both experimental error in the individual-subject ANOVA's and within-subject consistency. Eight "filler" cases were also included, so each participant made a total of 40 decisions. For each case, participants were asked to evaluate the likelihood of purchase by placing a slash along a 100 millimeter continuum, with ends marked "Not Very Likely" and "Very Likely," which appeared at the bottom of the page. The decision-making task was followed by a post-experiment questionnaire, in which socioeconomic and demographic information was collected.

Procedure

A packet of research materials was mailed to participating mothers in November, 1988. Included were: a cover letter from the researchers, a letter of endorsement from the president of the P.T.A., the research instrument, and a stamped, pre-addressed envelope for return of the completed instrument. The participants were asked to return the instrument within 2 weeks. Reminder letters were sent to those who did not comply. Of the 100 instruments

TABLE 1
DEMOGRAPHIC CHARACTERISTICS OF MOTHERS

Characteristic	Absolute Frequency (n=77)	Relative Frequency
Age		
18-30	7	.09
31-40	40	.52
41-50	28	.36
50 or older	1	.01
Not reported	1	.01
Marital Status		
Married	70	.91
Not Married	7	.09
Employment		
Working Full-time	40	.52
Working Part-time	26	.34
Not Working	11	.14
Education		
High School	5	.06
Some College	9	.12
College Graduate	29	.38
Graduate School	34	.44
Age of Youngest Child		
<2	7	.09
2-5	21	.27
6-11	45	.64
Gave Baby Gift in Last Year		
Yes	57	.74
No	20	.26

mailed, 69 were completed and returned by the first deadline. An additional eight were received after the reminder, yielding a response rate of 77%. Completed instruments were received for 35 mothers in the new neighbor condition and 42 mothers in the best friend condition.

RESULTS

Descriptive statistics for the 77 participating mothers are presented in Table 1. For the most part, the mothers were older, better educated, more likely to be working, and more likely to be married than one would expect of mothers of elementary school children. The majority reported having given a shower gift in the last year.

Use of Attributes

An individual-subject analysis of variance (ANOVA) of the fractional design was performed on the gift purchase decisions. This made it possible to identify which attributes affected the gift purchase decisions of each participant. The results are

summarized in Table 2. Table 2 shows that the attributes which most often affected the decisions of the 35 mothers in the new neighbor condition were size, fiber content, and price. Table 2 also shows that fiber content and size were the attributes which most often affected the decisions of the 42 mothers in the best friend condition. Compared to the mothers in the new neighbor condition, price seemed to affect the decisions of fewer mothers purchasing gifts for a best friend. Few significant two-way interactions were found between attributes in either the new neighbor or the best friend condition.

Relative Importance of the Attributes

Hays' (1973) omega-squared (w^2) was used to evaluate the relative importance of the attributes in the decision-making of individual subjects. The average w^2 values for the mothers in each experimental condition are presented graphically in the Figure. It appears that the gift purchase

TABLE 2
 PERCENTAGE OF SIGNIFICANT ($p < .05$) EFFECTS FOR GIFT ATTRIBUTES: NEW NEIGHBOR
 AND BEST FRIEND

Attribute	New Neighbor (n=35)	Best Friend (n=42)	Total Sample (N=77)
Price	40%	21%	30%
Color	17%	19%	18%
Brand	14%	12%	13%
Fiber	57%	64%	61%
Size	69%	40%	53%
Fabric	11%	7%	9%
Quality	29%	19%	23%
Style	20%	21%	21%

decisions of mothers in both conditions were dominated by fiber content, size, and price. Style and quality seem to represent a second-tier of effects, and fabric, color, and brand a third tier.

Differences in Decision Making by Level of Involvement

A two (level of involvement) x eight (attribute) ANOVA was performed on the w^2 values to determine whether or not the gift purchasing strategies differed by intimacy of the relationship. The result showed a significant effect for attributes ($F [7,525] = 16.45, p < .05$) and no effect for level of involvement ($F [1, 76] = 2.92, p > .05$). There was, however, a significant level of involvement x attribute interaction ($F [7,525] = 2.84, p < .05$). The results of a post-hoc Scheffe' test demonstrated that there were differences in the use of the three dominant attributes -- fiber, size, and price. While fiber had more of an effect on the decisions of mothers purchasing gifts for a best friend ($w^2 = .32$ vs. $.18, p < .05$), size had a stronger effect on the decisions of mothers purchasing gifts for a new neighbor ($.20$ vs. $.10, p < .05$). Price appears to have been more important to mothers purchasing a gift for a new neighbor ($.15$ vs. $.08$); that difference was, however, only marginally significant ($p < .10$).

DISCUSSION

The results of this research provide insight into the tradeoffs among product attributes that consumers may be willing to make in gift purchase decisions. More important, the results lend support

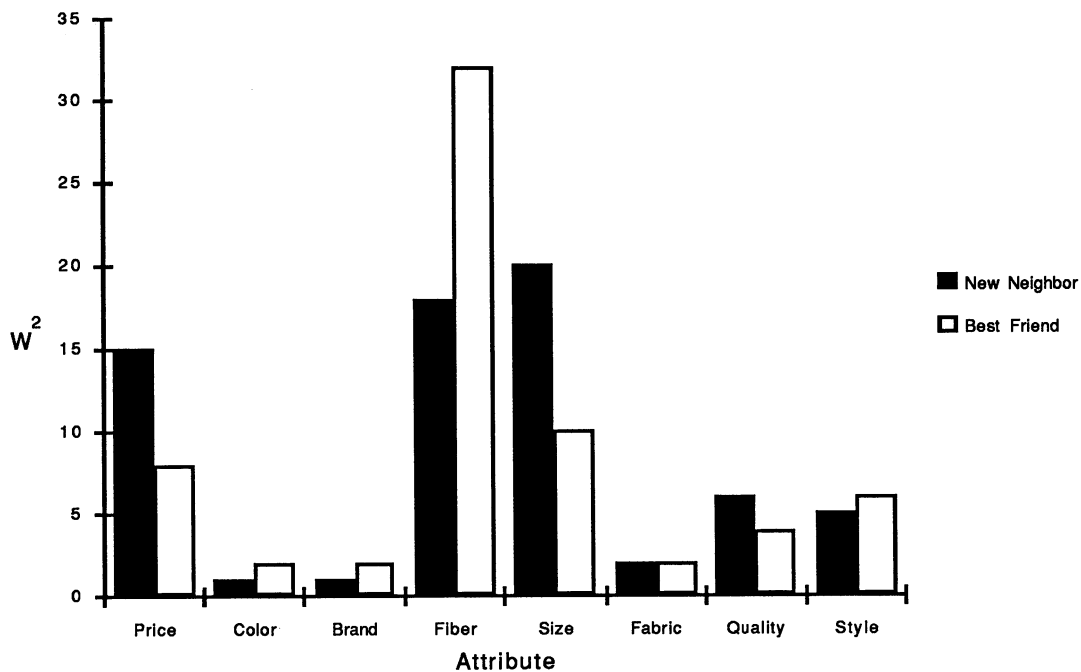
to the Sherry (1983) model of consumer gift-giving, by demonstrating that gift-giving strategies may differ by level of involvement in the donor-recipient relationship.

Tradeoffs Among Product Attributes in Gift Decisions

The gift purchase decisions of the mothers were dominated by fiber, size, and price. Fiber content was the most important attribute. This may reflect both expressive and utilitarian qualities. Fiber content may be expressive because it is subject to fashion change, which is, in turn, associated with status. Examination of the marginal utilities for fiber content showed that all but one of the mothers whose decisions were affected by that attribute favored the 100% cotton garment. Because cotton is more fashionable than polyester (Rowland 1987), consumers may believe that it communicates a desirable impression of the status of the donor as well as the recipient. This suggests that, in making their decisions, the mothers engaged in what Sherry (1983) termed "impression management." Cotton also has utilitarian properties, such as comfort and absorbency, which may have affected the gift purchase decisions.

The dominance of fiber content may reflect the relationship between social norms and perceived expense observed by Warshaw (1980). Fashion is a social norm, so preference for, cotton, the more fashionable fiber, may have been related to the perceived expense of the jumpsuit. Had a more expensive gift been involved, the effect of fiber content might have been weaker. The importance of

FIGURE
AVERAGE W^2 VALUES FOR EACH GIFT ATTRIBUTE: NEW NEIGHBOR AND BEST FRIEND



fiber is consistent with the results of Horne and Winakor's (1988) study on Christmas gift-giving.

Size, which might be interpreted as a utilitarian attribute, was the next most important influence on the gift-giving decisions. This finding lends credence to Sherry's (1983) contention that utilitarian considerations may affect gift-giving, and to the results of Devere, Scott and Shulby (1983), who reported that the usefulness of an item is likely to be an important consideration in purchasing a gift. The marginal utilities showed that, among the mothers with a significant effect for size, all but two favored the six-month over the newborn. Given that newborns usually grow quickly, the mothers may have perceived the larger size to be useful for a longer period of time than the smaller size. Mehrabian (1972) suggests an alternative explanation. If size is associated with status, then giving a larger size may be one way of conferring status upon the recipient.

The importance of price is consistent with the results of previous research in which price was reported to be an important attribute in purchasing a gift (e.g. Belk 1979; Devere, Scott and Shulby 1983; Heeler, Francis and Okechuku 1979; Horne and Winakor 1988). It appears, however, that consumers may be less concerned with price than with either the status communicated by an item or its usefulness.

Quality and style appeared to be attributes of secondary importance. Quality was reported by both Belk (1979) and Devere, Scott, and Shulby (1983) to be an attribute of importance in purchasing gifts. The results of this study support their finding, but with the qualification that, compared to other attributes, quality seems to have a smaller effect. Both Devere, Scott and Shulby (1983) and Horne and Winakor (1988) reported that style affects gift-giving decisions. The results of this research indicate that, relative to other attributes, the effect of style is not large. This may be related, however, to the situational context, in that participants were told that the shower was being held for the mother of a baby boy. Although one function of gift-giving is socialization, sex-role socialization may not begin in earnest until a child is older. Consequently, style may be of less importance than other attributes in gifts of clothing to infants. The marginal utilities showed that all but one of the mothers who had a significant effect for style preferred the classic jumpsuit. This may reflect the fact that fashion continues to have less effect on the clothing of males than the clothing of females (Hyde 1988).

Color, brand, and fabric appeared to be the least important of the gift-giving attributes. In Horne and Winakor's (1988) study, color was reported to be important in gifts of clothing. The results of the conjoint analysis suggest, however,

that compared to other attributes, the effect of color is small.

Andrus, Silver and Johnson (1986) reported that consumers are willing to pay a higher price in order to purchase a status brand as a gift. The results of this research indicate that, compared to other product attributes, brand may have little effect on gifts of clothing. The importance of fiber, relative to brand, suggests that physical attributes of a product may communicate more about status than does brand. The price x brand interaction was tested, and 16 (21%) significant interactions were observed across the two experimental conditions. In most cases, the mothers preferred to pay less for LaCoste, the higher status brand. The w^2 value for this interaction was, however, negligible. Although the Sproles (1979) model suggests that fabric is one of the "critical characteristics" in purchases of clothing, this attribute had little effect on the gift purchase decisions of the mothers in the sample.

Comparison of Gift Decisions by Intimacy of Relationship

Differences were observed in the relative importance of fiber, size, and price in the best friend and new neighbor conditions. Mothers giving a gift to a best friend were more likely to use fiber, and less likely to use either size or price, than were mothers giving a gift to a new neighbor. This lends support to the Sherry (1983) model, which suggests that gift-giving decisions differ by the closeness of the donor-recipient relationship.

According to Sherry (1983), gifts may be either expressive or utilitarian. Expressive gifts are more likely to be given in close relationships, and utilitarian gifts more likely to be given in distant relationships. The use of the gift attributes by the mothers in the two conditions appear to reflect this. Fiber might be considered the more expressive of the two attributes, because it may communicate information on the status of both donor and recipient. Since natural fibers (e.g. cotton) are perceived to be more fashionable than synthetic fibers (Rowland 1987), a gift of a natural fiber garment might be seen as one way of communicating the importance of a relationship. Size might be considered the more utilitarian of the two attributes. Consequently, the decisions of mothers in the new neighbor condition, in which the relationship was distant, were more strongly affected by size.

An alternative explanation for the importance of fiber in the best friend condition might be that consumers make purchases for close friends in much the same way that they make purchases for personal use. Ettenson, Wagner, and Gaeth (1988) found fiber content to be a dominant attribute in decisions involving purchases of clothing for personal use. Heeler, Francis and Okechuku (1979) reported that, in making purchases of gifts for close friends and purchases for personal use, consumers access similar types of information. This interpretation is consistent with the anchoring and adjustment model developed by Davis, Hoch and Ragsdale (1986), in

which both husbands and wives were found to anchor their predictions of spousal preferences on their own preferences.

Although the difference was marginal, price appeared to be less important to mothers purchasing gifts for best friends than to mothers purchasing for a new neighbor. Both Sherry (1983) and Caplow (1983) suggest that the value of a gift may reflect the importance of the relationship. This implies that a more expensive gift might be preferred in a closer relationship. However, the less expensive jumpsuit was favored by all of the mothers with a significant effect for price, regardless of level of intimacy. Low cost of the jumpsuit was, however, of more importance to the mothers purchasing a gift for a new neighbor than to mothers purchasing a gift for a best friend. In light of the importance of fiber content, it appears that for some gifts, there may be attributes more effective than price in communicating the importance of a relationship. The difference in the importance of price between the best friend and new neighbor conditions lends support to the work of Belk (1982), who reported that the amount of money spent on gifts is likely to vary by level of involvement.

CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

The results of this research contribute to development of the Sherry (1983) model and suggest directions for future decision-making research in a gift-giving context. Gift purchase decisions were studied in the context of a shower gift to be given to either a best friend or a new neighbor. The results demonstrated that the use of product attributes by the participants differed in the two situations. Thus, it appears that the gift-giving decisions of consumers differ by level of involvement in the donor-recipient relationship.

Four directions for future research are suggested. This study was limited in terms of sample size and range of products. Consequently, the most obvious extension of this research is to a larger, more representative sample of consumers and a wider range of products. A second extension of this research might involve using the conjoint method to compare gift-giving decisions to decisions involving purchases of goods for personal use. Given that gift-giving tends to be seasonal in nature, such information might be useful to the marketing establishment in planning seasonally-appropriate promotional strategies. A third avenue of research might be based on the anchoring and adjustment model of evaluative judgment (Tversky and Kahneman 1974). Davis, Hoch and Ragsdale (1986) used this approach to study spousal preferences. In that research, both husbands and wives were found to be not very accurate in their predictions of spousal preferences. It would be interesting to explore the accuracy of donor predictions of recipient gift preferences, by level of involvement. Finally, given the burgeoning of interest in family decision-making, the study of gift-giving decisions within the family, not only

between husbands and wives, but also between parents and children, presents intriguing possibilities.

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Gift Giving: Consumer Motivation and the Gift Purchase Process

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This paper proposes that the extent to which gift givers are motivated by primarily voluntary or obligatory motives shapes the gift selection, acquisition, and post purchase process. A pilot study utilizing a naturalistic data collection technique provides some empirical support for hypotheses developed from the conceptual scheme based upon obligatory versus voluntary motives.

Gift giving has been studied by a number of consumer behavior researchers. Earlier research focused on the differences between purchasing for personal use and for gift giving (Belk, 1982; Heeler et al. 1980; Scammon et al. 1982). More recently, researchers have suggested that gift giving is a multi-dimensional phenomenon. In his analysis of gift giving, Sherry (1983) suggests that gift giving has social, economic, and personal dimensions and develops a typology employing the nature of the gift, the relationship between donor and recipient, and situational conditions, such as holidays. Belk (1979) identifies four functions of gift giving: to mark important life events, to establish and maintain interpersonal relationships, to create a medium of economic exchange and to socialize children into the customs of society.

A number of questions about gift giving have been raised that are relevant to the field of consumer research. Lutz (1979) and Tigert (1979) both suggest that product category selection and pricing issues should be addressed. Banks (1979) suggests the importance of the gift search process, and Belk (1979) suggests the need to look at givers' perceptions of the recipient's needs and tastes. Sherry (1983) emphasizes the giver's motivation.

This paper addresses a number of these questions. It links product category selection, making decisions about time and monetary constraints, the search and gift selection process with the giver's motivation. The motivational dichotomy employed here is the distinction between gifts that are given because the giver feels an obligation and those which are given freely, without a sense of obligation.

In contemporary American society, perceived obligations of gift giving may arise from a variety of sources. In a corporate office setting, a feeling of obligation to contribute to a coworker's wedding may be created by the need for acceptance as a "team player." Families and friends create mutual obligations at holidays and often birthdays, as well as one-sided obligations at weddings, house-warmings, and graduations. People in dating relationships may develop gift giving customs to honor certain occasions and events such as Valentine's Day. The threat of strained relations caused by one partner's failing to honor the gift giving custom may create strong feelings of

obligation for both partners. Through such gift giving acts, individuals may be communicating affirmation of the relationship. However, the motive for affirmation is externally defined. Thus, the giver's motivation is generated by social obligation. Under such circumstances, the obligation to purchase a gift may be perceived as a threat to freedom, eliciting psychological reactance (Clee and Wicklund 1980), creating a negative rather than positive purchase experience.

In contrast to these occasions, people give gifts from what appear more voluntary motives: to cheer up a depressed friend, share a unique object found in the shopping mall, express apology, concern or affection. Voluntary gift giving can be manipulative or threatening rather than benign or altruistic (Schwartz 1967). For example, giving a child a set of warm clothes may imply that the parents are careless (Poe 1977), and a small sub-literature addresses the topic of patients who use gifts to manipulate or create a lasting bond with the therapist (e.g., Stein 1965; Orgel and Shengold 1968; Silber 1969; Kritzberg 1980). Culturally mandated gift giving (holidays, birthdays, weddings etc.) may be characterized by voluntary motives. That is, the predominant feeling of the giver may not be "I'd better give X a gift". Rather, the giver *may* be using the occasion as an opportunity to express sentiments through gift giving. In this case the giver's predominant sentiments are of communicating solidarity or affection, although failure to give would have negative social consequences. Accordingly, in socially defined gift occasions the giver's motive may be predominantly voluntary, predominantly obligatory, or some combination of the two. Thus, whether the precipitating conditions are culturally mandated, centering around widely recognized celebrations, or generated by individual relational dynamics, the giver may be motivated by feelings of obligation, or feelings of autonomy and control (voluntary giving). The voluntary/obligatory nature of gift giving may be best seen as a polar continuum with analytically distinct end-points. Any empirical act of gift giving may fall somewhere in between, not exhibiting characteristics of the pure type.

The point at which a gift-giving act falls on the voluntary/obligatory continuum may affect a variety of consumer behaviors. Belk (1979) observed that virtually all gift objects convey symbolic meaning; therefore, the choice of gift may be affected, as well as the price to be paid and the effort involved in gift selection. The outcome of the process may vary depending on whether the giver perceives the event as obligatory or voluntary.

The distinction between voluntary and obligatory gift giving as the dominant motive differs from that suggested by Sherry (1983). In his

3-stage model of gift giving, he distinguishes between altruistic and agonistic motives which occur in the initial stage of the gift-giving process and which presumably affect activities at subsequent stages. The agonistic motive is self serving (the wife seeking to regain affection from an alienated husband). The altruistic motive is selfless (the father expressing esteem for his child). In the motivational scheme presented here, these are both encompassed under voluntary motives. Sherry's scheme explicitly incorporates a situational variable--"formal or emergent precipitating condition," that may include the extent to which the initiating condition is structured by custom (the father's holiday gift), or not (a particular instance of marital discord). This variable, however, is presented as external to motivation (although shaping it) and is exogenous to his gift-giving model.

The motivational dichotomy presented here uses a more fundamental motivational distinction in that it subsumes Sherry's altruistic and agonistic dichotomy under the voluntary pole and proposes an opposite motivational pole that: (1) suggests a greater motivational contrast and (2) we think more significantly shapes activities in subsequent stages of gift giving.

This paper represents a pilot study which explores the distinction between obligatory and voluntary gift giving. In this empirical study gift giving at the polar ends of the continuum is explored in order to demonstrate how the obligatory/voluntary distinction operates to shape the gift giving process along dimensions relevant to consumer research--information search, monetary and time resource allocation, criteria for decision making, and selection.

MOTIVES FOR GIFT-GIVING

Symbolic messages

Gifts may convey a wide range of symbolic messages such as "the status of a relationship, a promise of future interaction, or a statement of love, concern or domination" (Poe 1977). Clinical psychologists and psychotherapists have identified needs of patients communicated by gifts, e.g., "The patient who presents the doctor with a plant may wish to remain rooted in the office" (Stein 1965); and "The gift...permitted a fantasy of symbiotic involvement with the therapist to be acted out via the gift..." (Silber 1969).

Gifts may represent symbols of a relationship: "A gift is a ritual offering that is a sign of involvement in and connectedness to another" (Cheal 1987, p. 152). Specific gifts may further delineate the nature of the relationship. For example, money may communicate a variety of negative messages, such as thoughtlessness (Webley et al. 1983) and unequal status (Poe 1977; Caplow 1982), while a practical gift given to a business associate communicates that the relationship is not intended to be close or intimate.

Gifts may also symbolize identities of the giver or the receiver. Schwartz (1967) suggests that, "Gifts are one of the ways in which the pictures that others share of us in their minds are transmitted," as when a parent gives a male child a gift of toy soldiers. Similarly, gifts can communicate the giver's identity, as in the "display of masculinity through the giving of gift cigars following the birth of a child." Identity may be expressed more freely when in non-ritual gift situations, and in some societies may represent a means of self-expression allowed only between intimates (Betteridge 1985).

Obligation

Mauss (1954) was one of the first to note that gifts often appear to be generously offered, but the "accompanying behavior" derives from "obligation and economic self-interest." Gift-giving obligations have been well-documented in primitive and archaic societies (e.g., Mauss 1954; Levi-Strauss 1964). Muir and Weinstein (1962) found that the concept of social obligation was familiar to all of their 120 adult female respondents of varying social classes. While all respondents indicated that they "like to do favors for others," only 8.9 percent indicated that they "like being obligated to others."

Individual reactions to obligations can be potentially important to researchers investigating consumption experiences. Poe (1977) suggests a number of consequences of psychological reactance experienced by the recipient; for example, the person who receives a set of skis may feel constrained to spend time on the slopes. However, it is not hard to imagine reactance occurring as part of an obligation to purchase a wedding gift, particularly if everyone in an office is "asked" to make a contribution. A giver may attempt to restore freedom (Brehm 1966) by limiting expense and effort associated with the requisite gift. Support for this association comes from Warshaw's (1980) contrast of the influence of norms on expensive and inexpensive gifts--a necklace or sweater compared to a box of candy and card. In an experimental setting, he found that evaluative attitudes (e.g., "It is good for me to buy Product X for someone") rather than norms (e.g., "Others who are important to me think...") influenced intentions to purchase expensive gifts, while evaluative attitudes and norms were equally correlated with intentions to purchase inexpensive gifts. Thus, gifts purchased from obligation might be associated with lower cost and less effort.

Two specific forms of obligation can be identified: *reciprocity* and *ritual*. Reciprocity in this context represents giving a gift as part of a mutual exchange or in return for another gift, as when family members exchange gifts at Christmas or wedding gifts over the course of their lifetimes. In contrast, some gifts may be given when there is no custom that would lead to a return gift obligation; for example, a married person may feel obligated to give a wedding or housewarming gift to

a new neighbor or colleague. In these situations, the giver expects no reciprocal gift.

A number of social scientists have emphasized the special social significance of reciprocal gift giving. Levi-Strauss (1964) cites examples of the potlatch functions of the Indians of the Pacific Northwest. Strauss (1964) notes that the exchange can be intangible rather than tangible, and that "a mysterious advantage" seems to be related to commodities obtained by reciprocal gift giving rather than commercial exchange. In effect, he seems to suggest, gift giving represents another form of distribution.

Gouldner (1960, p. 176) suggests further that "the norm of reciprocity thus provides a second-order defense of the stability of social systems," offering a basis for moral sanctions of otherwise unregulated transactions. Moreover, he suggests, reciprocity may take the form of deference or gratitude rather than another tangible gift.

Reciprocity norms are influenced by need and ability to reciprocate and by closeness of the relationship. Muir and Weinstein (1962) suggest that middle class recipients of favors feel stronger norms of repayment as compared to lower class recipients, who "help when they can." Schwartz (1967) suggests that a high degree of "correspondence" between gifts exchanged will be more likely to occur in low-sentiment relationships; however, he goes on to say, some level of reciprocity will be necessary if a relationship is to avoid domination by the exchange partner whose gift is greater.

Ritual represents another aspect of obligation. Poe (1977) noted that ceremony and ritual are present today as well as in primitive societies. A number of researchers have focused on the Christmas gift ritual (e.g., Caplow 1982, 1984; Moschetti 1979; Cramer 1977).

Rituals often are associated with reciprocity; Davis (1973, p. 164) notes that at Christmas, "the obligation is to match benefits simultaneously, by ingenious pre-estimation." Caplow (1982, 1984) uncovers detailed norms surrounding the selection, presentation and reciprocity of Christmas gifts; Cramer (1977), on the other hand, views Christmas giving as a means of atonement for past neglect or obligations and a freedom from norms of economy and thrift.

A specific act of gift giving may have elements of ritual (Valentine's Day), reciprocity (I expect you to give me a Valentine's gift), and symbolic communication (I enjoy expressing my affection for you). The following hypotheses have been derived from the preceding discussion to suggest how these elements might shape gift selection and the gift purchase process.

HYPOTHESES

H1. Gift selection will be more likely shaped by a desire to express recipient or donor identities when the gift-giving motive is voluntary rather than obligatory.

H2. Gift selection will be more likely shaped by the desire to communicate feelings of caring and reinforcing the relationship between giver and receiver, when motives are voluntary than when motives are obligatory.

H3. Consumers will report greater expenditures of time and effort associated with gift selection in the voluntary than the obligation motive.

H4. Consumers in obligatory gift situations will be more likely to expect tangible or intangible expressions of gratitude or reciprocity than in the voluntary gift situations.

H5. Consumers who give from a sense of obligation are more likely to select practical or utilitarian gifts as compared to those who give from a voluntary motive.

METHOD

Subjects were 90 graduate and undergraduate students at a large southeastern university. Despite their student status, these subjects appeared to be genuine consumers. Average age was 24.7 years (ranging from 19 to 41 years), and mean work experience was 2.2 years of full-time experience and 4.0 years of part-time. Fifty-eight percent were males.

Subjects were asked to identify a recent gift-giving experience, followed by a series of open-ended questions regarding why the gift was given; what, if anything, the subject intended to communicate with this gift; considerations which influenced search time and effort as well as price; and what, if anything, was expected in return. A final question, intended to elicit norms of gift giving, asked subjects, "If you were to advise someone from another society who was unfamiliar with gift-giving customs in a similar situation, what would you say?"

Two versions of the questionnaire were prepared and distributed randomly to subjects. In one version, subjects were asked to identify a gift experience "in which you felt obligated;" in the other, to identify a gift experience "in which you felt no obligation to give a gift." Questionnaires were completed in classroom or office settings in the presence of one of the authors.

A content coding scheme was developed by one of the authors. The coding categories were developed through a combination of a priori deduction from the conceptual background and inductive abstraction from inspecting over one half of the data. The final coding scheme consisted of between four and six abstract categories for each question. A precise definition was attached to each category. (See Appendix). Following Kassarian's procedures (1977), responses for each question were content coded by the other two authors working independently. Disagreements were resolved through

TABLE 1
Giver Obligation and Recipient Closeness

Version	Casual Acquaintances	Close Friends	Family
Voluntary	0	22	12
Obligatory	10	16	18

Chi-square = 11.05, $p < .004$.

TABLE 2
Obligation and Self-Reported Reason for Gift Giving

Version	Care	Giver Sentiment	Recipient Occasion	Need
Voluntary	10	6	7	13
Obligatory	11	7	10	1

Chi-square = 10.31, $p < .016$.

TABLE 3
Manipulation Checks

Version	Reason: Obligation	Reason: Recipient need
Voluntary	3	13
Obligatory	21	1

discussion. by two of the authors. Interrater reliability coefficient was 90%. Because some subjects failed to answer an occasional question, and because some responses fell into the "other" category, numbers of responses will vary among the analyses reported here.

RESULTS OF PILOT STUDY

Chi-square tests were employed to analyze the relationships between the ordinally scaled variables. It is noted that in some instances, small cell size may affect interpretation. However, where results are highly significant, we would expect to reject the null even with more exact tests.

Subjects reported giving gifts in a variety of relationship situations. Thirty-two percent of the males, as compared to 8 percent of the females, chose to report gifts to dates or spouses. Otherwise, males and females made similar choices of relationships. However, differences in relationships reported were significantly different for obligatory and voluntary giving (Table 1).

When the variety of relationships was grouped into three relationship types--close friends and spouses, family and casual friends/business

associates--Table 1 shows that, not surprisingly, gifts to casual friends and business associates were reported only in the obligatory category.

Hypothesis 1 was partially supported (Table 2). Surprisingly, respondents suggested that both voluntary and obligatory gifts were made for reasons related to caring or sentiment, such as "to say I care," "to say I love you," or "you are important to me." Similarly, both obligatory and voluntary givers used gifts to express the importance of the relationship and their own feelings, such as, "I thought it would make me happy," "To say I missed them and loved them," or, "to let them know I was thinking of them." However, obligatory gifts were more likely to be given in celebration of an occasion, and voluntary givers reported a higher likelihood of giving a gift "just because he's a nice person" or "she needed cheering up."

Twenty-four respondents indicated that the reason they gave the gift was from a sense of obligation (defined by answering why they gave the gift, rather than which version they filled out). When these respondents were compared with those who reported reasons based on recipient needs or characteristics, the difference between versions appears even stronger (Table 3).

TABLE 4
Obligation and Self-reported Purpose of Gift

	Communicate relational quality, recipient need, emotions	Commemorate event or "nothing"
Voluntary	2	34
Obligatory	12	34

Chi-square = 6.70, $p < .014$.

TABLE 5
Purpose of Gift and Giver-Recipient Closeness

Relationship:	Communicate relational quality, recipient need, emotions	Commemorate event or "nothing"
Casual friend/business	5	4
Close friend/date/spouse	3	32
Family (siblings, parents)	4	23

Chi-square = 11.37, $p < .004$. (Cells with counts of less than 5 require caution in interpreting results.)

TABLE 6
Obligation and Gift Selection Considerations

	Time & Cost Constraints	Recipient Need	External Infl	Reject Constraints	Cost-Benefit Calculation
Voluntary	21	10	0	6	1
Obligatory	20	5	5	12	8

Chi-square = 12.74, $p < .013$

Hypothesis 2 was also partially supported (Table 4). Surprisingly, a large number of respondents in each motivational category indicated that they wished to communicate feelings about the quality of the relationship or the recipient. However, desires to mark the event ("because it's Christmas") and wishes to communicate "nothing" (when the word "nothing" was written explicitly) were reported almost entirely by respondents who completed the obligatory version of the questionnaire.

While no hypothesis was developed, Table 5 suggests that the nature of the relationship between receiver and giver also affects the type of communication expressed by a gift. While gifts to casual friends and acquaintances may either communicate feelings or simply mark an event, gifts to family and close friends almost all tend to communicate relational qualities or emotional states. As the numbers are small, however, this finding should be interpreted cautiously.

Hypothesis 3 was also partially supported (Table 6). Although caution is required to interpret significance due to the number of cells with counts below 5, this pattern of responses suggests that financial and time constraints were salient to the majority of respondents in both categories, possibly (but not necessarily) due to their student status. However, 26% of voluntary givers mentioned recipient needs as compared to 10% of obligatory givers. Ten percent of voluntary givers mentioned external definitions of what was appropriate ("I didn't want to appear cheap" "spending less would have been tacky" "That amount was expected of me" "with her expensive tastes anything over \$50 would be a good gift"). Sixteen percent of obligatory givers explicitly mentioned some calculus having to do with the importance of the relationship and what was expected in return ("the dollar value depended on how well I knew and liked the person" or "they always gave me good stuff so I had to get them something decent" or even "she wasn't that great of

TABLE 7
Responses to "What Did You Expect to Get in Return?"

	Emotion	Gratitude	Tangible Gift	Resistance to Reciprocity
Voluntary	16	13	8	2
Obligatory	7	12	16	16

Chi-square = 15.80, $p < .001$.

TABLE 8
Type of Gift

	Clothing	Lasting	Practical	Toys
Voluntary	5	5	1	9
Obligatory	9	6	7	5

Chi-square = 6.00, $p < .113$

a friend") compared to only 3% (1 respondent) from the voluntary category. Voluntary givers were more concerned with the recipient in their calculations. One giver reported looking for an inexpensive gift for a spouse on an occasion which was not a major gift-giving occasion for them, stating, "I wasn't sure he was giving me anything and didn't want him to feel badly if he didn't."

Eighteen respondents explicitly rejected time and/or money constraints with such statements as, "Money was not an issue; whatever gift I saw was the one that I would get." Surprisingly, two-thirds of these responses came from obligatory givers and one-third from voluntary givers. Further research will be needed to explore whether strength of norms is sufficient to override financial and time constraints, or whether these respondents are experiencing some form of reactance: while they are obligated to give a gift, they retain their freedom to spend as much time and money as they please. Additionally, people reported giving obligatory gifts to less familiar recipients (casual friends, business associates) where it is more difficult to assess recipient needs; therefore more time and money may be required to select an appropriate gift. Further, wedding presents to casual friends or business acquaintances may be politically motivated and therefore involve greater risk, thus justifying greater expenditure of time and money.

Hypothesis 4 was also partially supported (Table 7). Voluntary givers were more likely to expect an emotional response, such as "expressions of affection," "a smile," or "just to see her happy." However, approximately 14% of each category of givers expected verbal expressions of gratitude, such as, "a thank you note," or explicitly stated "gratitude." On the other hand, 31% of the obligatory givers expected tangible gifts, compared with only 2% of the voluntary givers. This result

may be due to norms of the obligatory situation, such as Christmas. Surprisingly, 31% of the obligatory givers but only 20% of the voluntary givers explicitly resisted reciprocity, with such statements as, "I don't expect anything in return," or, "I don't give gifts to get something back." Again, the obligatory givers may be attempting to reclaim freedom from norms of the gift exchange process as an expression of psychological reactance.

Hypothesis 5 seems to be supported (Table 8), although the significance level of the results considering all types of gifts ($p < .113$) suggests caution. Gifts were classified into four categories: clothing; lasting gifts, such as jewelry or artwork; toys and board games; and "practical" gifts, such as kitchen appliances, linens, calendars and pen-and-pencil sets, as well as other gifts which did not readily fit this classification. As only half the responses fit these four categories, the numbers are extremely small. However, of eight respondents reporting "practical" gifts, seven were obligatory gifts. The small size of the sample suggests further investigation.

Norms Identified by Respondents

Respondents were asked as a final question, "If you were to advise someone from another society who was unfamiliar with gift-giving customs in a similar situation, what would you say?" Responses were coded into 8 categories, including recommendation to give a specific gift, recipient needs, benefit to the giver, such as a way to express feelings, a general moral imperative ("better to give than to receive" or "it's the thought that counts"), custom, specific shopping recommendations ("Go to the mall" "If unsure ask a middle-aged female"), explicit rejection of obligation ("don't give a gift just because you feel you should" and "Don't have expectations about what you'll receive in return or

TABLE 9
Norms Identified by Respondents

Advice to Others	Frequency	Percent
Gift object	5	6%
Recipient need	14	18%
Giver satisfaction	15	19%
Moral imperative	21	27%
Custom	9	12%
Shopping recommendations	4	5%
Rejection of obligation	8	10%
Non-altruistic comments	2	3%

you'll be disappointed") and non-altruistic comments ("Make sure you'll be getting back at least as much as you've been given" or "Give less than what you expect to get back").

Table 8 summarizes the responses. Clearly, subjects expressed or strongly supported altruistic norms, focusing on benefits to both giver and receiver. Of the 8 subjects who explicitly rejected norms of obligation, 7 completed the "obligatory" version of the questionnaire, again suggesting the occurrence of reactance. Otherwise, differences between versions were minimal and non-significant ($\chi^2 = 7.9, p < .34$).

Males and females did not differ significantly with respect to categories of norms identified ($p < .17$). However, 43% of the males compared to 17% of the females suggested moral imperatives; in contrast, 30% of the females but only 15% of the males suggested norms involving attention to needs of recipients. ("Giving gifts makes others happy when they are not"). Differences in age were also not significant among categories of norms identified; however, the mean age of those identifying norms associated with "custom" was 23.22, while the mean age of those who explicitly rejected obligation was 23.5. On the other hand, the mean age of those who indicated attention to recipient needs was 27.4. It is possible that younger subjects experience both greater concern with customs as well as greater perceptions of threats to their freedom when complying with customs. However, due to the limited age range, interpretation must be speculative, suggesting guidance for future research.

SUGGESTIONS FOR FUTURE RESEARCH

This pilot study suggests that consumers tend to define gift giving as obligatory or voluntary, and this distinction affects their the gift selection process and post-purchase behaviors.

Several implications are proposed for future research. First, a variety of psychological reactions may follow an obligatory act of gift giving. Considerable research has demonstrated that reactance may occur when an individual's freedom is threatened (Clee and Wicklund 1980); in this case, anticipated freedom of purchase and gift giving is

curtailed by obligations of gift giving, which may involve norms associated with choice of gift object, price, and presentation--even selection of retail outlet, as in the case of bridal registries. While the potential for recipient reactance has been identified (Poe 1977), reactance may represent a useful framework to explore gift-giving behavior in obligatory situations. The occurrence of reactance seems to explain differences in search and price preferences identified in this and other studies (e.g., Warshaw 1980). Furthermore, reactance may influence satisfaction of both giver and recipient following completion of the process.

On the other hand, the act of gift giving, whether voluntary or obligatory, may represent an act of public commitment (Kiesler 1969). In this case, the giver will be likely to express more positive feelings for the recipient following purchase of a gift. Such reactions presumably are desired outcomes of ritual exchanges of names for gift giving in offices and fraternal organizations.

Second, consumer researchers may wish to explore non-altruistic motives of consumption, or the "poisonous" gifts colorfully described by Orgel and Shengold (1968). Such research might best be carried out from the recipient's perspective, as even the psychotherapists note that these motives are often unconscious. As Belk (1979) observes, few gifts are rejected, and gifts often seem to mark the status of the recipient. The possibility that a recipient may resent a gift, and even wish to dissociate his self-concept from a gift, suggests a category of experiential post-purchase consumption activity that warrants further study. A related question involves attribution of gift-giving motive: is an obligatory gift experienced the same way as a non-obligatory gift? Belk (1988) suggests that possessions take on meaning within a household; for example, items in a collection take on aspects of the sacred.

Third, this study represents a pilot conducted with student subjects. A study encompassing a wider range of ages would be useful to identify developmental responses to gift giving. In this sample, it was noted that subjects who associated gift-giving norms with custom or resistance to obligations tended to be younger than those who professed more altruistic norms, such as concern for

APPENDIX
Coding Scheme

Why did you give the gift?

1. Occasion -- gave because it was person's birthday, or wedding reference to occasion without reference to obligation
2. Obligation -- may refer also to occasion; felt obligated; they gave me a gift; receiver expected it
3. Receiver need or characteristic -- receiver depressed, receiver a nice person; No mention of relationship or expression
4. Giver sentiment -- thought it would be nice; would make me happy; this relation is important to me; BUT NO mention of desire or attempt to express this through the gift
5. Expression of giver sentiment/relationship -- giver wants to say I care about you; you are a nice person, you are important to me
6. Does not fit; no answer

What did you expect in return?

1. Emotion -- expression of delight, happiness, other emotional state which giver can enjoy: NOT gratitude
2. Gratitude -- expression of gratitude, thanks; emphasis more on recipient acknowledgement of giver generosity
3. Resistancy to reciprocity -- explicit rejection that giver expected anything from receiver
4. Reciprocity -- receiver expects gift, or some object of value in return
5. Does not fit; no answer

What advice would you give someone in a similar situation?

1. Gift object -- recommendation to give a particular type of gift
2. Recipient need or characteristic -- recommendation to give gift that receiver needs, wants; or find out what it is; or give gift receiver would not buy self; or will make recipient happy; focus on the right gift for the person
3. Benefit to giver -- focus upon positive feelings that giver gets from giving, making someone happy, etc.
4. Moral imperative -- focus on moral note: better to give than receive; it's the thought that counts; and similar though unfamiliarly phrased ideas
5. Custom -- focus upon norms and customs of gift giving
6. Does not fit; no answer

the recipient. A wider age range might produce even greater diversity.

Many researchers associate rituals with holiday and other society-wide events. However, groups of friends may develop informal gift-giving rituals which can be associated with strong obligations. For example, sororities often have rituals involving gifts of flowers or exchange of gifts between members. Families within a neighborhood may start their own "potlatch" in the form of a series of potluck dinners. Groups of friends may develop elaborate norms of gift giving within their own circles. The origin and development of these small-scale norms represents a fruitful area of research as a sizeable segment of people look to informal social associations for social rewards.

Finally, gift giving has been shown to be of great economic significance in both modern and premodern economies and of social significance in all societies. Given its importance, consumer researchers may profitably pay more attention to gift giving as it shapes variables of significance to consumer researchers--product selection, search behaviors, allocation of resources, and post purchase experiences. We suggest that the obligatory/voluntary dimension is especially fruitful

for understanding the dynamics of these consumer behavior variables.

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Motivations and Symbolism in Gift-Giving Behavior

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ABSTRACT

The premise of this paper is that gifts are more valuable to participants for the symbols involved than for the material benefits exchanged. Utilizing the perspective of symbolic interactionism, this paper focuses on the motivations of givers and the symbols they choose. Through the use of gift-giving literature as well as an exploratory study, three types of motivations for giving--altruism, norms, and self-interest--are investigated and related to the symbolism found in gifts.

INTRODUCTION

Studies of gift-giving have proliferated in anthropology, social psychology, and sociology and each of these disciplines has developed a particular framework for studying gift-giving. Anthropologists have focused on gift-giving as a "total social fact," in other words, as a medium for social as well as economic exchange (cf. Levi-Strauss 1965, Mauss 1954). Sociologists have been interested in gift-giving from the perspective of "norms" of giving, social responsibility, and reciprocity (cf. Caplow 1982, 1984). The most promising approach, however, has been that derived from social psychology; this approach focuses on gift giving as an opportunity to express the giver's perception of both him or herself and the receiver, or more broadly, as complex movements in the management of meaning (cf. Cheal 1988, Schwartz 1967, Schieffelin 1980). This viewpoint is consistent with a more general research paradigm known as symbolic interactionism.

Faced with the vast heritage afforded them by these other disciplines, marketers have taken diverse approaches to their study of gift-giving. Some studies have been mainly descriptive (Scammon, Shaw and Bamossy 1982, Jolibert and Fernandez-Moreno 1983, Heeler, Francis, Okechuku and Reid 1979, Devere, Scott and Shulby 1983), while others have been conceptual (Banks 1979, Belk 1976, 1979). Only Belk (1976, 1979) has been consistently conceptual and empirical. However, Sherry (1983) has called for more exploratory research to form a basis for conceptual and empirical work (1983), a call which has been at least partially heeded (Sherry and McGrath 1989).

The first subject of this article is the motivations receivers attribute to giving, a topic which has been virtually untouched by marketers, and a task which Lutz (1979) has referred to as "opening the black box." From a search of the gift-

giving literature, three general (not necessarily mutually exclusive) categories of motivations have been identified: (1) self-interested giving or "indebtedness engineering," (2) compliance with social norms and (3) altruistic giving, or "pro-social" behavior.

Admittedly, anthropologists have studied the motivations for giving in depth in primitive cultures. However, in primitive cultures, the gift was equally economic and symbolic. In societies with well-developed markets, it is hardly surprising that the gift has been at least partially stripped of its economic importance, leaving in a much more prominent position the symbolic value of gifts. As a result, the symbolic value in general, and more specifically, the symbolic statement that gifts make about the giver, the receiver, and the relationship between the giver and the receiver are important topics in gift-giving research. Therefore, a second focus of this article is the general symbolic functions of gifts (revealed in the interviews) and more particularly, the ability of gifts to symbolize the giver, the receiver and/or their relationship. The primary function of gifts in modern society is symbolic; this must be true because people are generally the best judge of their own wants and needs and would obtain more functional benefit through self-purchase (Tournier 1963). As a result of the symbolic nature of gifts, the perspective of symbolic interactionism (SI) is particularly well suited to studying gift-giving.

Symbolic interactionism is a viewpoint which hails from social psychology (cf. Charon 1985, Cooley 1902, Hewitt 1988, Mead 1934, Stryker 1980, Wicklund and Gollwitzer 1982, Wood 1982). This perspective was introduced into marketing by Solomon (1983), who has pointed out that SI stresses the importance of product symbolism as a mediator of self-definition and role performance. The central tenet of SI is that people communicate with symbols. Consistent with this notion, Belk (1979) has characterized gift giving as a process of symbolic communication where the gift is both message and medium, providing support for the use of symbolic interactionism in the study of gift-giving. Utilized in the realm of gift-giving, SI aids in explaining how gifts are symbolic of (1) the giver's self (2) the giver's concept of the receiver, (3) the role of the giver and the receiver in their relationship, and (4) how gift symbolism is used by givers.

This article will begin by discussing the exploratory study utilized to comprehend gift-giving in spousal dyads. Then, the motivations for giving will be reviewed. Finally, the symbolic aspects of gift-giving will be investigated.

THE EXPLORATORY STUDY

The salience of each of the motivations as well as the more general communication aspects of

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gift-giving were investigated through interviews with 18 subjects (9 couples), married over 25 years. Married couples were chosen so that both sides of a gift-giving relationship could be studied. Subjects were located utilizing contacts made through a major Southern California University's Executive MBA program, and one couple consisted of a Ph.D. student and his wife. Because the study was exploratory, no attempt was made to obtain a representative sample. Couples had been married anywhere from 25 to 46 years.

The interviews were semi-structured, and ranged from 30 minutes to an hour. The following topics were covered in the interview: (1) feelings about gift-giving in general (2) the success of self and spouse in choosing gifts (3) a detailed story about the respondent's favorite gift from their spouse and (4) a detailed story about the gift the respondent felt would be their spouse's favorite gift. It was hoped that favorite gifts would be more memorable, elicit more details, and unearth the most salient aspects of preferred gifts. The drawbacks of utilizing favorite gifts were the fact that three respondents did not have a favorite gift, and secondly, some details of the occasion (and even the occasion itself) had been forgotten over the years. An alternative would have been to ask them about the most recent gift; however, the symbolic aspects of a random gift were likely to be less rich than those of a favorite gift. Asking about favorite gift most likely biased the likelihood that respondents would choose an object based more on symbolic rather than functional attributes (Wallendorf and Arnould 1988). A second bias towards more symbolic gifts was introduced because as Americans age, they are less likely to choose functional objects as favorites (Wallendorf and Arnould 1988). Nevertheless, because symbols were of particular interest in this study, no attempt was made to overcome these difficulties.

Interviews were tape recorded and later transcribed. The interviews were analyzed by exploring the gift-giving stories for recurring themes. Although the questions did not explicitly explore historical aspects of the gift-giving relationships, historical trends were reported by respondents. For instance, the amount of gifts exchanged appeared to have declined significantly for people married over 40 years (2 couples), whereas for those married from 25-30 years, 3 wives reported that their spouse's choices of gifts had improved significantly in the last 10 years or so.

One major shortcoming of the exploratory study is that it did not focus on gifts that respondents did not like. It was felt that, in personal interviews, many respondents would be reluctant to dwell upon their least favorite gifts. An innovative curative for this drawback would be to cull anonymous letters about gift-giving situations from advice columns and content analyze them for recurring themes.

MOTIVATIONS FOR GIVING-- OPENING THE BLACK BOX

Altruism as a Motivation for Giving

Leeds (1963) defines an altruistic act as one which a) is an end in itself, not directed at gain, b) is emitted voluntarily, and c) does good. For many, "To bestow freely is the *sine qua non* of a gift" (Barnett, 1954). Moreover, one of the major differences between giving in primitive and modern society is the presence of self-sacrificial motives in giving (Lowes, Turner and Wills 1971, Shurmer 1971). Altruism especially arises when a receiver appreciates a gesture, but as with a first gift (Simmel 1950), cannot entirely return the favor. Heider (1958) hypothesized, and Tesser, Gatewood and Driver (1968) found evidence, that gratitude was stronger when recipients perceived that the giver sincerely expected little or nothing in return.

Spouses uniformly felt that their favorite gifts had been given out of the desire to show love (an altruistic motive). These gifts were quite often complete surprises, and were often described as something that the giver normally would not buy. Furthermore, most of the favorite gifts often had cost the giver much sacrifice, either in terms of the relative affordability of the gift, or the time, effort, and thought that the gift had taken. For instance, one woman had saved for months out of her small personal budget to buy her husband a very special silver bracelet which she had to put on layaway for 6 to 8 months in order to pay for it. One husband saved \$6000 in an account from outside consulting work, and used it to surprise his wife with a trip to San Francisco in order to choose a specially designed ring.

Besides the more general motive of expressing love for the receiver, more specific motives could be identified. The two motives revealed in the interviews included the reparation of loss experienced by the receiver (not caused by the giver), and the altruism of the receiver. The reparative motive is especially consistent with the theory of symbolic self-completion espoused by Wicklund and Gollwitzer (1982), except that in giving gifts, someone else (the receiver) is "completed" rather than one's self. One spouse reported giving a ring to her husband after he lost a valued ring received from his father. The same woman reported that her favorite gift was a wedding ring her husband purchased after she had lost her first ring. A different kind of loss is apparent in a story told by a colleague who reported that her favorite gift from her husband was a bracelet (inscribed with a "River of Life" pattern) she received to ameliorate her sorrow after her uncle died. Another woman reported that a six-week vacation for her and her husband in Puerto Rico was a reparation for his long absence on a worldwide speaking trip, and her grief over the death of her stepmother. As for the motive related to the altruism of the receiver, one spouse reported that she seldom bought for herself. Her spouse therefore bought her many gifts to compensate for the fact

she bought herself so little, and possibly also to show his appreciation for her selflessness.

Unfortunately, there are several difficulties with construing gifts as altruistic acts. Altruism can only be attributed to donors, not established (Krebs, 1970). Even blood donation (generally believed to be the exemplar of altruistic giving) was found to be encouraged more by messages emphasizing benefits to the blood donor than by messages emphasizing other-oriented benefits (Barnett, Klassen, McMinimy and Schwartz 1987). Furthermore, Belk (1988) maintains that altruism can be explained as "aggrandizing a broader level of self...the broader communities incorporated within the self (p. 154)." Perhaps it is more important in understanding gift-giving behavior that receivers attribute altruism to givers, than that such altruism can (or cannot be) definitively established.

Gift-Giving as A Norm

The strength of the norm of giving on occasions was displayed in a study wherein respondents were asked to contemplate the possibility of *not* giving gifts at Christmas. Only 6% would consider this, expressing their feeling that relatives, children, and friends would feel forgotten and unappreciated (Lowes et al. 1971). The guilty feelings which were expressed by respondents are due to the fact that the norms of gift-giving in part flow from the role they play in marking relationships within a family social network (Caplow 1982, Poe 1977, Sahlins 1972, Titmuss 1971).

In addition to marking relationships, gifts also mark life events as they accompany various rites of passage. The recipient of such gifts often receives items which will enable him/her to perform in a new role, and thus these items often symbolize the new role as well as social support for the new role occupant (Schwartz 1967). In that symbolic interactionism focuses on the concept of role (cf. Hewitt 1988), SI can be utilized to enhance the understanding of the link between gift-giving and roles. Roles of the giver vis a vis the receiver are highlighted in gift-giving in several ways. First, gifts are often given to support performance of newly acquired roles, such as the baby stroller given to the expectant parent. Consistent with the notion that gifts are sometimes given to support role performance, empirical research has found that household goods are the predominant wedding gift (Lowes et al. 1971).

Moreover, gifts are also ceremonial tokens which are given in recognition of role status (the watch given to a retiree) and recognition of achievement (medals given to Olympians, diplomas given to graduates). In this respect primitive and modern societies are similar. One gift in the exploratory study was ceremonial; it was a jewel, which had been funded in part by a volunteer organization in order to commemorate one respondent's term as head of that organization.

One cue that transmits information about appropriate gifts is the intimacy of the relationship

between giver and receiver. The closeness of the relationship defines the appropriate role of the giver with respect to the receiver as either a friend, a close friend, a parent or a spouse. A closer relationship makes more intimate (Belk 1979) and more expensive gifts appropriate. Consistent with this proposition is the fact that in the interviews conducted with spouses (generally the closest of relationships), the most frequently reported favorite gift item was a piece of jewelry, or a watch (11 of 18 respondents). These items are simultaneously expensive and intimate.

A final comment on norms is their probable attachment to specific gift-giving situations. Utilizing a 3-mode factor analysis in order to simultaneously classify types of givers, recipients/occasions and gift characteristics, Belk (1979) came up with 5 classifications of gift-giving situations which in all probability transmit messages to gift givers about appropriate behavior. However, it remains to be proposed what kinds of norms each of these situations transmits, and how they impact gift decisions. Chase (1984) hypothesizes that scale (the importance of the event) varies directly, and periodicity (how often the event occurs) varies inversely with the expense of gifts. For instance, weddings frequently garner the most expensive gifts as they are large scale, low periodicity occasions. Important, low periodicity occasions in the study were 60th birthdays (2), 15th, 25th, and 30th anniversaries (3), and recognition of a major achievement (1).

The norms attached to giving, however, are sometimes violated. This is most likely with expensive gifts (Warshaw 1980), and in close relationships, wherein the giver and receiver feel free to make their own rules. One woman reported that if she had cared about receiving gifts on birthdays and anniversaries, she and her husband would have been divorced long ago, because he only enjoyed spontaneous giving. Also, the general "norm of giving" was similarly violated between two of the couples who no longer felt compelled to buy each other gifts on occasions.

Self-Interested Giving

To many authors, the only motivation for giving is self-interest, or as Firth (1983) would have it, "indebtedness engineering." Bourdieu (1977) and Levi-Strauss (1965) agree that gift-giving is simply an exchange in which non-functional attributes are given relatively greater weight, with the "payoff" consisting mostly of social recognition. Scholars in the area of gift-giving have suggested several benefits self-interested givers may desire:

1. to establish wealth and status (or more generally, achieving goodwill by impressing receivers with gifts) (Belshaw 1965, Veblen 1926);
2. as a correlate of (1), the desire to advance one's consumption scale (Chase 1984, based on Douglas and Isherwood 1979);

3. to reinforce relationships that are highly valued, but insecure (Caplow 1982, 1984);
4. to garner the social recognition as a philanthropist one may achieve through giving (Kerton 1971);
5. to ingratiate one's self with the receiver, in part by extending one's self into the other's life through a gift (Sartre 1943, Belk 1988);
6. the lessening of guilt for not achieving the ideal of brotherhood to man (Barnett, 1954).

The most general utility obtained by the self-interested giver is the creation of receiver indebtedness. The creation of obligation was central to Mauss' (1954) analysis of gift-giving in primitive societies. Similarly, Barnett (1954), in his analysis of Christmas gift-giving from the 1800s to 1950s in the United States, comments on a similar phenomenon, calling it "psuedo-giving" and a "polite form of bribery." When a gift is perceived as being given to obligate the receiver, the giver "becomes a depriver about whom various degrees of ambivalence may emerge" (Schwartz 1967, p. 88).

The mechanism through which obligation is created is the norm of reciprocity (Gouldner 1960). Research by Belshaw (1965) and Ryans (1977) is supportive of the idea that reciprocity is an important element of gift-giving, and that gift-giving participants lean towards the ideal of fair exchange. However, reciprocity is not strictly maintained. Two factors determine reciprocation: the resources of the donor, which determine relative sacrifice, and the motives that receivers attribute to the giving (Heeler et al. 1979, Banks 1979).

Furthermore, the ideal of giving as disinterested sacrifice permits unbalanced accounts to be maintained "without rancor" (Pryor and Graburn 1980). In support of this idea, in his study of gift-giving in Middletown, Caplow (1982, 1984) found that reciprocated gifts do not have to be of equal value, and that in 4347 gifts (no number is given for those that were not reciprocated) at Christmas, there were no expressions of anger or disappointment when gifts were not reciprocated. Moreover, an unwillingness to be obligated on the part of the recipient can be shown by immediate reciprocation, thus transforming the gift into an economic, not a social transaction (Blau, 1964).

Taken together, this evidence indicates that gifts do not obligate recipients in the same fashion as market exchange. Finally, almost 80% of the gifts in Middletown at Christmas were given to relatives, and the 20% given to non-relatives were much more likely to be token gifts. In relationships with relatives, givers are unlikely to have as a primary motive the creation of obligation. Therefore, the importance of self-interest in giving has most likely been overestimated by researchers. Perhaps a study of "least favorite gifts" would be more enlightening in investigating the extent and prevalence of self-interested giving.

THE SYMBOLIC CONTENT IN GIFTS

Several consumer behavior researchers, along with social psychologists, have recognized that gift-giving is an intrinsically semiotic activity (Belk 1979, Mick 1988, Poe 1977, Schieffelin 1980, Schwartz 1967, Sherry 1983). The idea that people communicate with symbols is the central tenet of symbolic interactionism (Hewitt 1988); the process by which symbols are utilized is similarly central to understanding gift-giving. Gift-givers, like advertisers, are creative directors in the management of meaning, seeking, through the principle of contiguity, to shift meaning from what McCracken (1986) refers to as the "culturally constituted world" to the chosen gift. One example of symbolism can be noticed in the *faux pas* that results when price tags are not removed. Even in the case when a recipient knows the price of a gift, the tag will be carefully removed (Shurmer 1971), the removal of the tag symbolizing the non-market, non-economic ideal embodied by gift-giving.

One symbol commonly attached to gifts is uniqueness (Sherry and McGrath 1989). In the exploratory study, both the giver and the receiver of a cocktail ring described it as "one-of-a-kind." Similarly, the brooch a woman received for being head of a volunteer organization was unique because it was three-dimensional (unlike the jewels made for the past recipients).

Another symbol attached to many of the gifts was togetherness. Those to whom we give are symbolically included within group boundaries (Belk 1979, Schneider 1981). Although many of the favorite gifts were valued because they were surprises, others were valued because the gift had been jointly chosen by the couple. A diamond anniversary ring, a replacement for a lost wedding band, a Seiko dress watch, a videocamera, a 6-week trip to Puerto Rico, and a series of trips one couple made to San Francisco to choose the emeralds and design for a \$2500 ring, were all gifts the respondents felt were especially memorable, in part because they had been chosen together, and thus were emblematic of the relationship between the giver and the receiver. This theme is also apparent in Wallendorf and Arnould's (1988) study of favorite objects in which the authors found that respondents with strong ties to other people often represented those ties in favorite objects.

A third symbolic theme discovered through the interviews was the idea that the gift was representative of a turning point in the couple's life together. One woman reported that she had always wanted a diamond when they "were poor," and had imagined getting one at some point in the future when they could afford one. Her husband surprised her with a \$4000 diamond for Christmas, about 10 years ago. She values the ring not only because she always wanted it, but also because it was a symbol that they had "made it." A colleague related a similar story in which her husband had given her a grandfather clock she always wanted at a time when they were finally financially comfortable. The clock

was symbolic not only of her relationship with her husband, but also of a turning point in their lives.

A last theme apparent in the interviews was the richness of symbolism often attached to favorite gifts. Layers of symbolism were evident in the gift of an emerald brooch. The gift was a crown and scepter pin which the respondent had recently received for being "Queen of the Nile," a volunteer organization run by Shriner's wives. Her husband had designed the emerald and diamond brooch, and a cousin (a jeweler) had made the gift. A flower in the brooch contained a single diamond, received from her husband three months after their marriage (now over 40 years ago) during a short weekend they spent together between his service commitments. The husband had spent his last dime on a ticket for his wife to come visit, and a diamond ring. The young wife had been impatient to become pregnant, and the ring was a reparation of sorts for their seeming slowness to conceive. The couple's first daughter was conceived that weekend. Another woman had her favorite gift (a diamond) put in a setting similar to that of her mother's wedding ring. Recently, she had inherited her mother's ring, and added the stone to her own. This theme of collapsing meaning into symbols is also evident in Olson's (1985) investigation of artifacts in the home. Olson explains this phenomenon: "Human experiences are so complex, people are forced to summarize them. One way of producing summaries is by means of symbols, which often take the form of visual representation" (p. 388).

Gift-Giving as a Symbol of Self and Other

Humans are social by nature and crave interaction and feedback from others (Mead 1934, Wood 1982). Each new gift provides communication from others that confirms and often extends the views of self developed through previous interactions. As a result, of all the gift's symbolic functions, the presentation of self (the giver), and other (the receiver) is the most obvious (Belk 1979). Gifts convey both the giver's self, and the giver's perception of the receiver (Schwartz 1967, Shurmer 1971).

Utilizing Holbrook and Grayson's (1986) approach of analyzing the consumption symbolism in art to augment an understanding of consumer behavior, the ability of a gift to symbolize the giver and receiver is apparent in the recent movie, *Working Girl*. Tess, a secretary with dreams of upward mobility, receives a birthday gift of sleazy lingerie from her boyfriend. Tess asks him why he doesn't ever buy her something she can wear *outside* the apartment. Clearly, Tess's boyfriend, Mick, views her as nothing more than a sex object. In contrast, Tess's new love interest, Jack Trainer, buys her a beautiful leather briefcase, thus symbolizing his appreciation of her business acumen. Later in the movie, Mick also gives scanty lingerie as an engagement gift to a couple. From this, the audience learns that not only does Mick view Tess as a sex kitten, but in addition, he thinks of all women as sex objects.

In an empirical study, Belk (1979) discovered that the largest influence on the gift chosen was the giver's ideal self-concept, followed by the giver's present self concept, and only thirdly by the perceived characteristics of the recipient (although the later two factors were also significant). One wife expressed this idea in explaining her inability to choose gifts her husband really liked, saying that she bought items she wanted him to have, rather than gifts he really wanted. Based on their qualitative research, Sherry and McGrath (1989) support the idea that gifts are predominantly based on self concept of giver, noting that customers of gift shops often said they would like to receive as gifts the objects they were purchasing for others.

A second semiotic element of gifts is the messages that they send about the receiver. When asked why a particular item was chosen for their spouse, many respondents said quite simply "It was him (or her)." One husband described at length a beautiful black velvet dress and jacket he had purchased for his wife about 20 years earlier. He had found the gift serendipitously, and given it spontaneously, paying a great deal of money for it because the dress "was beautiful... and it wore like iron... was just the right size...it was Connie." One respondent had passed a corner jewelry store where a silver bracelet caught her eye because it "was him...strong and traditional."

On the other hand, *poor* choices are often the result of a poor fit between the gift and the receiver. Caplow (1982), in his research, specifically identified clothing that is too large as the standard disappointing gift. The oversized clothing is most likely decoded by the receiver as a message by the giver that s/he is overweight. Similarly, a colleague felt that a cappuccino maker received from her boyfriend meant that he no longer considered her to be sexy. Finally, one couple in the study each mentioned an incident where she had received a frilly blouse from her husband that she did not like at all. When asked why she did not like the blouse, her husband replied, "I think it represented to her a woman she felt she wasn't."

Motivations and Symbolism in Giving

The results of the exploratory study suggest that motivations for giving may be related to the symbolism chosen by givers. Four categories of symbols are suggested by the exploratory research: (1) gifts which are symbolic of the self of the giver (2) gifts which are symbolic of the giver's perception of the receiver (3) gifts which are symbolic of convention and (4) gifts which are expressive, and have many meanings attached to them. More altruistic gifts should be symbolic of the receiver, while more self-interested gifts should be congruent with the self of the giver. Gifts symbolic in a conventional fashion should predominate when motivations for giving are norm-dominated. Furthermore, more expressive gifts should result when motivations for giving are altruistic.

Gifts are more likely to be perceived as self-interested when they are congruent with the giver's ideal or real self-image and additionally are incongruent with the receiver's self image. As an example of this phenomenon, Tournier (1963) tells a story about a man who collects pipes giving his wife a pipe for Christmas (a gift *she* did not consider to be altruistic). It follows that a gift that is inconsistent with the giver's self-image, but consistent with the receiver's will be perceived by the receiver as a truly altruistic gift. In support of these propositions, many favorite gifts were described as being bought in places the giver never goes, and as being objects the giver never purchased before. These gifts may have been perceived as more altruistic because they were something the receiver wanted, rather than something the giver wanted to give. Most gifts (as opposed to favorite gifts), however, are probably compromises between what the receiver wants, and what the giver wants the receiver to have.

The next step in gift-giving research is to identify which antecedent variables are most likely to lead to perceptions of particular gift-giving motivations. Based on these antecedents, and the resulting motivations for giving, different types of symbols are likely to be chosen for gifts. For instance, Belk (1979) has discovered that ideal self-concept and self-concept of the giver are more important than giver's concept of the receiver in predicting characteristics of gifts. However, it remains to be determined in what situations the giver's self-concept may be less or more important in choosing gifts.

CONCLUSION

Consumers are their own "creative directors" in the management of meaning. As in primitive cultures, exchange (both gift and other) is a system of meanings involved in the shaping of both personal and cultural meaning. Sharing items brings others into a shared microcosm, and into our extended selves. There are 3 general motivations a receiver may attribute to a giver: self-interest, norms, and altruism. Depending on these attributions, and the statements the receiver perceives the gift makes about the donor, himself, and their relationship, the receiver will feel more or less satisfaction, obligation, and desire to reciprocate.

The symbolic value of gifts (in market settings at least) appears to dominate the economic value of gifts, except possibly for philanthropic giving. Furthermore, benefits to the giver and the congruence of the item with the giver's self tend to dominate gift purchase, although benefits to other and congruence with the receiver's self are somewhat important in gift decisions. However, the more selfless the gift is perceived to be by the receiver, the more the gift tended to be congruent with the receiver's self image, and additionally, such gifts were often incongruent with the giver's self image. Givers and receivers are thus participants in a process most generally described as "the

management of meaning," although most participants hardly conceptualize gift-giving in this fashion.

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Symbolism, Obligation, and Fiber Choice: The Macro to Micro Continuum of Understanding Gift Giving

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INTRODUCTION

The papers in this session stand out as examples of how distinct micro and macro perspectives on consumer behavior research really are. The two anchor points or extremes of that continuum are represented by Wagner, Ettenson and Verrier (1989) and Wolfenbarger (1989), respectively, along with a description of gift giving which falls somewhere in between, provided by Goodwin, Smith and Spiggle (1989). The purposes of this paper are threefold, namely: 1) To offer a constructive critique for each of the presenters, 2) To draw out similarities and distinctions among the presentations, and, 3) to integrate (if possible) the knowledge gained here, or at least offer some sense of where we might go from here.

SYMBOLISM

Wolfenbarger (1989) does a fairly thorough job in reviewing prior work in the area of gift giving. She chooses as her approach to focus on symbolic interactionism within the gift giving process, an approach derived in the field of social psychology. This is fine, but I do not agree, and I think others would perhaps wince at her statement that this is "the most promising approach..." one might use when seeking to understand gift giving. In fact, in Wolfenbarger's conclusions we find vague comparisons with primitive cultures on exchange as "a system of meanings involved in the shaping of both personal and cultural meaning," suggesting that anthropology remains important for understanding gift giving. This serves as a reminder that it is often very difficult to unravel where the insights from one disciplinary perspective end and the insights offered by others begin. And while most consumer researchers have allegiances to one or perhaps a few disciplinary viewpoints, it seems that gift giving is a phenomenon which cannot be fully understood without treating it in a multidisciplinary way. Firat (1988) suggests, in fact, that scholars could fruitfully approach *all* their work in a multi-philosophical way. Thankfully, ACR operates with just that in mind.

Part of the method of the exploratory part of this study involves eliciting stories from married informants about favorite gifts they have received and given to their spouse. This open-ended, projective technique can produce data which are difficult to interpret, but when done well, the rich and full-bodied nature of the findings are well worth the struggle. Wolfenbarger's stories about a unique ring or a "Queen of the Nile" brooch, for example, really begin to give us some meaningful "meat" to hang on our skeletal understanding of what gift giving means and is.

INVOLVEMENT

In Goodwin, Smith and Spiggle (1989), the question of how felt obligation affects the giving of gifts is explored. Using open-ended responses to several questions about a recent gift giving experience, Goodwin, et al. have discussed some important distinctions between gift givers who perceive their giving as either voluntary or obligatory. Within the construct of obligation, the authors identify two specific forms, reciprocity and ritual. What they are really describing is roughly one-half of Marshall Sahlins' tripartite reciprocity continuum (1972). Any discussion of gift giving is at least partly incomplete without mention of generalized and balanced reciprocity and the accompanying notions of kinship distances and social/other obligations involved in these exchange relationships. This is especially true when dealing with a study in which level of obligation is a key independent variable. The authors may or may not feel that Sahlins' work is relevant to their own, but they are certainly obligated to give Sahlins credit for conceptualizing a continuum of obligation nearly two decades ago.

On a more technical note, the abstract of Goodwin, et al. suggests a "naturalistic data collection technique" was employed. The description in the method section runs counter to that promise, however. Ninety students filled out "questionnaires [which] were completed in classroom or office settings..." What sets apart studies claiming to be naturalistic is related to the setting within which the research data are gathered (Belk, Sherry and Wallendorf 1988) and the degree to which "a priori units" are imposed on the outcome by the researcher (Lincoln and Guba 1985; Willems and Raush 1969). What Goodwin, et al. *have* done is gather qualitative data, but according to these definitional criteria at least, they *have not* conducted naturalistic research. One final note on the method - the authors are almost apologetic for their use of students in consumer research. In some instances student samples are not appropriate for measuring consumption, but it seems to me that anyone who has given a gift (this would exclude few people) is a likely informant to this type of study. It almost seems comical when the authors refer to their subjects as "genuine consumers." Is there any other kind?

FIBER CHOICE

The paper by Wagner, Ettenson and Verrier (1989) stands apart from the other papers in this session in several ways. It asks consumers to make hypothetical choices about what gifts they might choose when presented with several combinations (forty) of eight attributes which are apparently salient to givers of clothing gifts. The task is a measured by conjoint analysis, with the dependent

variable, slashes on a 100 mm continuum with "very likely" and "not very likely" to buy, as anchor points. As alluded to earlier, this study qualifies as a very micro approach. I do not wish to argue with their chosen tack, except to say that they should recognize that gift giving is very difficult to reduce to a few, clean independent and dependent variables. All sorts of context has been ignored by Wagner, et al..

The part of this paper that I find especially troubling is the main finding of the study related to fiber choice, which they translate into information that somehow "lend[s] support to the Sherry [(1983)] model by demonstrating that level of involvement affects the gift purchase decision." The fact that fiber choice emerges in their statistical analysis as the driving consideration when buying baby shower clothing ought to raise big, red flags to anyone evaluating this paper. A careful reading of the method and results can perhaps provide the reader with clues as to how this clothing attribute came to displace seven others, including price, quality, and brand name. The choices given to measure fiber preferences were 100% cotton versus 100% polyester. Only one of the 77 PTA mothers surveyed chose the polyester jumpsuits with any consistency. This finding obviously has nothing to do with whether the subject was in the "new neighbor" or "best friend" condition. A more likely interpretation would be that the highly educated and somewhat older sample are simply reacting to the major stigma attached to the word "polyester." I'm not saying that this fiber isn't wonderful and versatile, but no one can deny (especially textiles scholars, such as the authors) that ugly images of lime-green, double-knit-with-contrast-stitching ladies sportswear in the mid-to-late 1970s continue to plague and challenge polyester makers everywhere in getting consumers to take their product seriously.

The conjoint task is only as good as the choices given (Cattin and Weinberger 1980). The concern of researchers who use this method, then, should be to use the utmost care in choosing levels or alternatives within each treatment or attribute (Hair, Anderson and Tatham 1987) since otherwise the results will reflect a very strong "garbage in-garbage out" flavor. The levels chosen by Wagner, et al. on the treatments of fiber (all cotton/all polyester) and size (newborn/6 months) are subject to criticism, with the fiber issue already discussed. Being the father of two (three by the time these proceedings finally get mailed), it strikes me that no one really considers newborn sizes unless the baby is very small at birth. This is simply a utilitarian concern on the part of buyers, since children grow so rapidly. In fact, the authors report that very few subjects consistently chose the smaller size. Having said these things, and perhaps weakening the arguments made for fiber and size as the number one and two main reasons for choosing a garment to be given as a gift, the third major dimension seems to offer some true relevance to the questions at hand. This is no surprise since the treatment of "price" was pretested with a focus group before the conjoint

part of the study was carried out. Careful consideration beforehand yielded a meaningful (if already apparent) finding, that the amount spent on a gift will vary according to how well you know the receiver and how you feel they will interpret the perceived gift price. The real finding of this study is that hypothetical givers will be more concerned with the new neighbor's interpretation than that of a close friend, which is hardly a surprising piece of information.

IMPRESSIONS AND DIRECTIONS

These studies are all geared toward the communication that takes place within the gift giving process. Whether this communication process is studied from a macro or a micro level analysis is really not as important as recognizing that, separated from the context, gift giving loses the bulk of its meaning. While much literature, both from the social sciences generally and from within the field of consumer research is currently available, there is much still to be done if we are to truly understand gift giving.

Given the sheer amount of extant knowledge, perhaps it is time to begin the process of true integration. This is, I believe, what Wolfenbarger is trying to do with her work, although as mentioned, she seems to prefer a strongly unidisciplinary mindset. When I say true integration, I mean a model which requires multidisciplinary vision. A caveat about embarking on such a model is that it should not be approached as a giant boxology - a la Howard and Sheth. The process could surely be modeled in such a way, but not without diminishing the *gestalt* of the gift exchange phenomenon. It would also be difficult to include in such a model the constant role of communications in gift exchange, which has been conceptually so important in these papers.

Another relatively untapped area for scholarly exploration is the receiver's view of the process. This begs for a remedy if we want the full picture of the gift giving/gift exchange process. The Wolfenbarger study begins to scratch the surface by asking people about gifts they have received. Certainly such a perspective is imperative to a complete understanding of the phenomenon in question.

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Choose Your Own Price: An Exploratory Study Requiring an Expanded View of Price's Functions

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ABSTRACT

The existing consumer behavior literature generally presents prices as costs which consumers try to minimize and/or as cues which consumers use to judge quality. This limited perspective on price's functions assumes that, if allowed to choose their own price for a good or service of known quality, consumers would always choose the lowest price possible. This assumption is tested in a study examining the price choices of patrons at a restaurant that allowed its customers to choose the price they wanted to pay for entrees they had already consumed. Forty-four percent of the customers chose to pay more than was necessary for their entrees. This finding requires an expanded view of price and its functions. Additional price functions that might explain this finding are presented and discussed.

A perusal of the consumer behavior literature reveals two major perspectives on the functions of price (c.f., Erickson & Johanson, 1985; Lichtenstein, Block & Black, 1988; Monroe & Petroschius, 1981). First, prices are seen as costs which consumers try to minimize. This perspective is borrowed from economic theory which sees price as a constraint on what consumers with fixed incomes can buy. Rational consumers are supposed to maximize utility by paying as little as possible for each good purchased.

Second, prices are seen as sources of information about product quality. Researchers have found that consumers do use price as an indication of product quality, especially when other product information is unavailable (see Olson, 1974 for a review). Thus, lower priced products are not always preferred to more expensive ones. When price is used as an indicator of quality, then high priced goods can be perceived as better buys than low priced goods.

These two perspectives on price are so dominant that they have come to be seen as exhaustive by many consumer behavior researchers. The following quotation from Lichtenstein, Block and Black (1988) is illustrative. They write that:

"... to the degree buyers make price-quality inferences, they view price in a favorable light, believing that higher prices reflect better materials, finer workmanship, and so on. Because price plays a positive role for these consumers, they are more likely to find higher prices acceptable (John, Scott & Bettman, 1986). To the degree consumers do not make price-quality inferences, price is viewed as a negative element only, reflecting resources yielded" (p. 244).

This restricted view of price and its functions assumes that, given a choice of different prices for the exact same product, consumers would always choose the lowest price -- different prices for a single product could not reflect differential quality, so they should be perceived only as costs to be minimized. The present study tests this assumption. More specifically, it examines consumers' price choices at a restaurant that allowed its customers to choose the price they wanted to pay for entrees they had already consumed.

Of course, there is already some evidence that consumers will pay more than they have to for a given good or service. Many people give money to public television stations even though such contributions are not required to have access to the stations' programs, and even though individual contributions are not large enough to seriously impact the quality of the stations' programming. Similarly, people regularly leave tips to waiters and waitresses even though the services have already been received and even though a gratuity is not legally required. These behaviors challenge the restricted view of prices as only costs and/or cues-to-quality, but they differ from most economic purchases in several ways that may limit the need for an expanded view of price's functions.

First, public television stations are non-profit organizations while most businesses are not. It is possible that people will voluntarily contribute to non-profit organizations but that they will not make such voluntary contributions to the profits of businesses. Second, tips are given to individuals while prices are generally paid to business institutions. People may be willing to give what are essentially monetary gifts to other people but may not be willing to give similar gifts to businesses. Finally, both tips and donations to non-profit organizations are supported by social norms while paying more than necessary to businesses is not. It is possible that people are willing to pay more than they have to for goods and services only when such actions are called for by social norms.

By exploring people's willingness to pay a restaurant more than necessary for its entrees, this study provides a more general test of the restricted view of price's functions. If some of the customers at the restaurant studied chose to pay more than they had to for their entrees, then price must have served as more than a cost and a cue to quality for those customers. This would indicate that the restricted view of price as only a cost and/or a cue to quality is inadequate to fully understand price's functions even in transactions with profit oriented businesses.

METHOD

Data Source

El Matador was a Mexican restaurant in a large midwestern city that allowed its customers to choose the price they wanted to pay for a select group of entrees (hereafter referred to as "special entrees"). After finishing their meals, dining parties who ordered these entrees were given a sheet of paper with a set of four prices per type of entree (see Exhibit 1) and were asked to circle the price they thought appropriate. Usually, only one choice per table was permitted for each type of special entree regardless of how many people at the table ordered that item. [One apparent exception was omitted from this study.] However, dining parties that ordered two or more different types of special entrees could make two or more price choices. Customers' entrees, price choices, and other information were recorded on the restaurant's checks. The owner of this restaurant allowed me to borrow the checks written during the month of May 1986. The evening checks that contained at least one special entree were used as the source of data in this study.

Variables

Several variables were recorded from the checks. One set of observations was made per check except in cases where it was clear that two or more checks came from a single table. In such cases, the checks were ignored for being non-independent. Also ignored were several illegible, or otherwise unclear, checks. The variables recorded from those checks providing usable, independent observations for this study were:

- a) the identity of the server (the coding identified four individual servers and a group of several other servers who had only a few customers each),
- b) the number of people at the table,
- c) the number of alcoholic drinks ordered,
- d) the number of different types of special entrees ordered,
- e) the number of special entrees of each type ordered,
- f) the general expensiveness of each type of special entree (different special entrees had different price alternatives and the lowest price choice allowable was recorded), and
- g) the price customers chose to pay for each type of special entree they ordered (the rank order of the selected price was recorded with 1 representing the lowest price alternative and 4 representing the highest price alternative).

A random check on the recording reliability for these variables revealed no errors. A total of 175 sets of observations were obtained for this study. However, some of the restaurant's checks did not contain all the above information, so the number of observations for some variables is smaller than 175.

RESULTS

Description of Price Choices

A frequency distribution of price choices was tabulated for those dining parties with only one type of special entree (see Table 1). Eighty-two (or 56%) of these one hundred forty seven people chose to pay the first (or lowest) price for their special entrees. However, sixty-five (or 44%) of these people voluntarily chose to pay more than they had to -- forty-one people chose to pay the second price, twenty-one people chose to pay the third price, and three people chose to pay the fourth (or highest) price. The second, third and fourth prices respectively were 16%, 28% and 38% more than the first price, so these sixty five people chose to pay meaningfully higher prices than they were required to. Since these price choices were made after the entrees had already been consumed, the higher than necessary prices were not paid in the hope of getting higher quality food or larger portions. Apparently, price served some other functions for these customers.

Predicting Price Choice

Separate regression analyses were performed to explore the relationships of price choice (among those having only one type of special entree) with (a) the identity of each dining party's server -- server identity was dummy coded, (b) the number of people in each dining party, (c) the number of alcoholic drinks ordered by each dining party, (d) the number of entrees each dining party's price choice applied to, and (e) the general expensiveness of each party's special entree. For these analyses, people's price choices were converted to percentages of the lowest price -- prices 1 thru 4 were assigned values of 100, 116, 128 and 138 respectively.

Only the server's identity and the general expensiveness of the special entree significantly predicted price choice. People's price choices were related to their servers' identities [$F(4, 140) = 3.81, p < .006$] and this relationship remained at least marginally significant after partialling out the effects of the other independent variables [$F(4, 124) = 2.36, p < .06$]. People also chose higher prices the more expensive their special entrees were [$r = .17, F(1, 145) = 4.23, p < .05$] and this relationship remained significant after partialling out the effects of the other independent variables [$spr = .20, F(1, 124) = 5.67, p < .02$]. People's price choices were *not* related to the number of people at the table [$F(1, 132) = .13, n.s.$], the number of alcoholic drinks ordered [$F(1, 145) = 1.26, n.s.$], or the number of entrees each party's price choice applied to [$F(1, 145) = 1.09, n.s.$].

Multiple Price Choices

Twenty-eight dining parties in this study ordered two different types of special entrees and, thus, had two different price choices to make. Twenty two (or 39.3%) of their fifty six choices were for larger prices than necessary -- i.e., for prices 2, 3 or 4. A correlation between the two

EXHIBIT 1



El Matador Restaurant
 Serving The Finest Mexican Food & Drinks

4510 Kenny Rd
 Columbus, OH
 459-3663

Choose Your Own Price

There is nothing a vendor in Tijuana would rather do than bargain with a Yankee. Trying to be as authentic as possible, we decided to carry on this tradition--"North of the Border."

Now that you've experienced the taste of Mexico, it's time to enjoy the tradition. Choose your own price! Simply (1) Grasp your pencil, (2) Find your item, (3) Draw a circle around your chosen price, (4) Tell your friends that they too can choose their own price at EL MATADOR.

READY, SET, GO!!!

	<u>GREAT</u>	<u>FANTASTIC</u>	<u>AWARD WINNING</u>	<u>BEST I'VE EVER HAD</u>
10 Inch Mexican Pizza	\$4.70	\$5.45	\$6.00	\$6.50
Smothered Burrito	\$3.20	\$3.70	\$4.10	\$4.40
Plato De Sopapilla	\$4.10	\$4.75	\$5.25	\$5.65
El Bandito	\$3.95	\$4.60	\$5.05	\$5.45
Burrito Con Queso	\$3.20	\$3.70	\$4.10	\$4.40
El Puerco	\$8.25	\$9.55	\$10.50	\$11.40



TABLE 1
Frequency distribution of price choices among customers with only one type of special entree.

Price	Frequency	Percent
1 "Great"	82	55.8
2 "Fantastic"	41	27.9
3 "Award ..."	21	14.3
4 "Best..."	3	2.0

price choices made by these dining parties was highly significant [$r=.91$, $n=28$, $p<.0001$], suggesting that their decisions were fairly consistent. However, six (or 21%) of the dining parties chose different price alternatives for their different types of special entrees.

DISCUSSION

Many of the customers at this restaurant chose to pay more than they had to for entrees they had already consumed. This finding cannot be explained from the limited perspective of prices as only costs and/or cues-to-quality that predominates the consumer behavior literature. This finding requires an expanded view of price and its functions. Two other potential price functions might explain this finding -- prices may be used to display status and wealth and/or to equitably compensate the providers of goods and services.

Impression Management Function

The customers at this restaurant may have paid more than they had to for their entrees because of impression management concerns (ala Schlenker, 1980; Tedeschi, 1981). Veblen (1889/1965) noted that the wealthy often buy expensive goods whose costs cannot be justified by their functional characteristics. He concluded that the wealthy buy these over-priced goods as a way of displaying their wealth -- a phenomena he called conspicuous consumption. It is possible that price's impression management function is more general than this. People may also prefer moderate prices over lower ones in order to avoid appearing poor or cheap.

The impression management function of price may also help explain why people's price choices were related to their servers' identities and to the general expensiveness of their special entrees. First, the customers at the restaurant may have been more concerned about impressing some servers than others because some of the servers may have been more attractive, more judgemental, etc... than were the others. If customers did choose higher prices in order to make favorable impressions and if servers did differ in the extent to which they evoked impression management concerns, then it makes sense that customers' price choices were related to who their servers were.

Second, some customers may have been dispositionally more concerned about impressing their servers than were other customers. Those

customers who wanted to impress their servers may have tried to do so both by ordering more expensive special entrees and by choosing the higher price alternatives for those entrees. Thus, the relationship between price choice and the general expensiveness of the special entree may be due to their joint dependence on customers' concerns about impressing servers.

Very little research has examined the behavioral effects of prices' status and public-image implications. However, these aspects of price may prove important in understanding several types of consumer behavior. Donating to charities, tipping servers, redeeming coupons, comparative shopping, selecting stores, and choosing brands are all behaviors through which consumers determine/select the prices they pay for things. If people use price as an impression management tool, then all of these behaviors may be affected by the desire to appear wealthy and/or by the desire to avoid appearing poor or cheap.

Compensatory Function

The customers at this restaurant may have paid more than they had to for their entrees because they felt that the higher prices were fairer than the lower ones -- i.e., were more equitable compensations for the entrees. Equity theorists (e.g., Adams, 1965; Walster, Berscheid & Walster, 1976) argue that society socializes people to feel anxiety or distress when in inequitable exchange relationships. Exchange relationships are said to be inequitable when the various participants' outcomes relative to inputs are unequal. According to the theory, people attempt to minimize their own psychological distress by maintaining (or restoring) equity in their relationships with others.

The restaurant in this study labeled price alternatives 1 thru 4 "great", "fantastic", "award winning", and "best I've ever had" respectively. These labels may have suggested to customers that they were expected to choose the prices for their entrees on the basis of how much they enjoyed those entrees. Such a decision rule would be consistent with equity theory and could explain why some customers chose to pay more than they had to. Equity theory may also explain why six out of twenty-eight dining parties selected different price alternatives for the different types of special entrees they ordered -- those six dining parties may have considered their different entrees to be of unequal

value and may have chosen to pay different prices in order to equitably compensate for the different values received.

Equity theory has received a great deal of empirical support in the areas of business relationships, exploitative relationships, helping relationships, and intimate relationships (see Walster, Walster & Berscheid, 1978, for a review), but has been applied to consumer behavior and to the pricing of consumer goods and services only rarely. One domain of consumer behavior to which equity theory has been applied is restaurant tipping. Although several early studies failed to find a relationship between service quality and tip amount (c.f., Crusco & Wetzel, 1984; Lynn, 1988; Lynn & Latane, 1984; May, 1978), the measures of service quality in many of these studies were of questionable sensitivity and/or validity. A more recent study in which customers rated specific aspects of their own service did find that people tip more the more favorably they perceived their service (Lynn & Grassman, 1989). This result is consistent with the hypothesis that consumers will pay more than they have to for goods and services in order to equitably compensate the providers of those goods and services, but more research is needed to rule out alternative explanations for this result and to assess its generalizability. If people do want prices to equitably compensate sellers, then this compensatory function of price may prove important in understanding and manipulating price acceptance.

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Assessing the Relationship Between Perceived and Objective Price-Quality: A Replication

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ABSTRACT

A study is reported that attempts to replicate results of recent research concerning the level of correspondence between consumers' price-quality perceptions and objective price-quality relationships present in the marketplace. The study employs a dissimilar, alternative measure of price-quality perceptions from the one used in previous research examining this relationship. Results support previous findings by indicating that the relationship between price-quality perceptions and objective price-quality is positive, but not large. Findings also are consistent with previous results that indicate that this relationship is moderated by product type (durable and nondurables).

Two research streams of significant interest in pricing research concern (1) the relationship between price and quality perceptions and (2) the relationship between price and "objective" quality. Both of these research streams have been of interest to pricing researchers for many years (Leavitt 1954; Morris and Bronson 1969). Research pertaining to the price-perceived quality relationship suggests that the use of price as an indicator of product quality is considered to be widespread (Etgar and Malhotra 1981; Gerstner 1985), but that its effect varies significantly across individuals and products being judged (Peterson and Wilson 1985; Zeithaml 1987).

Objective quality previously has been defined as the "unbiased measurement of quality based on characteristics such as design, durability, performance, and safety" (Riesz 1978, p.19). Research pertaining to the relationship between price and "objective" quality suggests that while the association between price and objective quality for some product categories is high, across product categories the overall relationship is low, and in some cases, negative (cf. Geistfeld 1982; Gerstner 1985; Morris and Bronson 1969; Oxenfeldt 1950; Riesz 1978, 1979). For example, Oxenfeldt (1950) reported an average correlation between price and objective quality of .25, with correlations ranging from 0.82 to -0.81, for a sample of 35 product categories that included durable goods, clothing, and food. Riesz examined 685 durable and nondurable product categories and found an average correlation of .26. In a follow-up study, Riesz (1979) found an

average correlation of .09, with a objective-price quality correlations ranging from .88 to -.65 for 679 packaged food product categories. Gerstner (1985) reported an average correlation for 59 nondurable products of only .01 with a range of .73 to -1.00, and an average correlation for durable products of .19, with a range of .66 to -.73.

Such findings have led price-objective quality researchers to conclude that "results indicate that price and [objective] quality do correlate, but at a level so low as to lack practical significance" (Morris and Bronson 1969, p.33). Similarly, Riesz (1979, p.246) states that "consumer reliance on price as an indicator of product quality is an unwise purchasing strategy."

In a recent study, an attempt was made to integrate the price-objective quality research stream with research on consumers' subjective price-quality perceptions (Lichtenstein and Burton 1989). Because this integration permits an assessment of the consistency between the price-quality perceptions of consumers and price-objective quality relationships present in the marketplace, it potentially has some important implications for both consumer researchers and policy-makers.

In this recent study, single-item measures were used to assess price-quality perceptions for different product classes. There is some concern about using a single-item measure for such a complex relationship because of failure to capture the full domain of this construct and the questionable reliability of such a single-item measure. The objective of the present research is to attempt to replicate results obtained in the Lichtenstein and Burton (1989) study using a measure of perceived price-quality that is very different from the one employed in this previous study. Specifically, this dissimilar measure is used in an attempt to replicate results concerning (1) the overall relationship between consumers' price-quality perceptions and price-objective quality relationships, and (2) whether the relationship between price-perceived quality and price-objective quality varies across the type of products being judged (i.e., durable or nondurable).

HYPOTHESES

In the research conducted by Lichtenstein and Burton (1989), a principal question concerned the "accuracy" of consumers price-quality perceptions. This question of how accurately consumers perceive price-objective quality relationships pertains to (1) whether consumers perceive a price-quality relationship when there actually is a positive relationship, and (2) whether they perceive *no* price-quality relationship when the actual relationship is zero or negative. Weighing evidence both pro and con, Lichtenstein and Burton (1989) hypothesized

¹The authors express their gratitude to an anonymous reviewer for his/her suggestion concerning an alternative measure of perceived price-quality used in this paper. For purposes of comparison, this paper includes a portion of the results from Study 3 reported in Lichtenstein and Burton (1989).

that, overall, there would be a positive correlation between perceived and objective price-quality relationships. They noted that consumers often lack the effort required to obtain information about quality (Alpert 1971; Gerstner 1985; Zeithaml 1987), and consumers sometimes may only be able to assess quality in a very cursory manner. Also, the mere survival of brands in the marketplace that offer poor quality in relation to their price suggests that consumers are less than perfect in their evaluations of relationships between price and quality. On the other hand, quality variations are often recognizable, and, in general, consumers are viewed as rational processors of information who should not be regarded as totally uninformed about issues pertaining to price and quality. Lichtenstein and Burton argued that, taken in sum, these points suggested that there is likely to be a positive, but not strong relationship, between perceived and objective price-quality relationships. In their first hypothesis they postulated that "there is a positive relationship between perceived and objective price-quality relationships." Results in which single-item measures of price-quality perceptions were used supported their hypothesis. A principal objective of this study pertains to how results using an alternative price-quality perceptions measure will compare to those reported by Lichtenstein and Burton (1989).

A second hypothesis of interest in the Lichtenstein and Burton (1989) study pertained to differences in the accuracy of price-quality perceptions across product types. It was hypothesized that consumers' price-quality perceptions for nondurables are more accurate than their perceptions for durables. The rationale for such a hypothesis was drawn from integrating the results from price-perceived quality studies and price-objective quality studies. Findings across price-objective quality studies have consistently indicated that price is *not* a good predictor of product quality for durables *or* nondurables (Gerstner 1985; Riesz 1978, 1979); however, price-perceived quality studies have demonstrated that consumers *expect* much stronger price-quality relationships for durable than for nondurable goods (Gardner 1970; Leavitt 1954; Monroe and Krishnan 1985). Lichtenstein and Burton suggested that this greater reliance on price for durables than for nondurables should lead to more erroneous perceptions. Specifically, it was hypothesized that "the correlation between price-perceived quality and price-objective quality will be higher for nondurable goods than for durable goods." Results reported by Lichtenstein and Burton (1989) that employed single-item measures of consumer price-quality perceptions supported this hypothesis.

METHOD

Product Classes

The criteria for selection of the 18 product categories used in this study included: (1) an equal split between product types (i.e., 9 durable and 9 nondurable product categories), and (2) for both

durable and nondurable product categories, three products have a positive price-objective quality correlation shown to be stable over time (i.e. consistent across the two most recent ratings by Consumer Reports), three have a (near) zero price-objective quality correlation shown to be stable over time, and three have a negative price-objective quality relationship shown to be stable over time. Correlations between price and quality ratings for over 100 product categories rated at least twice by *Consumer Reports* within the last 10 years were computed to find product categories that met these criteria. Based on these analyses, 18 product categories meeting the above criteria were selected.

Measures

Measure of Perceived-Price Quality. The measure of perceived price-quality for the eighteen product classes examined in this study was operationalized in the following manner. Respondents were asked to assume that there were 10 brand alternatives in each product class, five of which were high priced and five of which were low priced. For the five *high-priced* alternatives, respondents were asked how many were of high quality and how many were of low quality. Then, the respondents were asked for the five *low-priced* alternatives how many were of high quality and how many were of low quality. A small pretest indicated that this procedure could be easily understood by respondents. These responses were used as cells in a 2 X 2 contingency table (i.e., high and low levels of price and quality), and individual-level phi correlations were then calculated for *each* of the 18 product classes (Nunnally 1978). The formula used to calculate the phi correlations was: $(A * D) - (B * C) / \text{SQRT}((A + B) * (C + D) * (A + C) * (B + D))$, where A, B, C, and D are the cell frequencies in the 2 X 2 contingency table.

Although this measure has some limitations (which are addressed in the Limitations section of this paper), it was quite different from the one used to assess price-quality perceptions in the four studies reported by Lichtenstein and Burton. In those studies perceived price-quality was operationalized by respondents' level of agreement with the following statement: "The higher the price of the product, the higher the quality of the product" (7=strongly agree, 1=strongly disagree) for each product category. This measure, which was also used in a previous study on price-quality perceptions (Peterson and Wilson 1985), has the advantage of being quite direct. However, it may underrepresent this complex construct as well as introduce random measurement error for any single response (Churchill 1979).

Measure of Objective Price-Quality. Measures of the relationships between price and objective quality were calculated from *Consumer Reports* data. Arguments have been stated both for and against the use of *Consumer Reports'* ratings as a basis for measures of objective price-quality relationships. An overview of these arguments concerning

objective price-quality measures is offered in the Limitations section of this manuscript.

Spearman rank-order correlations were used to test hypotheses. Given the use of rank-order correlations, positive (objective) price-quality correlations were recoded to a 3, correlations near zero were recoded to a 2, and negative correlations were recoded to a 1. This recoding scheme was used because many of the product categories have very similar objective price-quality correlations, and small correlational differences would be accentuated given the use of rank-order correlations. Thus, tests using these recoded values were considered the more conservative and appropriate approach.

Description of the Sample

Respondents in the study were junior and senior undergraduate business majors at a major state university. Sample size for this study was 128. All data were collected in a classroom setting. (This sample and data collection method are consistent with that used by Lichtenstein and Burton (1989) in Study 3 where respondents were also junior and senior undergraduate students and questionnaires were completed in a classroom environment.)

RESULTS

Table 1 shows the mean phi correlations calculated from responses to the questions concerning perceived price-quality in this study. As shown in Table 1, the mean phi correlation for the durable products (.354) was larger than the correlation for the nondurable products (.281). This difference is consistent with results reported in previous perceived price-quality research which has shown that consumers expect stronger price-quality relationships for durable products (Leavitt 1954; Monroe and Krishnan 1985; Peterson and Wilson 1985). Results are also consistent with those offered by Lichtenstein and Burton, where across all studies respondents perceived stronger relationships for durables than for nondurables.

One advantage of this measure demonstrated in Table 1 is that it permits a direct assessment of the specific price-quality correlations as perceived by respondents. For example, relatively few respondents expected negative price-quality relationships for any of the product classes examined. (The highest percentage of respondents perceiving a negative correlation was 10% for the product class of tea bags.) However, for some product classes there were rather large differences concerning positive correlations ranging from .31 to 1.0. For instance, for the product classes of stereo speakers and ten speed bicycles, two-thirds of the respondents thought that price-quality correlations exceeded .30; for laundry bleach and fabric softeners fewer than one-third anticipated correlations above .30. For the set of (nine) durables examined in this study, on average, 58% of the respondents expected correlations to be greater than .30, while 45% perceived correlations to be above .30, on average, for the set of nine nondurables.

Results showing how findings using this measure compare to those using the single-item measures of perceived price-quality employed by Lichtenstein and Burton (1989) are presented in Table 2. The last three columns in Table 2 are of principal interest. The third column shows the average objective price-quality correlations calculated from the two most recent ratings for these product classes in *Consumer Reports*, and the coding of these correlations as positive (3), near zero (2), or negative (1); the fourth column shows the mean price-quality ratings using the single item price-quality measure (as reported in Study 3 of Lichtenstein and Burton (1989); and the fifth column shows the mean phi correlations for the perceived price-quality measures employed in this study.

A quick comparison between the mean phi correlations (column 5) and the mean ratings for the single item measure of perceived price-quality (column 4) reveals a positive relationship between the two measures. In fact, the Pearson correlation between the mean perceived price-quality ratings and the mean phi correlations is .83. Thus, across these two samples, the price-quality ratings and correlational measures appear to tap into the same underlying construct.

This high correlation between these two measures bodes well for assessing the consistency of results of hypotheses involving this phi correlational measure and the price-objective correlations (column 3) and previous findings of Lichtenstein and Burton (1989) using the single-item perceived price-quality measures. A comparison of results pertaining to these tests of hypotheses are shown at the bottom of Table 2.

The first hypothesis offered by Lichtenstein and Burton (1989) postulated a positive correlation between perceived and objective price quality relationships. As predicted, these correlations, although not large, were positive for both the phi correlation measure (Spearman $r = .29$, $p < .15$) and the single item measure (Spearman $r = .18$, $p < .25$). Thus, results across the two measures of perceived price-quality are relatively consistent and provide general support for H1.

A second hypothesis of Lichtenstein and Burton (1989) concerned the moderating role of product type on the accuracy of price-quality perceptions; it was hypothesized that the correlation between perceived and objective price-quality would be greater for nondurable than for durable products. Results across both the single-item and phi correlation measures of perceived price-quality support H2; the rank-order correlation between objective price-quality and the single-item perceived price-quality measure was .58 for nondurable products and .05 and for durable products. For the phi correlation measure, these respective relationships were .47 and -.05. Thus, results across the two alternative measures of perceived price-quality were consistent and increase confidence in results pertaining to both hypotheses.

TABLE 1
Perceived Price-Quality Correlations Across Product Classes

Product	Product Type	Mean Phi Correlations for Perceived Price-Quality	% of Correlations Between ...			
			-1.0-.00	.01-.30	.31-.60	.61-1.00
Means Across All Product Classes	-	.318	6%	43	38	13
Means for Durables	D	.354	5%	37	43	15
Means for Nondurables	ND	.281	7%	48	34	11
Stereo Speaker	D	.420	2%	32	46	21
10 Speed Bicycle	D	.416	4%	30	48	19
Compact Disc Player	D	.396	4%	32	43	21
Frozen Sausage Pizza	ND	.379	4%	32	50	14
Cooking Range	D	.377	5%	36	40	19
Facial Tissue	ND	.362	6%	41	28	25
Saucepan	D	.347	8%	34	43	16
Vanilla Ice Cream	ND	.343	3%	42	42	13
Washing Machine	D	.316	5%	43	41	11
Blender	D	.313	6%	40	47	7
Gas Barbecue Grill	D	.311	7%	45	40	8
Drip Coffee Maker	D	.293	7%	44	38	11
Oven Cleaner	ND	.272	7%	48	35	10
Spray Cleaner	ND	.260	9%	49	37	5
Box of 100 Tea Bags	ND	.248	10%	51	33	6
Club Soda	ND	.232	9%	50	34	7
Laundry Bleach	ND	.220	7%	64	18	12
Fabric Softener	ND	.213	7%	60	29	4

TABLE 2
Replication of Results Pertaining to the Relationship Between Perceived and Objective Price-Quality Relationships

Product	Product Type	Objective Price-Quality Relationship	Mean Rating for Perceived Price-Quality Measure ^a (N=219)	Mean Phi Correlation for Perceived Price-Quality Measure (N=128)
Compact Disc Player	D	-.04(2)	5.71	.396
10-Speed Bicycle	D	.84(3)	5.51	.416
Stereo Speakers	D	-.32(1)	5.43	.420
Washing Machine	D	.56(3)	5.35	.316
Cooking Range	D	-.24(1)	5.10	.377
Gas Barbecue Grill	D	-.01(2)	4.74	.311
Blender	D	-.20(1)	4.72	.313
Saucepan	D	.50(3)	4.61	.347
Frozen Sausage Pizza	ND	.53(3)	4.28	.379
Vanilla Ice Cream	ND	.66(3)	4.20	.343
Drip Coffee Maker	D	-.06(2)	4.10	.293
Facial Tissues	ND	-.75(3)	3.92	.362
Box of 100 Tea Bags	ND	-.30(1)	3.89	.248
Fabric Softener	ND	-.16(2)	3.43	.213
Spray Cleaner	ND	-.28(1)	3.28	.260
Oven Cleaner	ND	-.15(1)	3.27	.272
Laundry Bleach	ND	-.16(2)	3.26	.220
Club Soda	ND	-.04(2)	2.88	.232

Spearman Rank-Order Correlations Between Objective Price-Quality and Alternative Perceived Price-Quality Measures

	Perceived Price-Quality Measure	
	Single-Item Measure ^a	Phi Correlation Measure
For all product categories (n=18)	.18	.29
For durable products only (n=9)	.05	-.05
For nondurable products only (n=9)	.58	.47

^a Results reported by Lichtenstein and Burton (1989), Study 3

DISCUSSION

The purpose of the research was to attempt to replicate some of the results reported by Lichtenstein and Burton (1989) using a dissimilar alternative measure of perceived price-quality. It has been argued that greater value should be placed on replication studies in marketing research (Sawyer and Peter 1983). Given the newness of the attempt to integrate the objective and perceived price-quality research streams, the potential importance of this integration, and the use of single-item measures of price-quality perceptions in the previous research effort, a replication using this alternative measure was viewed as worthwhile.

Specifically, this study used a phi correlation measure to (1) assess the accuracy of consumers' price-quality perceptions and (2) determine if the

accuracy of these perceptions is moderated by the type of products being judged. Results using the alternative phi correlation were consistent with those reported by Lichtenstein and Burton (1989), where single-item perceived price quality measures were used. As suggested by the previous findings, there appears to be a positive, but not strong, correlation between the perceived and objective price-quality relationships (Spearman $r = .29$ using the phi correlation measure). Also, given that these perceived and objective price quality relationships were greater for nondurables than durables (.47 and -.05, respectively), results suggest that consumers may hold more accurate price-quality perceptions for nondurable products than for durable products. Some limitations of the study, implications of the results, and directions for future research are addressed in the remainder of this section.

Limitations

In this study, we wanted to assess the comparability of results using a very different measure from the single-item measures of perceived price-quality previously employed (cf., Peterson and Wilson 1985; Lichtenstein and Burton 1989). While the individual-level phi correlation measure is viewed as being quite different, this measure has some limitations. First, use of this measure may result in the violation of some statistical assumptions. For example, the within-cell responses are not independent and the fixed row marginals and marginal totals (i.e., row marginals equal 5 and marginal totals for each product class equal 10) affect the number of possible correlations and thus the shape of the underlying distribution. Such problems lead to questions concerning the normality of this underlying distribution. Also, any column marginal equal to zero results in an inadmissible algebraic operation, leading to a greater number of missing values than would be obtained from most other measures. These problems may limit the usefulness of this measure in most contexts, but given the goal of this research (i.e., to see if these results were comparable to those using the single-item measures), these problems were not considered devastating.

Other measures of price-perceived quality relationships could have been employed. For example, Lichtenstein, Bloch, and Black (1988) asked respondents to evaluate a \$75 pair of running shoes in relation to a \$35 pair of running shoes across four individual product attributes. However, employing such a measure here would have been problematic for a couple of reasons. First, requiring respondents to rate 18 product categories across multiple attributes would have represented a demanding task. Second, questions about how to combine individual attributes to be comparable to a single price-quality measure would have also presented problems. Future research may examine the equivalency of such measures on a reduced set of product categories.

To assess the accuracy of price-quality perceptions, some measure of the "true" relationship between price and quality must be used. Objective quality ratings from *Consumer Reports* were used to evaluate the accuracy of price-quality perceptions. The validity of the concept of "objective quality ratings" rests on the premise that attributes and attribute weightings used by expert raters (e.g., *Consumer Reports*) to judge quality reflect tastes and preferences across consumers. The validity of any general quality rating scheme may be questioned because individual tastes and preferences vary across consumers (Hjorth-Anderson 1984).

In response to the position of Hjorth-Anderson, Curry and Faulds (1986) contend that as long as the attribute weights used between different possible rating schemes are *ranked* similarly, and attributes within a brand are positively correlated, rating scales are not affected substantially by the absolute values of the weights. There is also much support among other researchers for use of *Consumer*

Reports ratings as appropriate measures of objective quality (Gerstner 1985; Oxenfeldt 1950; Riesz 1978). While further discussion of this issue is beyond the scope of this paper, interested readers are encouraged to refer to the arguments of Hjorth-Anderson (1984, 1986), Curry and Faulds (1986), and Sproles (1986).

In testing hypotheses in this replication, a traditional statistical significance criterion (i.e., $p < .05$) was not used. Because sample size is equal to the number of product classes ($n=18$), the power associated with statistical tests of hypotheses is low. Sawyer and Peter (1983) have argued that there is often an overreliance on statistical significance to the exclusion of descriptive statistics of effects size and the use of study replications. In this replication study using an alternative measure of price-perceived quality, similar results were found to those reported by Lichtenstein and Burton (1989) where four different samples of respondents were used. Given these generally consistent results across five studies, in our opinion strict reliance on a .05 level of significance would fall into this category of "overreliance on statistical significance." Also, similar procedures are generally followed in price objective quality research where small sample sizes lead to levels of significance below conventional standards (cf., Curry and Riesz 1988.) However, other researchers may wish to test these postulated relationships across a larger set of product categories where there would be greater statistical power.

Implications for Marketers and Consumer Advocates

Taking all other market factors as constant, the findings from this study suggest that production of a low cost, low quality durable product which is sold at a high price may be the basis of a successful marketing strategy. Considering evidence that suggests that consumers do not generally engage in much search, even for expensive items (Gerstner 1985), and assuming that segments that routinely use price as an indicator of durable good quality are of sufficient size, the large profit margins per unit sold may make the high price - low quality option an especially attractive strategy for certain consumer segments. Furthermore, it may be argued that as long as the product is not below some minimum quality threshold (i.e., the product performs its basic function for some reasonable period of time), consumer purchasers may interpret the product's performance as "confirming" prior beliefs (cf. John et al. 1986).

While the above scenario ignores the complexities of the competitive marketplace, it nevertheless presents a grim picture of marketers operating in a "let the buyer beware" environment. Results indicate that consumer advocates may wish to play a more active role in disseminating information concerning studies on the relationship between price and objective quality. Similar suggestions have been made previously. For example, Beales et al. (1981) have suggested that

more research is warranted on how information from unbiased, third-party sources can be formatted and disseminated to consumers at low cost (including nonmonetary as well as monetary costs). This, itself, may likely require additional research on supplying information in a format consistent with consumer decision-making, and/or research on modes of disseminating the information (e.g., advertising, retail stores, newspaper articles, computer "bulletin boards"). The recommendations of Beales et al., considered in conjunction with findings from this research, suggest that because of the variance in the relationship between price and quality across product categories (for both durables and nondurables), consumers should be made aware that using a stored rule (i.e., high price is always associated with high quality) to assess price-quality relationships will not result in consistently accurate perceptions. Consumer advocates and policy-makers may encourage consumers to evaluate price and quality on an individual product category basis, and inform consumers that if quality received for the price paid is important, information from test report magazines should be obtained.

Areas for Future Research

The impact of product knowledge on the propensity to make price-quality inferences is an area worthy of empirical investigation. Rao and Monroe (1988) recently provided evidence that highly knowledgeable consumers used price as an indicator of quality to a greater extent than did moderately knowledgeable consumers for a product that had a positive price-objective quality relationship. However, no product classes possessing negative price-objective quality relationships were employed. Although logic would dictate that the use of price as an indicator of quality by more knowledgeable consumers was based on knowledge rather than on an inference, it has yet to be empirically demonstrated that consumers with product knowledge hold more accurate price-quality perceptions than consumers without such knowledge. In fact, although hypothesized in the context of their specific experimental design, consumers with low knowledge actually held the most accurate price-quality perceptions for the product category. Presumably, this was because they were operating on a price-quality *inference* and the product used in the study happened to have a positive objective price-quality relationship. Future research may use similar designs but include products possessing negative price-objective quality relationships to aid in the interpretation of results.

Research may examine other potential moderators of price-quality perceptions and price-objective quality relationships. Measures of the number of brands researched and tried, social relevance of the purchase, product and purchase involvement, perceptions of product similarity, and perceived risk, may impact the propensity to use price as an indicator of quality (Alpert 1971), and further, the accuracy of price-quality perceptions. Also, the ability of consumers to assess price-

quality relationships accurately under controlled conditions where they are provided with detailed information about prices and objective quality of various brands in specific product classes would be of interest. Such future research appears warranted because of the potential implications of results for both marketers and policy-makers interested in consumer welfare.

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Tipping as a Consumer Behavior: A Qualitative Investigation

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ABSTRACT

The present study investigated the consumer behavior of tipping in the restaurant context. The methodology involved depth interviews with waitpersons in a representative sample of restaurant categories (diners, four star restaurants, etc.). Tipping was perceived to be a function of individual factors of the consumer, quality of service provided, and situational factors. Knowledge of the tipping custom was perceived as the primary individual factor that affected tipping behavior. Quality of service was discussed in terms of actual service provided and rapport with the customers that enhanced the dining experience. Situational factors included size of party and perceived social pressure to tip well in front of others.

These exploratory findings will lead to future qualitative and quantitative research on this neglected consumer behavior.

INTRODUCTION

The custom of tipping is very prevalent in American culture, as it is in many other cultures. In spite of this, there has been little academic work on the custom; virtually none has appeared in the consumer behavior literature. The custom of tipping is of potential interest, however, for a variety of reasons. First, tipping represents a direct exchange between the consumer and the service provider. The act of tipping does, therefore, represent a consumer behavior and one in which almost everyone engages at some time. Secondly, tipping represents the major source of income for individuals in many service industries, therefore, it is a consumer behavior of enormous importance in the economy.

The third and perhaps most important reason why tipping should be an area of research activity relates to the inherent uniqueness of the behavior. Tipping is one of the few areas of the economy where the exchange is dictated by informal rules of custom rather than explicitly stated procedures. While there are certainly other instances where informal rules dictate the exchange (e.g., the interchange at a swap meet (Belk, Sherry and Wallendorf 1988; Sherry 1988) or the purchase of a used car), these tend to be less prevalent than tipping. For most goods and services, the rules of exchange between buyer and seller are clearly known by the participants. Prices are ordinarily stated explicitly and the time and method of payment are known. In contrast, the custom of tipping is guided by informal rules and norms. While suggested amounts of tips and who should be tipped are indicated in books on etiquette (Post 1975) and on tipping (Star 1988), these are particular individuals' perceptions of the custom and many people are unaware of these sources.

Tipping is also unique as a consumer behavior because the payment for a service is set by the consumer rather than the service provider. While the informal rules suggest an amount or percentage to tip, how much to tip is still the choice of the consumer. Therefore, price, which is often used as a cue to quality for most services (Zeithaml 1981), cannot be used for tipped services since the consumer determines the price of the service.

For these reasons, tipping represents a viable and interesting area of study for consumer behavior. The current study will present some of the literature on this custom as well as an analysis of interviews conducted with waitpersons in the restaurant industry. These interviews represent preliminary findings of the current authors' research program in progress. While the analysis of these interviews leads to tentative conclusions, they are also considered by the authors to be a first step towards more qualitative and quantitative work.

The Origins and Prevalence of Tipping

The origins of the custom of tipping are not entirely known, although the custom dates back to at least 18th century England where boxes were placed in inns and coffee houses in which people could place coins (Lynn and Latane 1984). Signs affixed to the boxes stated "To Insure Promptness," thus the supposed origin to the term "tip." Star (1988) indicates that the custom may date back to early Rome. If one equates tipping to a type of a bribe for special attention (in some countries, the same word is used for tipping as for bribing, Shamir 1984), it is indeed likely that some form of the custom has been around for as long as people have used money as a method of gaining special attention.

Tipping likely evolved as a bonus to wages, provided in an effort to garner better service. In this sense, it was a small bribe that was accepted by servants who were otherwise poorly paid. Over the years the custom has become more formal, although far from having the explicit rules of other areas of the economy. As etiquette books developed, such rules were recorded and presented in a manner to suggest that tipping is a proper behavior for cultured individuals. Furthermore, as services have become more prevalent, tipping has become recognized as a method of payment for many service employees and therefore not considered the "bonus" that it once may have been.

Tipping is relatively prevalent in the United States and books on etiquette have, through the years, indicated the degree to which someone should tip in various situations. The earliest book on etiquette by Emily Post (1922) mentions that a

waiter should be tipped about ten percent. Later books by Post indicate levels of tipping for different situations (e.g., how much is tipped in a smorgasbord restaurant) and that 15 percent is the appropriate amount in a typical restaurant situation. Indeed, an examination of the books on etiquette since Post's first book indicates a degree of formalization of the custom in our culture with the rules having become more explicit in recent years (Post 1922; 1931; 1945; 1975; Towne 1939). The 1975 edition of Emily Post's book includes a separate chapter devoted to tipping in a variety of situations.

Literature Review

There is a paucity of research on tipping considering the prevalence of the custom and the research that does exist is spread rather thinly across several disciplines, primarily sociology, organizational behavior, and psychology. In general, the focus of sociological and organizational research has been on the employee in the exchange relationship and his or her perceptions of the job (satisfaction, autonomy) as a function of this form of payment. William Foote Whyte's (1948) extensive study of the restaurant industry indicated that tipped employees tended to believe that the custom was responsible for their feelings of inferiority relative to the customer. Analysis of the sociological literature by Shamir (1984) confirms this perception of status difference by tipped employees. Research by Butler and Skipper (1980, 1981) showed that waitpersons were more satisfied with the tipping arrangement when they were provided with autonomy by the organization for which they work. The less control employees had over their work situation and the more surveillance exerted by management, the less they were satisfied with tipping as a method of payment.

A study by Shamir (1983) investigated job satisfaction, perceptions of the relationship between performance and pay, attitudes toward customers, and role conflict among tipped employees and those not receiving tips. It was found that tipped employees perceived a greater relationship between pay and their performance compared to the perceptions of non-tipped employees. Shamir also discovered a greater tendency among tipped employees to take the perspective of the customer and to perceive more conflict between the demands of customers and the demands of management. He speculated that this relates to the direct reliance of the tipped employee on the customer for their pay.

Psychological investigations of tipping have tended to use tipping as a dependent measure in field experiments with the intent of lending ecological validity to phenomena previously investigated in laboratory settings. Seligman, et al. (1985), for example, investigated the link between attributions and subsequent behavior, finding that persons believing that a late delivery of a pizza was the responsibility of the delivery person tipped the delivery person less than those who were led to

believe that the late delivery was caused by factors beyond the control of the delivery person.

Several have investigated group size and tipping behavior (Lynn and Latane 1984; Snyder 1976), finding that the larger the party, the smaller the tip on a per person basis. This phenomena was explained as diffusion of responsibility (the more people present, the less responsible each feels for the tip, Lynn and Latane 1984) and equity theory (the larger the party, the less energy a waitperson has to expend on each person at the table, Snyder 1976).

Lynn and Latane's (1984) study related tipping to numerous other factors in addition to group size. These authors found that tipping was related to customer's gender (men tipped higher than women), method of payment (credit card customers tipped higher than those paying cash), and per person bill size in some cases (the larger the per person bill size the smaller the percentage tipped on the total bill, although this differed as a function of type of restaurant). Tipping was not found to be related to the atmosphere or food of the restaurant, the waitperson's gender, or the waitperson's efforts, nor was it related to customers' perceptions of service quality. However, other research (May 1978, cited in Lynn and Latane 1984) indicated that tip size was related to the number of non-task visits by the waitperson, although not related to observers' independent ratings of service. In a different line of research, investigators have found that merely touching the customer had an effect on the size of tip received by the waitperson (Crusco and Wetzel 1984; Stephen and Zweigenhaft 1986). These latter studies seem to indicate that tip size may be related to the rapport (visits to the table, touching) between waitperson and customer.

Purpose of the Study

The present study represents an initial exploration of the custom of tipping from a consumer behavior perspective. The academic literature on tipping raises some interesting questions, although this literature does not exist as a coherent body of work on the behavior of consumers. The present authors felt that the subtle aspects of the custom could best be investigated initially through a qualitative study involving individuals who interact most directly with consumers, namely restaurant waitpersons.

The academic literature on tipping and anecdotal information guided the authors in outlining general areas to be investigated. The most general area addressed was the waitpersons' overall feelings about the custom and their receptivity to alternative methods of payment for their services. The interest here was in their satisfaction with the exchange as a consequence of the behavior of the consumers.

Much of the academic literature has dealt with the factors that affect tip size and this was the second area of concern. The literature seems to indicate that characteristics of the customer as well as situational factors (size of party, etc.) affect tip

size and these were addressed in the current study. In general, tip size has not been found to have a strong relationship to service quality. This counterintuitive finding was thought by the authors to need further scrutiny, particularly in light of the findings that suggest that attention by waitpersons (trips to the table, touching) do relate to tip size.

Shamir's (1983) research showed that waitpersons experience a certain amount of role conflict due to their direct reliance on the customer for their pay. Other work has indicated servers are placed in a subservient position relative to the customer which may lead to feelings of inferiority. These findings prompted an interest in waitpersons' relationships with the consumers and this was yet another broad area of concern.

Finally, the authors felt it would be useful to investigate the behavior of waitpersons when they are in the role of customer. Therefore, an additional area of interest related to the tipping behavior of waitpersons when they dine out.

METHOD

Informants

A non-random sample of informants was selected for this project. Restaurant waitpersons were selected such that the following criteria were met: 1) a broad range of work experience (from less than one year of experience to over twenty years), 2) a broad range of age (early twenties to mid forties), 3) a broad sampling of restaurant class (diner, four-star, continental, etc.) and 4) a varied geographic representation (small, medium, and large cities predominantly in the Midwest). A total of thirteen interviews were conducted.

Data Collection and Analysis

Data were collected through personal interviews. The venues for the interviews varied, some occurring in the homes of the informants, others occurring at the restaurant. Audio recorders were used to document the interviews, along with supplemental journal notes made by the authors. The data were then transcribed for subsequent analysis.

Although the interviews were purposeful and positivistic, every attempt was made to keep them as unstructured as possible. Consequently, no set script or series of questions were followed; rather, general topics of interest were pursued. The interviewers did not go into the interview process with specific a priori assumptions or propositions to be tested, but certain areas of inquiry (previously described) were discussed by the interviewers prior to data collection. In order to allow for non-preconceived themes to emerge as well, care was taken to allow the informants the utmost freedom to take the conversation or interview in whichever directions they desired.

General standards for the analysis of qualitative data were followed. It should be noted that the analysis of this type of data is not a distinct process completely separable from data

collection, but occurs continually throughout the collection process. The primary analysis involved thematic interpretations based on the collected interviews. These interpretations resulted initially from individual analysis of the transcribed data, followed by a discussion among the interviewers of emerging patterns and themes. Once patterns and themes were identified, they were assembled and a search for contradictions to these findings was conducted. Judgments were then made as to whether the themes were strong enough to stand alone; if they weren't, they were rejected.

RESULTS AND DISCUSSION

The interviews with restaurant employees yielded a rich body of data. The current discussion will deal primarily with themes that relate to the behavior of the consumer and the attitudes and behavior of the waitpersons that have a direct bearing on their relationship with the consumer. These themes are classified by the general headings that follow. (Some themes dealt with the waitpersons' relationships with management and these will not be presented here).

Waitpersons' Shared Culture

It was apparent from the interviews that tipping is something that virtually every tipped employee in the restaurant business thinks about a lot and discusses with fellow employees. As many said, it will often be the topic of conversation during breaks or after work. Consequently, there was a great deal of consistency across interviews in terms of what was discussed. It is unclear therefore, to what extent any individual informant's comments reflect his or her own observations versus a report of these shared beliefs. Most informants admitted that conversation often centered on the tipping behavior of various customers, and also admitted to making certain value judgments about the customer based on the size of the tip. It is important to note, however, that many of the respondents would tell the interviewers of a shared belief, then explain how their own experiences have deviated from this folk wisdom. This was particularly true of their beliefs about what kind of customers tip well.

It is ironic that tipping is constantly on the mind of restaurant employees and is discussed among them frequently, yet it is rarely discussed with customers. To a great extent, the custom seems to dictate that one cannot directly confront a customer about a bad tip. Also, it was evident from the interviews that most restaurants have a stated or unstated policy concerning this. Even if not restaurant policy, the employee culture dictates that they not talk about tips with customers. Therefore, one side of the exchange, the service provider, thinks about tipping a lot, yet is powerless to "educate" the other party in the exchange, the customer.

Factors Affecting Tipping

The informants indicated that they believe several factors affect the amount tipped. The

waitpersons interviewed tended to perceive the amount of their tip to be a function of the customer (some people simply tip more than others) as well as a function of their own performance. Therefore, contrary to previous findings, waitpersons believed the quality of service does affect tip size. Further, situational factors were seen as playing a significant role in the size of the tip. Informants indicated that the same person may tip differently in various situations. For example, a person may not tip well when alone, yet tip a greater percentage when with others.

Beliefs About Customers

According to the informants, there are stereotypes about kinds of restaurant patrons in terms of who are good tippers and who are not. This seems to be a part of the folk wisdom among the people in the industry. For example, it is generally held that a table of older women are the worst tippers. What is interesting, however, is that in spite of these shared stereotypes, most waitpersons indicated that one never knows who is going to tip well. They indicated that they may size a customer up when he or she sits in their station, thinking about the kind of tip they will get from the individual or party. Many mentioned that they were often surprised. For example:

Interviewer: "Are there any rules of thumb that you can use to determine if someone is going to be a good tipper?"

Informant: "No, you'd be surprised. It's something that we talk about at the restaurant occasionally. That you can't ever peg a customer. And you really shouldn't try to because you'd be surprised in the end who's going to tip and who isn't. And sometimes by stereotyping or pegging, you end up getting the kind of tip you expected because subconsciously or consciously you end up giving worse service because you expected it."

The respondents tended to attribute poor tipping on the part of someone to a lack of knowledge. Therefore, even if they believe one of the stereotypical beliefs, such as gender and tipping, they attribute it to people not knowing any better. Several informants, for example, mentioned that older women do not tip well because they are used to their husbands paying, however, younger working women tend to be good tippers.

This lack of knowledge on the part of many customers is obviously a point of frustration for tipped employees. Many indicated that customers simply do not understand that waitpersons are paid less than minimum wage and must rely on the tip as income. They are often frustrated because they have little recourse if they are not tipped well. This indicates that tipping has evolved from being a "bonus" for extra service to the main source of income for these employees.

Relationships With Customers

Contrary to earlier findings, informants did not seem to view tipping as reflecting any status difference between them and the consumer. While they may at times feel inferior to the customer, it does not appear to be the case that tipping *per se* causes this feeling. This finding is inconsistent with previous research. This inconsistency may be related to the increase in services in our culture. To serve or wait on someone in a business establishment is more prevalent than in previous years. Furthermore, it is likely that individuals who are tip recipients have higher status now than forty years ago when Whyte was engaged in his project. There are fewer class distinctions with the burgeoning middle class. Restaurant employees include students on their way towards another profession, as well as aspiring actors and actresses, etc. Moreover, our interviews tend to show that waitpersons perceive the tip as their pay rather than an act of a superior to an inferior.

Another aspect of waitpersons' relationships with customers that was apparent from the interviews is that tipping places them in a liaison position between customer and management. This seems to be true since their pay is directly dependent on their relationship with the customer. This is consistent with the findings of Shamir (1983) who found role conflict among tipped employees. It is clear that waitpersons act as advocates for customers on occasions such as returning food or getting something taken off the check if the customer did not like it. This liaison or "middleperson" relationship is evident from the following:

"It's like now you're a sub-contractor, you know, you go in and work for this guy but you really have your own little business in there and how well you do is a reflection of your ability at your job . . ."

"The service person is the link between that customer and the cook and management and it's their job to make sure that person's satisfied. So if something happens in the kitchen to screw things up then people should be compensated in some way, you know, they shouldn't be expected to pay for inferior food, and if they fail in that responsibility, if they fail to make amends for shortages elsewhere then they haven't been doing their job and consequently, if the tip suffers, it's understandable."

Quality of Service and Tipping

Informants indicated that quality of service would decline if tipping was replaced by another method of payment (e.g., a flat service charge, higher wages). That is, they believe that the amount of effort and enthusiasm that is put in the job by waitpersons is, to some degree, related to the incentive of the tip. Furthermore, they seemed to believe that customers have a right to this control

and customers should be able to pay as a function of the service that they receive.

Respondents also believed that the size of a tip is related to quality of service provided. It is interesting to note, however, that service was defined by respondents in a couple of different ways. On the one hand, service quality was discussed in terms of anticipating customers needs, keeping the water glasses filled, etc. On the other hand, good service was often equated with rapport with the customers. Service was frequently discussed in terms of smiling, being pleasant, and friendly. For example:

"Probably the biggest thing is being friendly overall. Because even if I'm really busy and I don't spend as much time as I should, as long as you're really friendly then they are more willing to forgive you."

". . . because their perception of service and the personal interaction that is going on between you and the table, how much you can entertain them and make them feel comfortable, different customers have different ideas of what they want from the waiter. Some waiters are very good at entertaining a table . . ."

This is interesting, in light of the findings of May (1978, cited in Lynn and Latane 1984) mentioned earlier. May found that tips were related to non-task trips to the table but not to quality as rated by independent observers. It appears that waitpersons seem to know that enhancement of the total dining experience is related to tip size and they seem to define general attention and rapport as an aspects of service.

Although not mentioned by all respondents, there seemed to be a sense that customers would not necessarily tip less in cases when the restaurant got busy and the waitperson could not be as attentive. Some mentioned that customers would sometimes tip better in these instances because they felt a certain empathy for the waitperson.

The Waitperson as Customer

The individuals who were interviewed were asked about their own tipping behavior when they are a customer in a restaurant. A clear finding is that people who are waitpersons are good tipppers. This is probably the case for several reasons. Since they are in the industry, they may empathize with similar others. Also, there is a good chance that they may know their waitperson personally since people in the industry socialize a lot with others in the business. Further, informants generally admitted to making value judgments about customers based on how much the customer tipped. It is likely that the waitperson is acutely aware of this when they are a customer and want to be looked upon favorably by their server. Most informants said they would tip 20 percent or more in the general case. Most also said that they would never go below 15 percent even

if the service they received was extremely poor. In spite of this floor of 15 percent, most felt that they usually tipped as a function of the quality of service that they received.

SUMMARY AND CONCLUSIONS

Tipping is an exchange between consumer and service provider that is guided by informal rules and custom. It appears that those who occupy one side of this exchange relationship, the waitpersons, feel that many who occupy the other role, the customers, do not understand the rules, since these rules are not explicit. The waitpersons, on the other hand, are part of a culture that considers and discusses the custom at length and these discussions pass on the shared beliefs and folk wisdom about the custom and about customers.

Consistent with previous findings, the custom of tipping helps place the service provider in a liaison position between restaurant management and the customer. While the service provider represents the restaurant to the customer, he or she also acts as advocate for the customer if something is not correct with the meal. Most waitpersons believe that the customer and service will suffer if the system of payment is changed to higher wages or a service charge.

People in the restaurant business believe that the amount they receive for their service is a function of aspects of the consumer, perceptions of service quality provided, and situational factors. In general, while stereotypes exist about different customer groups, waitpersons seem to believe that the causal variable related to individual differences is *degree of knowledge of the tipping custom*. Quality of service is perceived to be a matter of actual service as well as rapport with the consumer. Situational factors include who is present with the paying customer (e.g., whether the tip is a method of impressing someone) and the number of people present at a table.

Future research will investigate the consumer behavior of tipping in more detail and will include surveys of consumers and service providers. Particular areas of interest are how consumers define service quality, the extent to which consumers are knowledgeable of tipping protocol and what factors consumers identify as most important in determining tip size. The authors are also interested in individual difference variables that may mediate tipping behavior. A cross-cultural investigation of tipping as custom is also planned.

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Consumer Market Beliefs: A Review of the Literature and an Agenda for Future Research

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ABSTRACT

Consumer market beliefs are an important and under-researched construct in consumer research. It is argued that strongly held market beliefs serve to simplify consumer decision making by directing search and evaluation activities. The paper explicates the construct of market beliefs and reports findings from an empirical study which illustrate popular market beliefs. Future research directions are then outlined.

INTRODUCTION

Consumer researchers have adopted various theories of cognition and information processing to describe consumer decision making behavior. In most of these theories, consumers are portrayed as information gatherers and integrators whose judgments result from movement through a series of cognitive stages (e.g., attention, encoding, memory retrieval, etc.). A frequently reported finding is that decision minded consumers process information sparingly (e.g. Hogarth 1980; Bettman 1979); memory retrieval is selective and external search and evaluation efforts are influenced by considerations of efficiency and past effectiveness. One construct which helps explain how consumers simplify their processing activities is prior beliefs.

Prior beliefs, as used here, are general opinions that are formed from experience and used to reduce complex judgments to simpler cognitive operations. One characteristic of prior beliefs is that they vary in their specificity and the manner in which they are employed. Thus Tversky and Kahneman (1973, 1974) have identified a relatively small number of broad-based prior beliefs, in the form of judgmental principles or heuristics, which are applicable across a wide range of decision settings. Decision makers, for example, may reveal a belief in local representativeness: they rely on results from small samples to be valid indicators of entire populations (Tversky and Kahneman 1971). Adherence to this "law of small numbers" belief may influence information processing behavior, especially in discouraging elaborate pre-decision search.

Other prior beliefs operate at a more detailed level. In contrast to the general purpose heuristics identified by Tversky and Kahneman, more context-specific beliefs are applied in particular decision environments. Thus, a baseball manager relies on the strategy, "When behind in the ninth inning, it's best to go for the tie at home and the win on the road." Similarly, a business employer may believe that a job applicant's professionalism is indicated by the neatness of her attire. Even the student, when confronted with a multiple choice exam question resorts to the rule that "Statements containing extreme words such as 'always' or 'never' should be marked false" (Sherman and Corty 1984).

This paper addresses the role that context-specific prior beliefs play in still another decision environment, the consumer marketplace.

The purpose of this paper is to stimulate additional interest in prior market beliefs as a potentially valuable construct for explaining consumer decision behavior. The paper begins with a definition of prior market beliefs (hereafter referred to as "market beliefs") and a discussion of some of their basic characteristics. Theoretical and empirical contributions from previous research in the area are reviewed. Some preliminary empirical findings are then reported and an agenda for future research is proposed.

CONSUMER MARKET BELIEFS

In the marketing literature, beliefs typically have been conceptualized in narrow, object-attribute terms: beliefs are linkages between a particular brand and specific brand attributes, i.e., "consumer k's belief as to the extent to which attribute i is offered by brand j" (Wilkie and Pessemier 1973, p. 429). However, as Duncan and Olshavsky (1982) point out, not all consumer beliefs are of this kind. Beliefs may also express more generalized associations--between classes of objects (e.g., buyers, products, vendors), between product attributes (e.g., price, quality), and as notions about how the marketplace operates over time (e.g., competition, change).

Market beliefs, then, are defined as intermediate level beliefs which convey information about the association between independent market concepts (adapted from Kendler 1968, p. 579). They are more specific in context than judgmental principles; yet, more general in their application than brand-attribute beliefs. They assume more than one type or function. Many market beliefs appear as simple decision rules, incorporating product or store cues as surrogate indicators of more complex information. Other beliefs are expressions of opinion about the shopper's own abilities as a judge, variances in market offerings, or keys to success in the marketplace (Duncan and Olshavsky 1982). Examples of specific market beliefs include: "Smaller stores charge more for the same brands than larger stores," "More heavily advertised products are more expensive to buy," "Products in end-of-aisle displays are usually on sale," "Sales people always push their most profitable items," "I am a poor judge when it comes to evaluating technical products," and "In general, warranties are worthless."

Consumers use market beliefs because they provide focus. They encourage the individual to selectively attend to specific aspects of the information environment. In doing so, they reduce decision complexity and enable the decision maker to make judgments more quickly and with less

cognitive effort than if a more thorough analysis were undertaken (Sherman and Corty 1984).

Consider an individual searching for a new compact disk player. Assume that this shopper holds the following market beliefs: "In most product categories, the top brands are all about the same," "Price is rarely a reliable indicator of product quality," "Advertising costs are passed on to buyers in the form of higher prices," "The longer a product's warranty, the more dependable it is," and "It's always a good idea to stick with brands you know." In combination, these beliefs can be expected to shape and simplify the buyer's information processing task. As he begins his decision making process, he will probably scan memory for information on brand familiarity and brand advertising. He is likely to search for and selectively attend to specific external cues: top brand names, relative prices, and product warranties. Finally, he will evaluate alternatives by considering the top brands, shying away from those perceived to be most heavily advertised or highest priced, and identifying ones offering longer warranty periods. Additional strongly held beliefs such as "Foreign manufacturers are superior to American firms in electronics and high technology product categories" and "High volume stores offer the best deals" may serve to constrain his problem space still further.

This illustration is simplistic, of course. Market beliefs are typically not the only influence or even the most important influence on consumer information processing behavior. Nevertheless, such beliefs appear to play a key role in explaining how buyers cope with information complexity by relying on experience-based opinions and biases to collapse the choice process. The illustration suggests some other general characteristics of consumer market beliefs:

1. Each consumer subscribes to a large number of market beliefs, although only a few may be salient for a given decision.
2. Individual market beliefs vary in their universality. Some beliefs are widely shared ("Price is a reliable indicator of quality") while others are idiosyncratic ("Large corporations are politically corrupt and their products should be avoided").
3. The salience of market beliefs and the confidence with which they are employed are situationally dependent.
4. Market beliefs can be employed individually and in combinations. Combinations of beliefs are often hierarchical in nature, where one belief is built on another ("Firms with the best products sell the most"... "Firms that sell the most, make the greatest profit"... "Profitable firms do more advertising"... Therefore, "Firms which do

the most advertising, sell the best products.")

5. Market beliefs, once formed, are resistant to change.

PAST RESEARCH

A growing number of studies in consumer behavior have found empirical support for the notion that prior knowledge influences information processing behavior (Bettman and Park 1980; Kardes 1986; Park 1976; Park and Lessig 1981; Rao and Monroe 1988; Srull 1983). Although prior knowledge can take different forms in memory (Hastie 1981; Hayes-Roth 1977; Rummelhart 1981), much of the previous research has looked at the effects of knowledge level, where amount of knowledge is measured in terms of either perceived or objective product knowledge. Thus, Alba (1983) reported that subjects high on self-reported knowledge could recall from memory significantly more product information than less expert subjects. Johnson and Russo (1984) found support for an "inverted U" relationship between degree of subjective product familiarity and total amount of new product information recalled. Finally, Brucks (1985) reported level of product class knowledge to be positively related to a third dimension of information processing activity, variability of repurchase search.

Market beliefs represent another aspect of a buyer's knowledge structure. Although level of knowledge has been linked to the formation of market beliefs (Park and Lessig 1981; Rao and Monroe 1988), relatively few studies in consumer behavior have focused on the impact of market beliefs on buyer decision making. The present review of this literature identifies three distinguishable research approaches.

The first approach includes studies which have investigated specific market beliefs relating to the evaluation of hidden product benefits. Economists have long observed that, in imperfect information markets, buyers will use prices to signal level of quality among unfamiliar alternatives (Sciotvsky 1945; Wolinsky 1983). In marketing, a number of researchers have confirmed that consumers frequently do subscribe to a "price is a reliable indicator of product quality" belief (e.g., Enis and Stafford 1969; Gardner 1970; Monroe 1976; Olson 1977). Inferences of product quality have also been linked to level of seller's advertising expenditures (Salop 1978), market share (FTC Publication 1979), product warranty (Kelley 1988; Priest 1981; Wiener 1985), brand image (Allison and Uhl 1964; Gardner 1971; Jacoby, Szybillo, and Busato-Schach 1977), length of time in business (Beales et al. 1981), and country of manufacture (Lillis and Narayana 1974). Olshavsky (1984) has tied the use of such surrogate-based beliefs to decision making, identifying them as one of five consumer preference formation behaviors which can ultimately affect brand (or store) choice. He contends that adoption of a surrogate-based preference formation strategy may

reduce search by causing the buyer to focus on cues in lieu of other available information. One correlate of this argument is that the more reliable the surrogate is perceived to be, the less search and evaluation effort the decision maker will expend.

A second, related research stream has also dealt with surrogate-based market beliefs but is narrower in its emphasis. Here, researchers have focused on a single market belief, "price is positively related to quality," to investigate how beliefs may be formed and, once formed, how they may impact on patterns of information search and evaluation. Borrowing from work on the judgment of covariation by social perceivers (Crocker 1981), Bettman, John, and Scott (1984, 1986) identified covariation beliefs as one type of prior market belief. Covariation beliefs "refer to those beliefs regarding the degree of relationship or association between two events or concepts" (1986: p. 316). They are learned through the processes of hypothesis-testing and assessment of covariation (Crocker 1981). The hypothesis-testing model suggests that consumers develop notions about market relationships, prototypical products, effective buying strategies, and so forth. For example, after observing friendlier service in stores which are smaller in size, an individual may hypothesize a relationship (recognize a covariation) between service and store size. According to the model, the consumer will assess the adequacy of the hypothesis by sampling and interpreting additional information. He will revise the hypothesis if necessary and use it to guide behavior only as it becomes validated.

In a study that investigated the price-quality relationship as a covariation belief, John, Scott, and Bettman (1986) reported that subjects who believed that price was positively correlated with product quality tended to sample higher priced products than subjects who did not subscribe to the belief. These findings, and subsequent work by Grimm and Agrawal (1988), indicate that the hypothesis testing process is biased; the content of prior surrogate-based market beliefs has a systematic effect on subsequent information search patterns.

A third approach to the investigation of market beliefs was taken by Duncan and Olshavsky (1982). These authors conducted a survey of 164 recent color TV purchasers in an attempt to (1) identify a diverse set of commonly held market beliefs and (2) find empirical support for hypothesized associations between specific belief endorsements and types of information seeking behavior. Twenty-seven market beliefs were isolated. They varied in content from "benefits of search" and "attribute surrogate" items to beliefs pertaining to perceived "variance of offerings" in the market. Eleven of the 27 beliefs were classified as "alternative limiting" in function. The authors hypothesized that all 27 beliefs would affect *amount* of information search for a new color TV set. Alternative limiting beliefs were those beliefs which were expected, a priori, to have a significant impact on the *type* of brands or stores considered during the

decision process. It was through their influence on size and composition of the buyer's consideration set that alternative limiting beliefs were expected to reduce total amount of information seeking.

Bivariate correlations between market belief endorsements scores and extent of search were found to be statistically significant (in the predicted direction) for 15 of the 27 belief items. Although regression analysis revealed only five of the 27 beliefs to be significantly related to extent of search, the model explained 50% of the variance in prepurchase information seeking among the color TV buyers. Finally, five of the 11 alternative limiting beliefs influenced type of brand and store actually patronized.

Duncan and Olshavsky described their findings as "encouraging" and called for additional research in a number of areas. Perhaps most pressing in their view is the need to generate a more comprehensive inventory of market beliefs of all types.

MARKET BELIEF ITEMS: ADDITIONAL EMPIRICAL FINDINGS

A research program is currently underway to broaden and extend previous findings on market beliefs. An initial phase of this program involves the generation of a more comprehensive list of consumers' market beliefs. Selected preliminary findings from this research are presented here.

Data were collected from a convenience sample of nine individuals living in a medium sized city in the western United States. Participants were either personal acquaintances of the project team or individuals solicited through an advertisement for study volunteers. Respondents included five men and four women, all between the ages of 21 and 55 and from different households. All participants were aware that they would receive \$20.00 for their involvement in the study. At a prearranged time, an interviewer met with each of the participants in his (her) home to explain the purpose of the study, define terms (e.g., "market beliefs"), discuss study procedures, and answer questions. Participants were given written instructions and a response form to guide their activities.

Participants were given one week to complete their tasks. Instructions to individual respondents varied, although each included both a "shopping experience" and a "scenario response" component. One purpose of the study was to test different data collection approaches to identify methods which are most effective in encouraging individuals to reveal their market beliefs. The shopping experience task required respondents to engage in an actual shopping visit to spur their thinking about beliefs. During the week, each person was asked to (1) visit and examine merchandise in either a shopping center or two different types of stores, and (2) record as many market beliefs as possible (while on site and later at home).

After a reminder phone call at mid week, a second meeting was arranged. At this time, the interviewer reviewed each participant's recorded

entries, requested clarifications, and obtained feedback on the procedure. The interviewer then asked the respondent to listen to and then react to one of three decision scenarios. The purpose of this part of the interview was to probe for additional market beliefs not elicited from actual store visits. Each scenario involved a different hypothetical decision task (e.g., a stranger, who for some reason specified in the scenario, knows nothing about shopping, products, or stores, and seeks advice and useful guidelines on how to understand the marketplace and make effective buying decisions). Upon completion of the scenario response task, respondents answered questions on demographic variables and received payment. Interview sessions lasted between 60 and 90 minutes.

Analysis of findings produced over 150 items which were interpreted to be market beliefs. A subset of these items, grouped into descriptive categories, is shown in the Table. Many of the beliefs take the form of surrogate-based opinions expressing a relationship between an external product (store) cue and some benefit or quality (e.g., "The more sales people there are in a store, the more expensive are its products"). Other beliefs communicate buyer convictions about his (her) own ability as a shopper, the benefits and advisability of search activity, and preferred shopping strategies. In some cases, items are shown in combinations to accurately record the respondent's stream of logic (e.g., "When you are not sure what you need in a product, it's a good idea to invest in the extra features. You'll probably wish you had them later." and "It's advisable to stay away from products when they are new to the market. It usually takes the manufacturer a little time to work the bugs out.").

This research also provided useful insights on the strengths and weaknesses of the belief elicitation techniques used in the study. In general, the hypothetical scenarios performed well although specific areas in need of refinement were identified.

DIRECTIONS FOR FUTURE RESEARCH

Thus far, research on market beliefs has been largely exploratory in its approach and more piecemeal than programmatic in its content. This is not surprising. One obvious reason is that the study of market beliefs has not been viewed as a separate, integrated research area. Instead, investigators have focused more narrowly on the examination of screening devices, information signals, and covariation beliefs or more broadly on consumer inferential beliefs and decision heuristics--all of which are related to market beliefs.

The argument for integrating separate research streams under the umbrella of "market beliefs" is more semantic than substantive. The important point is that our understanding in these areas can be improved if common elements of each research area are identified, overlapping terminology and conceptualizations are reconciled and simplified, and a more integrative, systematic approach is taken in future research.

With these thoughts in mind, an agenda for future research on market beliefs is proposed. Six issue areas are identified and briefly described.

Composition of Beliefs and Belief Structures. Results from the empirical study described earlier in this paper suggest that it is possible to identify a large number of market beliefs. However, our interest is confined in those beliefs which are widely endorsed (positively or negatively) and frequently applied in decision making. Future studies should use structured and unstructured response formats to uncover as many additional popular beliefs as possible. Moreover, further work is needed to determine the underlying dimensionality of known market beliefs. A factor analysis performed by Duncan and Olshavsky (1982) on subject endorsements of 27 beliefs produced mixed results. Although belief dimensions emerged (including "ability to judge"), patterns of factor loadings made their interpretation difficult. A priori, we might expect future researchers to find separate and relatively well defined market belief dimensions.

Belief Endorsements--By Whom? Once a collection of popular beliefs is identified, we should determine who holds them and to what degree. Are there distinguishable patterns in the belief structures of different consumer groups? For example, do belief endorsements (and the confidence in those endorsements) correlate with gender, age, education, or other variables?

Effect of Market Beliefs on Behavior. Past findings suggest market beliefs, as part of the consumer's knowledge structure, do exert an influence on information processing and final choice behavior. Future research should attempt to clarify and extend these results. For example, Furse, Punj and Stewart (1984) reported evidence in support of a beliefs-search relationship but were quick to note that "no simple relationship was found between the amount and type of search and such (belief) variables..." (p.424). Similarly, while common sense and limited empirical work suggests that beliefs such as "the best brands are usually the ones that sell the most" and "heavily advertised brands are overpriced" will influence the composition of a decision maker's evoked set and, thus, his evaluation process, additional research is needed to confirm the strength and frequency of these effects.

Conditions Under Which Market Beliefs Are Employed. Consumers appear to apply their market beliefs selectively. What are the circumstances under which market beliefs are more (or less) likely to be used as part of the consumer's decision process? When beliefs are incorporated into a decision, which factors determine the *specific* beliefs that will become salient? Past research has failed to clearly resolve these issues.

Variables posited to influence the use of market beliefs include: level of consumer knowledge (Beattie 1981; Park and Lessig 1981; Rao and Monroe 1988), consumer involvement (Furse, Punj, and Stewart 1984), task complexity and ambiguity (Henry 1980), and stage in the decision process (Bettman 1979). Yet, the manner in which these

TABLE
Selected Market Beliefs

Brand

All brands are basically the same.
Generic products are just name brands sold under a different label at a lower price.
A brand's quality is the most important determinant of its success. Bad brands just don't survive.
The best brands are the ones that are purchased the most.
When in doubt, a national brand is always a safe bet.
In established product categories, brands which have been around the longest are the most dependable.

Store

Specialty stores are a great place to familiarize yourself with the best brands. But once you figure out what you want, it's cheaper to buy it at a discount outlet.
A store's character is reflected in its window displays.
Sales people in specialty stores are more knowledgeable than other sales personnel.
Larger stores offer better prices than small stores.
Stores that sell on a volume basis can afford to charge less for their merchandise.
Locally owned stores give the best service.
A store that offers a good value on one of its products probably offers good values on all of its items.
Credit and return policies are most lenient at large department stores.
Stores that have just opened usually charge attractive prices.

Sales Personnel

In my experience, sales people who work during the day are more knowledgeable than those who work in the evenings.
Customers should always listen to sales personnel with real skepticism.
A good way to judge brands is if sales people in different stores have the same opinion.
Older sales people know more about the products they sell.
The more sales people there are in a store, the more expensive are its products.
Sales people are instructed to push brands that make the store the most profit.

Prices/Discounts/Sales

Better products cost more to make. That's why higher prices usually indicate better quality.
Sales are typically run to get rid of slow moving merchandise.
Stores that are constantly having sales don't really save you any money.
Within a given store, higher prices generally indicate higher quality.
Sales that do not specify pre-sale price levels do not offer any real savings.

Advertising and Sales Promotion

I associate "hard sell" advertising with low quality products.
The most heavily advertised brands are normally among the best brands.
Stores that advertise a lot have overpriced merchandise.
Items tied to "giveaways" are not a good value (even with the freebee).
Coupons represent real savings for customers because they are not offered by the store.
When you buy heavily advertised products, you are paying for the label, not higher quality.

Alternate Distribution Channels

The quality of products that are sold door-to-door is usually quite good.
Buying through catalog is cheaper because you eliminate the retailer's profit.

Ability as a Shopper

I can make pretty good decisions without a lot of running around (search).
One of the best ways to know which brand to select is to look at what everybody else is buying.
Electronic products are changing so fast that I usually have to start all over again in figuring out which brand to buy.
I have a very good idea of what is a fair price for most products.

Product/Packaging

Larger sized containers are almost always cheaper per unit than smaller sizes.
New products are more expensive when they're first introduced. Prices tend to settle down as time goes by.
When you are not sure what you need in a product, it's a good idea to invest in the extra features. You'll probably wish you had them later.
Items that come in fancy packages are not a good value.

how market beliefs can be changed with special attention given to the problems involved in reversing inaccurate or false beliefs.

CONCLUSION

In the past decade, consumer researchers have begun to look at the effects of consumer knowledge structure on information processing and choice behavior. In only a few cases, however, has this interest focused on the role of consumers' prior beliefs as a dimension of knowledge content. This paper has attempted to consolidate past research related to market beliefs. It contends that additional conceptual and empirical development is needed to explore the nature of market beliefs and their impact on consumer search and evaluation processes.

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TABLE (CONT.)
Selected Market Beliefs

In general, synthetic goods are lower in quality than goods made of natural materials. It's advisable to stay away from products when they are new to the market. It usually takes the manufacturer a little time to work the bugs out.

Manufacturer

Consumers shouldn't feel obligated to buy American made products.
I am loyal to smaller companies because I believe their intentions are good.
Well known companies can't afford to jeopardize their reputations by introducing inferior products.

Product or Service Warranties

In general, warranties are worthless!
Companies and stores that offer strong warranties and no hassle returns have better products.
Extended product warranties cost more than they're worth.
If a manufacturer won't back his product with a warranty, it probably means it won't last.

Required Search

The more information you have, the better.
Once you find a good brand, it pays to stick with it.
It takes time to make a smart purchase.

Store Location

Stores in enclosed shopping malls charge higher prices because they pay such high rents.

factors may affect the employment of market beliefs is unclear. For example, consumers with little product knowledge (novices) may resort to simplifying beliefs ("the highest priced brand is the best") as a means of coping with market uncertainty. Experts, however, may also employ market beliefs, but for a different reason. Possessing well developed knowledge structures, they use beliefs as a tested, reliable way to make decisions easily. Future studies need to clarify the role that product knowledge and other factors play in influencing consumer dependence on market beliefs.

At the same time, additional research on how market beliefs are organized in memory may provide clues as to how specific beliefs are retrieved and utilized. Deighton (1983) and others have suggested that individual beliefs may be stored in memory as components of schemata. It can be hypothesized that, as a particular schema is activated, the market beliefs associated with the schema become available to the individual for use in decision making.

Accuracy of Consumer Market Beliefs.

Clearly, beliefs do not always correspond to reality; they are not always applied in an accurate way. In many cases, this is true because specific conditions create exceptions to generally observed relationships. Heavy advertising may indeed cause prices to be higher. But higher costs are not always passed on to the consumer. Moreover, advertising's demand stimulation effect may actually cause price per unit to decline in certain situations. The misapplication of "wrong" beliefs represents an intriguing opportunity for empirical research. Are there commonly held market beliefs that are inaccurate much of the time? What are the effects of

inaccurate beliefs on consumers' information processing and choice behaviors?

Belief Formation, Durability, and Resistance to Change. To the extent that market beliefs affect decision behavior, an understanding of how they are originally formed appears useful. Like all beliefs, market beliefs may be formed directly--though observation of a relation between two concepts or receipt of information about such a relation--or indirectly through an inferencing process (Fishbein and Ajzen 1975). Beliefs formed from inferencing are derived from other beliefs already held by the consumer. This process suggests that these beliefs (developed through inferencing) may be organized in hierarchical fashion in memory. If so, they may be retrieved and applied as part of the same information chunk.

Finally, as Duncan and Olshavsky (1982) observed in their earlier research, it is important for product manufacturers and store owners to understand the difficulty involved in effecting belief change. For example, consider the problem that a manufacturer of prestige brands may encounter when it decides to distribute in mass merchandise outlets. If potential buyers of prestige brands share the belief that mass merchandise stores carry less expensive or lower quality merchandise, they may (1) eliminate mass merchandise stores from their store set, or (2) lower their quality perceptions of these brands when they are encountered in the mass merchandise environment. The work of John et al. (1986) suggests that market beliefs may be difficult to change because consumers tend to gather information that is consistent with their prior beliefs. Additional research is needed to determine

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A New Perspective On Choice

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ABSTRACT

A variety of consumer researchers have suggested changes in the way we approach the study of consumer behavior. Part of the discontent with the present approach may lie in the limitations of modeling brand choice -- the definition of attributes, the approach to dynamics and in the directionality of the models. This paper proposes a new conceptual base; choice is depicted as the beginning of a consumption process. Consumption sets and consuming style are introduced. The broader treatment of consumption phenomena should provide a mechanism to tie together several divergent research streams and result in new insights into consumer behavior.

INTRODUCTION

While some authors may disagree, the consumer behavior discipline seems to be in a state of flux (Holbrook, 1987). Several prominent scholars have expressed the need for additional research avenues in consumer behavior, particularly more encompassing yet theoretically sound (Kassarjian 1978, 1987; Hirschman 1985, 1986; Belk 1985; Holbrook 1987). The search for new approaches appears to be as intense as at any other time in the history of the discipline. Kernan (1987, p. 133) says: "[Holbrook's] plea is not the ranting of a lunatic fringe, but rather a position that represents a growing number of consumer researchers who, for whatever reason, have been unable or unwilling to express it." In response, this paper utilizes a new conceptual base. The intent is to show that the process of consumer behavior encompasses a great deal more than brand choice alone. The broader treatment of consumption, represented in the new conceptual model, provides a mechanism to tie together several divergent theoretical avenues.

THE CURRENT STATE OF AFFAIRS

In the minds of many leaders of the discipline, it appears that conventional theories and techniques have taken consumer researchers to a certain point in understanding the consumer but may have reached their limit. Mittelstaedt (1971) and Sheth (1979) criticize what the former refers to as the "eclectic borrowing" on the part of consumer behaviorists. The latter calls for consumer behaviorists to develop their own constructs rather than rely on psychology or sociology.

According to Sheth (1979), three main difficulties plague research in consumer behavior. The first is the implicit assumption of a rational problem-solving process, as exemplified by multiattribute information processing and brand choice models (ibid., p. 573; also see Olashavsky and Granbois 1979). As a remedy, Sheth suggests that researchers turn their attention to habit and

conditioning, situationalism, novelty-curiosity, deviant, and obsessive consumer behavior. Along the same lines, Zajonc (1980) and Zajonc and Marcus (1982) suggest a shift from cognitions to affect. Gardner (1985) focuses on research to date concerning affective dimensions of mood states. Foxall (1983) suggests a shift to behaviorism implicit in such notions as habit and conditioning.

Sheth points to the overemphasis on the individual and the lack of focus on groups as the second and third problems in consumer research (1979, p. 573). Even such groups as market segments, social classes, and ethnic groups are studied as "aggregates of individual consumers rather than distinct group entities" (ibid.). Sheth suggests research should examine dyads, small groups, families, and organizations. Research is needed into nonproblem-solving group behavior (ibid.). Moreover, "research should be directed at the *macro* (group) rather than at the *micro* (individual) level" (1979, p. 514). Hirschman (1985), Belk (1985), and Uusitalo and Uusitalo (1981) have similarly called for more macro research. Alderson (1957) developed the rudiments of a consumer theory with the household as the unit of analysis. Glock and Nicosia (1964), Nicosia and Mayer (1976), Foxall (1976), and Zielinski and Robertson (1981) all have called for the interjection of sociology into the study of consumer behavior.

The literature has tended to treat consumer behavior as a static rather than a dynamic process. Calls for recognition and incorporation of a process orientation have been made (Jacoby 1976; Sheth 1979). Jacoby points out that the discipline uses static methods to understand dynamic processes (1976, p. 3) and suggests that the discipline should focus on consumption behavior as opposed to just buyer behavior (1976, p. 10). Alderson (1957) was among the first to call for such a shift, noting that there is a difference between buying behavior and consumption behavior.

In concluding this section, the call has gone out for new theories and new methods. A variety of alternatives have been proposed, some are radical. Solutions range from theoretical focus within brain function to changes in metatheory. Often a change in emphasis is accompanied by a change in method, or preceded by a change in metatheory. Included are the following: (1) change in focus from cognitions to affect; (2) change in school from cognitive learning to behaviorism; (3) shift from psychological theories to other related disciplines, such as sociology, and anthropology; (4) change in methodology, for example, from questionnaires to projective techniques, and/or from respondent answers to observation, and/or from correlation to causal modeling; (5) change in metatheory and ways of generating theories, for example, from logical positivism to humanism.

EXPLAINING AND PREDICTING CHOICE

Part of consumer researcher's dissatisfaction might be explained by briefly looking at the major research streams that have attempted to discover variables that relate to, or predict, choice. Many seemingly disparate research streams have been dominated by attempts to explain choice. Models that deal directly with choice include the decision-making process, the communication hierarchy, and stochastic choice models, to name a few. Preference and attitude models often address choice; that is, while their main purpose is to explain preference, correlations with brand choice are often used to validate the models. Also, in the literature on information overload (Jacoby, Speller, and Kohn 1974) choice is touched on tangentially; correct product choice is used to determine overload. In fact, one taxonomy of consumer behavior models shows that all models (with the exception of pure evaluation models) touch on choice (see Lilien and Kotler 1983, p. 205).

The variables linked to choice can be classified into three categories. Individual difference variables are used to divide people into homogeneous groups (demographics, personality, and life-style). Process variables describe how choice occurs (preference and attitude formation). Broad environmental exogenous variables (culture and social class) help describe the influence of norms and societal variables.

Individual Difference Variables

Personality and Demographics. Early research linking personality and demographic variables to product and brand choice found very low R^2 's (Evans 1959; Fry 1971; Alpert 1972). Saranson et al. (1975) analyzing 102 personality studies found an average R^2 of .045 for situational variables, .03 for personality variables and .01 for demographic variables. (Also see Peterson et al. 1985). According to Wells (1975, p. 196), "work with personality inventories has been judged 'equivocal'... The correlations have almost invariably been low, and the relationships uncovered have been so abstract that they could not be used with confidence in making real-world marketing decisions." (Also see Kassarian and Sheffet 1975).

Psychographics. Later, emphasis shifted to life-style research (see, for example, Levy 1963). Wells (1975, p. 196) called the area of psychographics a blending of personality inventories and motivation research. Darden and Perrault (1975), in a typical study, found that life-style accounted for about 15 percent of the variance in behavior (vacation choice). Andreason (1984) found a correlation coefficient of 0.14 looking at changes in life-style and in preferences. Some recent work on life-styles assumes that certain groups constitute "a life-style" and begins analysis at that point (for example, "housewives" and "working wives;" see Jackson et al. 1985; also see Andreason 1984). Wind and Green (1974, p. 106) listed five different ways life-style was measured and

attribute the practice of using different measures to a lack of theory in the life-style research stream. Fenwick et al. (1983) draw a similar conclusion. "The components of this 'life-style' are both unspecified and by design unexpected" (1983, p. 71). Roscoe, LeClaire, and Shiffman (1977) point out that the purpose of psychographics is not to predict behavior, but to help explain and describe consumers.

The strength of relationships documented in the literature are summarized in Figure 1. Demographics probably predict life-style better than brand choice. Life-style (psychographics) predicts choice somewhat better than does personality or demographics.

Process Variables: Multiattribute Models

Consumer research has been dominated by the multiattribute attitude models (Sheth 1979). The multiattribute approach suggests that once attitude is known, it can help predict and understand preference (that is, affect), purchase intention, and choice.

Again, in this literature, the strength of the relationship between attitudes and behavior is varied (Harrell and Bennett 1974). In the psychology literature, Ajzen and Fishbein (1977) report correlations of between 0.02 and 0.49. The relationships reported in marketing have usually been between 0.20 and 0.30.

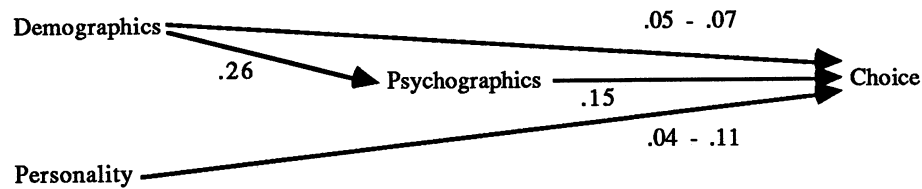
Disappointing results have been attributed to several factors. Ajzen and Fishbein (1977) felt that incongruence between the content of attitude questions (which focused on general attitudes) and the type of behaviors or actions studied (specific) could account for weak relationships. Studies that measured the attitude-behavior relationship in the context of specific situations did, in fact, attain higher correlations. Bagozzi et al. (1979) noted that lack of consideration for the "tripartite" nature of attitudes, (cognitive, affective, and behavioral intention components) may account for the results.

Multiattribute models have been useful in deciphering various aspects of information processing, the components of attitudes, and relationships of attitude formation to other variables. However, it should be noted that these models are founded upon the assumption that attributes are important. Researchers then ask "which" attributes are important, "how" people use attributes in decision making (the evaluations component), and "how" people attach significance to attributes. However, none of these models ask *why* attributes are important. Therefore, research in this area has not addressed opportunities that explain and predict behavior as opposed to information processing.

Exogenous Variables

Attempts have been made sporadically to show that variables such as culture and social class are related to consumer decision making and choice. Social class provides a case in point. Social class came to prominence in marketing in the 1950s, but Bettman, Kassarian and Lutz (1978) conclude there

FIGURE 1
Overview of Variables Related to Choice



was little improvement in research beyond 1960. Coleman (1983) believes that social class, as a legitimate area of study in consumer behavior, was hampered by measurement problems and expense, as well as questions about when and how to apply social class, and because of sociologists' disagreement about the "value and validity" of the concept. Coleman (1983) believes that the controversy over income versus social class led researchers to shift focus to other variables.

Nevertheless, both Fisher (1986) and Coleman (1983) emphasize that social class is still relevant to the study of consumer behavior. New research question should not focus on whether income or class is a better predictor of choice, but on the how class affects the use of income (Coleman 1983). Renewed interest in social class has come in the form of the "sociology of consumption" (see Mochis 1981 for a review of consumer socialization). This tradition examines institutions, cultural values, and role structures to determine their impact on consumption (Bettman, Kassarjian, and Lutz 1978). Here, social class merges with topics such as consumption symbolism (Belk, Bahn, and Mayer 1986; Solomon 1983) and consumption's cultural context (Hirschman 1985).

LIMITATIONS DUE TO THE FOCUS ON BRANDS

In attempting to answer questions about choice, one could argue that research has followed a rather specific and narrow path. Sheth and Garrett (1986, p. 460) note the over-emphasis on *brand choice*. While there appears to be tacit agreement about the significance of brand choice, the extent to which the focus on brand choice has influenced consumer research has gone largely undetected. Consider the diversity of models founded upon a brand assumption. The Howard and Sheth model is a brand choice model and while Engle, Kollat, and Blackwell do not make such an assumption explicit, their model also deals mainly with brand choice. Extensive, limited, and routinized decision-making behavior differ to the extent of prior knowledge of product category, and brand attributes. Clearly, the multiattribute models deal with brand attitude, preference and choice. Moreover, the demographic/personality literature began by trying to distinguish categories of brand owners. Finally, while research into exogenous variables as they relate to choice is often at the product form level

(Westbrook and Fornell, 1979), here, too, brand choice plays a significant role.

We believe the implications of this brand focus have not been fully explored. While brand decision-making may represent a large portion of consumer decision-making, it only explains part of consumer behavior. Consumers in the position of making brand choices must be so aware of their needs, that brand attributes tend to become synonymous with *needs, benefits, and consequences*. Attributes, then, are defined as "outcomes, consequences or benefits people obtain from a product" (Wilkie 1986, p. 438) and might be used interchangeably with values and consequences, as some of the multiattribute literature uses attributes (see Cohen, Fishbein, and Ahtola 1972, p. 456). Then, brands tend to be viewed as the means and attributes as the ends of consumer behavior (Wilkie 1986, p. 460).

The ramifications of this simple brand assumption become enormous when one recognizes that modeling consumer behavior in this way narrows the focus of research. If attributes are synonymous with needs, benefits and consequences, then understanding consumer behavior becomes an overly simple matter. The reasoning might be as follows: If a researcher understands the attributes and attitudes toward attributes, it should be possible to predict brand behavior (choice or purchase) and thus understand consumer behavior. However, this scenario might accurately describe the theoretical "never-never land" against which Kassarjian (1987) rails.

Research to date in many fields of consumer behavior has provided an exceptional view of brand choice. Research results have been of much use to individuals in developing sales and promotional strategies, and short term marketing plans. However, the propensity of modeling of brand choice explains much of the discontent in the consumer literature. Clearly, it turns out that the evaluations of attributes only partially explain choice behavior. And while arguably cultural values and life-styles are important, they do not add to our ability to predict brand choice because (as attributes are defined in the literature) values and other variables are often defined and modeled in ways that tend to repeat the information contained in attributes.

Therefore, in attempting to advance the literature, researchers have concluded that we must be

missing any number of other variables: the situation (Belk 1975), reference group pressures, the family influence, emotions (JCR "Call for Research on Emotions, 1985), feelings or affect (Zajonc 1980, Zajonc and Markus 1982), hedonic tendencies (Holbrook 1981), irrationality (Sheth 1979), collecting behavior and having behavior (Belk 1982), and materialistic tendencies (Belk 1985).

DIRECTIONALITY AND DYNAMICS

Directionality. What may be missing in consumer research is an understanding of how a product becomes part of a consumer's life. This is implicit in Jacoby's call for a look at processes and "consumption" and in Sheth's suggestions about consuming life-styles. In other words, part of the explanation for why people buy might be found in how the product will fit into a consumer's life. Rather than ask why people buy or on what basis people make their choice of products, one might inquire *how* the choice of a product, and its constituent attributes, contributes to a person's life.

In addition to being focused on choice, all conceptual schemes of consumer decision making assume that consumers move toward choice of a brand or product. It is noteworthy that in all of the grand conceptualizations of consumer behavior, the arrows representing consumer decision making, move in the direction of choice. With the possible exceptions of the satisfaction literature and the dissonance literature, little consideration is given to what occurs after the purchase. Only recently has a small body of literature sprung up concerning what consumers do with products after purchase (see Belk 1982). While all models include feedback loops, these generally deal with feedback to evoked sets, decision rules, satisfactions, and perceptions. Notably conspicuous by their absence in consumer decision making models are feedback loops to life-style, social class/status or cultural values.

Dynamics. For grand consumer behavior models, since exogenous variables are largely taken as given for the type of consumer decisions under study, change is not relevant to the research. At the extreme, one moves from one given state of the environment to another given state of the environment. The dynamics are captured, as it were, in a series of "shapshots" rather than a motion picture. Rather than understanding the process of change, the level of analysis becomes what Frankenberg (1967, p. 83) would call exogenous comparative statics.

Implications. Taken as a whole, the problems outlined -- the lack of feedback and dynamism, along with the focus on brand choice -- may account for the consumer research focus on rational decision making, and the inability to answer questions about macro consumer behavior, as well as to incorporate the influence of exogenous variables.

PROPOSED NEW MODEL

To ease the restrictions imposed by brand research, the solution is to posit that underlying

single occasion consumer behavior is a dynamic, circular, long-term process. If such is the case, brand decision making becomes a special case of that more general model. The purchases of consumers are related to one another in nontrivial ways, which do not depend on the typical assumption of a rational consumer. The suggested changes are, first, to recognize consumer behavior as encompassing those processes that occur after (as well as during and before) purchase, but to shift focus to those processes that occur *after* purchase; second, to incorporate assortments into consumer behavior models; and, third, a detailed look at the information contained in the attributes of products.

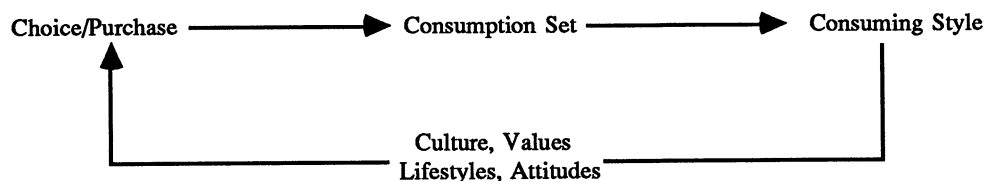
Current models of consumer behavior assume a flow from culture to values to life-styles to beliefs to attitudes to purchase and its outcomes of satisfaction or dissatisfaction. Many streams of research, such as those discussed in an earlier section, look for a simple relationship -- demographics to purchase; life-style to purchase; attitude to purchase, and so forth. Marketers are interested in purchase and consumer theorists have tended to seek the reasons for purchase. But, in their search consumer researchers have asked what factors *result in* purchase. By posing the question in that form, the search tends to focus on the antecedents of purchase.

In the past, authors have suggested a change in focus from buying behavior to consuming behavior (Alderson 1957; Jacoby 1976; Nicosia and Mayer 1976). Alderson (1957; p. 166), for example, posits that buyer behavior is derivative of consuming. However, "derivative" implies that buying behavior *results from* consuming behavior. Here again, one might be led to search for the *antecedents* to purchase.

A number of scholars have also called for a change in the focus of marketing from brands to assortments (Wind 1977; Nicosia and Mayer 1976), but thus far little change has been forthcoming. Green, Wind, and Jain (1972) discuss measurement of item collections, but they look at a single purchase occasion (a meal) and implicitly assume that each item contributes one characteristic (attribute) to that occasion. Within the framework of the multiattribute models, McAlister (1979; 1982) developed a technique for looking at assortments of substitute brands in an inventory (different brands of soft drinks), but she did not extend her model to assortments of apparently disparate items. The challenge is to develop a framework for incorporating the notions of feedback and assortments into a model of consumer behavior.

The perspective proposed here is that choice and purchase could be viewed as *inputs* into a process, *not* merely the end of consumer decision-making efforts. In this way one recognizes the feedback from choice to other consumer behavior variables. Such a feedback loop has been suggested by Carman (1978). He has proposed that values,

FIGURE 2
Dynamic Model of Consumer Behavior



subculture and consumption actually form a "closed loop." While his insight is significant to the model proposed in the next section, Carman doesn't specify the nature of the feedback. Nicosia and Mayer (1976) also outline a circular process whereby consumption activities feed back to cultural values and institutions.

The outline of the proposed model of consumer behavior might appear as shown in Figure 2. If, indeed consumer behavior is a circular process, then why not view choice as the beginning of the process? As depicted choice is not solely the output of a discovery and evaluation process as in many consumer behavior theories. Rather, choice is viewed as an input, a *means*, not an end. Although the arrows go in both directions, we believe the field would be best served by focusing on the new direction, i.e., choice to consumer variables, as opposed to the reverse. Furthermore, the model as shown is tentative; other relationships are not precluded and remain to be explored.

The following two new theoretical units help to form the basic building blocks of a new theory. The initial definitions provide an indication of the nature of these constructs. Tighter theoretical definitions and operational measures remain to be developed.

Consumption Set: the assortment or portfolio of complementary and substitute attributes and attribute combinations that a consuming entity holds at a particular point in time.

Consuming Style: the manner in which a consuming entity furnishes the requirements of the consuming behavior aspects of life.

The long-term nature of the consumer behavior process can be made explicit by considering the individual prior to his/her first choice, and then following the individual through time. Every individual is born into a world surrounded by sets of products; e.g., that chosen by his/her family (the household consumption set), which is a subset of all the attribute combinations available in society (a societal consumption set). If one were able to focus on the individual's first choice/purchase of a good, the scenario in Figure 3 would depict that. Familiarity with other sets provides the context for the decision. The consumption sets encountered

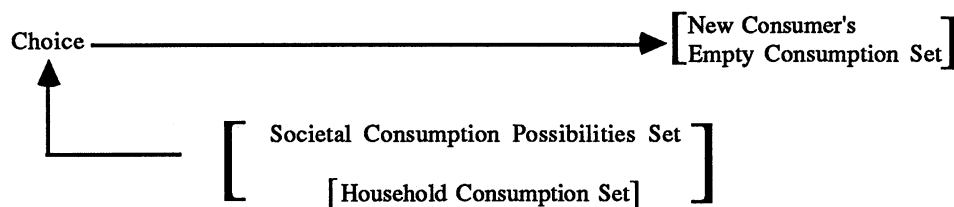
during a consumer's childhood act as a reference point for the current purchase. Over time, the individual fills in the empty consumption set; the second choice is partially contingent upon the first and so forth. Consequently, as depicted in the new model, choice is not merely the *output* of a process, but rather, an *input*. Choice is not an *end*; choice is a *means* toward the end of accumulating a workable consumption set. The process of developing a consumption set should be considered an ongoing process whereby one continually creates, renews, replenishes and destroys the set.

The theoretical model, as briefly outlined, would enable consumer researchers to incorporate aspects of culture, social class and values, captured in consumption sets and consuming style, into models of consumer behavior. In the scenario depicted in Figure 3, culture (i.e., the material and symbolic aspects of culture tied up in the attributes found in the societal consumption possibilities set) is shown to have a direct influence on the individual's purchase decision. Moreover, different social classes would be expected to have somewhat overlapping, yet distinct consumption sets. Furthermore, demographic variables (e.g., geographic location and income) should be related to a person's exposure to aspects of the societal set. Likewise, life-styles help define the constituent components of a set. Thus, as posited, the model is able to incorporate the influence of groups and the influence of other products (those already part of a consumption set) on choice. More importantly, the model enables one to study consumer behavior as a process rather than an isolated event of brand choice. So that brand choice models become a special case of a more general model of choice. Dynamism enters this formulation of consumer behavior in the sense that the set is continually changing due to new acquisitions and the deterioration of old acquisitions.

Assortments and Attributes. The model calls for the incorporation of assortments, defined here as a consumption set. Alderson (1957, pp. 198-99) observes that products are not useful in themselves; utility arises in an assortment of complementary goods.

While the discussion so far has been couched in terms of goods, by convention in marketing, goods are defined as "bundles of attributes" (for example, Kotler 1988, p. 187). Thus, the fundamental element of a consumption set is an

FIGURE 3
Choice in the Context of Sets



attribute. *Attributes* can be thought of as descriptive characteristics sought by consuming entities. The terms feature, aspect, property, and element are alternatives for the word attributes. Earlier in the paper it was noted that thus far little attention has been given to the question of *why* attributes are important. According to the present line of reasoning, attributes are important because they provide the building blocks or ingredients of sets. Thus, attributes take on significance because of their place in a set and are therefore not the ends of consumer behavior, as in some multiattribute models. Perhaps the set issues, i.e., recognizing the significance of other products and of the entire set in choice, would help improve our understanding of multiattribute decisions.

CONCLUSIONS AND IMPLICATIONS

In the present model, consumer behaviors would be viewed, in the main, as instrumental to the development of a consumption set and a consuming style, which in turn enable the consumer to produce desirable outcomes. Consumption sets and consuming style produce utility for consumers because, in the process of developing a style, consumers take a meaningless variety of isolated goods/attributes and turn them into a meaningful, workable consumption set. Consuming need not be considered an end in itself; clearly it is only one possible end. Consuming may facilitate other goals, including learning, creating, resting/sleeping, exploring, nurturing, educating, and worshipping.

If choice is an *input* into a process of creating sets and styles, then what is the output? Any answer to this question by consumer researchers would include: creating a life-style (perhaps harmony, order/disorder); creating a personality/self; playing role(s); surviving (in a physiological sense); being an individual; belonging to a group; expressing oneself; signaling membership; entertaining oneself, and so forth. Ultimately, in creating a consumption set and developing a consuming style, the consumer creates possibilities to deal with life's multiple demands.

Based on the model as outlined, research directions could take the field down many avenues. First and foremost, one must determine whether consumers actually do create sets and/or think about products/attributes in set terms. If they do, then a whole series of unanswered questions remain. How

do consumption sets and consuming style affect one another? How are attributes combined? What determines whether an element of a set remains or is destroyed? What are the most important determinants of consuming style? Are different styles possible, do styles evolve, is there a typology of styles? Certainly the model has important implications for incorporating learning/maturation into consumer research. Moreover, the satisfaction literature may benefit from considering the set effects on satisfaction.

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Capricious Consumption and the Social Brain Theory: Why Consumers Seem Purposive even in the Absence of Purpose

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ABSTRACT

Research on the consumption process is fueled by many viable theoretical traditions. Even so, there are aspects of the consumption experience that are destined to be inaccessible partly because of physiological reasons. One reason stems from the Social Brain Theory which posits, in contrast to previous thinking, that there are several modules in the human brain, all of which can work in parallel, not all of which are capable of verbalizing, and the one capable of verbalizing imputes a purposiveness to the self that may not exist. The required shift in consumer research is both ontological and methodological.

INTRODUCTION

The methodologies that are used to investigate phenomena, including consumer behavior, are directly linked to the investigators conception of the phenomena (Hirschman and Holbrook 1986, p. 213; Laudan 1977). Thus, even in consumer research, 'consumption communities' develop; they subscribe to different worldviews, and use different methods to look at their inter-subjectively validated world(s). Conversely, one may speculate that the more investigators are committed to one method the more locked in they become to one theory about a phenomenon. Further, when different investigators studying a common phenomenon 'incontrovertibly' establish their particular views, the dilemma is particularly troublesome. In the context of physics, scientists are unable to conclusively show whether light is a particle or a wave, since choosing to look at it as a wave yields valid 'wave' results and choosing to look at it as a particle yields valid 'particle' results (e.g. see Capra 1976).

Several recent papers have argued for the acceptance of such multiple and concurrent realities in consumer research. Three such examples are reviewed next to highlight philosophical, pragmatic and psychological rationales.

(i) Hirschman and Holbrook (1986) propose that a consumers reality has many aspects since it involves a complex and reverberating network of thought, emotion, activity and value. This prompts the use of several methodologies that are consistent with their relativistic epistemology;

(ii) Belk (1986) argues for multiple and complementary orientations, e.g. art and science, in order to arrive at essential understandings. In a sense, this appeal for multiple orientations is made on a strictly utilitarian basis since limiting methods of

looking only reduces what can be known about the focal problem; and

(iii) Hudson and Ozanne (1988) propose that we entertain an interpretivist approach because, among other things, reality is socially constructed (Berger and Luckman 1967) and individuals create reality by distorting received stimuli so that they can make sense of the world (Burrell and Morgan 1979, Kant 1982).

Although these studies exemplify the research on the need for multiple approaches to multiple realities, none of them has argued that the interpretivist approach might be physiologically preordained. To make this point, this paper will first examine the perspective of an eminent brain researcher, Michael Gazzaniga; after examining his view of brain functioning some important implications for consumer research will be highlighted.

SOCIAL BRAIN THEORY (SBT) (GAZZANIGA 1985):

Several theories exist about the functioning of the brain; in fact Hampden-Turner (1981) illustrates over sixty notions dealing with how the brain has been thought to work. One unifying aspect of many of these models is the view that the brain is a unitary system with well-defined serial linkages among its modules; different tasks such as vision, movement, etc., use different modules. If such strictly serial linkages existed it would mean that the brain sequentially processed external stimuli and fabricated a consistent version of reality from these stimuli. Simplistically, this is similar to an assembly line programmed by the consciousness-module (CM) to transform a variety of fundamental inputs into a variety of intended outputs; all of the inputs are potentially discernable in the output. If the brain indeed functioned in this manner all outcomes, e.g. behavior, could be explained since the outcomes would be tainted with inputs. The consumer would be able to (i) be aware of and (ii) articulate all relevant influences on a purchase decision.

Social Brain Theory (SBT) does acknowledge that the brain has specialized modules for different tasks. The primary distinction is that the processing of information is parallel, not sequential; in this respect it is much like a social network. When reading this sentence, some modules in this 'social' network are processing the symbolic content of the letters and words, some modules are sensing the colors and textures, etc., independently of each other (Minsky 1986). In other words, these modules are not aware of each others processing efforts or

results, and therefore have multiple and simultaneous processing of sensory inputs. CM then puts together the outputs to form a consistent image of reality.

The differences between the two notions of brain functioning are dramatic. In the first, a purposeful CM pulls together a consistent view of reality by harnessing the talents of appropriate processing modules; for example, to read this sentence, CM harnesses (lets say) the symbol-recognition module and the interpretation module to get to desired results. SBT says that the various modules do their processing undirected, and the consciousness-module is left to put the results from relevant modules together, in a consistent manner. To vividly see the difference, use the following metaphor: the former models say that consciousness builds the house of reality brick- by-brick and layer-by-layer; SBT says that consciousness puts this house together from prefabricated walls that are made by unsupervised and independent units in the social system.

Under the SBT scenario, consumers would be able to consult CM in order to account for their behaviors. Unlike the earlier models, SBT would predict that consumers might (i) not be aware of the influences on their behaviors and (ii) not be able to articulate the rationale for their behaviors correctly. In other words, a consumer could become conscious only of a vague sense of dislike for a blue car without knowing the reason; CM senses a negative valence from the memory-module but does not get the reasoning. Furthermore, if pressured for the reason behind disliking the car, CM would impute a logical rationale which may or may not be correct. Specific instances of these behaviors are amply illustrated later in the paper; before that, SBT must be differentiated from what appears to be a similar theory -- hemispherical lateralization.

SBT AND LEFT BRAIN/RIGHT BRAIN THEORIES

The left brain/right brain theories, which were in vogue in consumer research in the early 80's, envisaged complete lateralization in the tasks performed by the brain. At the very extreme, an incoming stimulus would be marked for the hemisphere that specialized in doing the necessary task. Such specializations were viewed as being both beneficial (Zajonc 1968; Lindzay and Norman 1977) and deleterious (Hansen 1981).

The left cerebral hemisphere is typically depicted as rational, realistic, a linear processor, specializing in verbal, mathematical and symbol-related tasks; and the right cerebral hemisphere is depicted as intuitive, metaphoric, a holistic processor, with noncognitive gestalt perception (Bogen 1971); for a more comprehensive overview see Hansen (1981).

In the consumer behavior context, the right hemisphere has been hypothesized to control the continual environmental scanning part of the attention process; the cognitive left hemisphere is activated only when the right hemisphere gives a

stimulus significant enough to warrant detailed and concentrated attention. Similarly, recognition is believed to be a right hemisphere function, while recall is attributed to the left hemisphere (Broadbent 1977; Krugman 1977). Studies involving EEG recordings report a high level of bilateral activity in subjects watching television rich with verbal, rational variables and low levels of bilateral activity in subjects watching advertising with emotionally-based and non-verbal variables, indicating the involvement of both hemispheres only when the task demands it (Rothschild et al. 1988).

Elements of choice behavior are similarly attributed to separate hemispheres. The right hemisphere is the primary determinant in low involvement purchase decisions for which past behaviors, holistic and pictorial information and emotion are determining factors; brand loyalty is therefore a right hemisphere phenomenon. The left hemisphere is responsible for high involvement consumption decisions in which information must be processed and a deliberate choice made (Krugman 1977).

Although SBT agrees that the cerebral hemispheres, each modular in composition, differ in the nature of their processing of information, there are three important distinctions: (i) SBT credits only one module with verbal activity; all other modules must be accessed through CM in order to bring their outcomes into awareness; (ii) The processing within the nonverbal modules is not UN-conscious but CO-conscious. Information is processed in several modules, within each hemisphere, simultaneously and differently; unless the consciousness-module is involved the processing lies outside of conscious awareness; and (iii) All the independent modules are capable of producing behaviors; those behaviors activated by modules in the right hemisphere may occur outside of conscious awareness. There is extensive empirical support of sorts for these three claims (Gazzaniga 1984). The next section examines some of the non-conscious elements in consumer behavior.

NONCONSCIOUS ELEMENTS OF CONSUMER BEHAVIOR

Consumer behavior researchers have often noted the non-conscious and non-cognitive aspects of experiential consumption, attitude formation, and precognitive preference development; often these approaches seem to have parallels to hemispherical lateralization type notions. Let us consider three specific examples from literature and highlight the differences between the nonconscious processing explicated by them and SBT.

(1) *Experiential Consumption*: Holbrook and Hirschman (1982) went beyond the logical, problem-solving approach adopted by the information-processing model to find an explanation for the consumption of nonutilitarian goods and services. They developed an 'experiential' view of consumption in which products were imbued with attributes such as 'symbolic meanings, hedonic responses, and aesthetic criteria'; all these attributes

are typically appealing outside the logical consciousness of the consumer. The drives behind experientially motivated consumption behaviors are believed not to be unconscious and therefore unrecoverable; but rather, the drives are believed to be preconscious or subconscious and could be recovered. Some techniques like participant observation and projective interviewing techniques could circumvent sensitive or covert motivations behind the behaviors which a consumer is hesitant to admit (Hirschman and Holbrook 1982).

This 'experiential view' focuses primarily on aesthetic products -- films, arts, 'fun'-products. This limits the nonconscious elements discussed by Hirschman and Holbrook (1982) to specific product categories. SBT would anticipate non-consciously deliberated purchase in all categories; indeed, impulse buying behavior has been noted to include high-priced, high-involvement products such as appliances (Rook 1987).

(2) *Preferences without Inferences*: Zajonc and Markus (1982) consider patterns for preference development other than what was expected by traditional theory (i.e. cognition leading to affect leading to preference). They showed that affect-based preferences could precede cognition-based preferences; indeed, affect and cognition could operate independently in some cases. Reasons given by subjects to explain a preference may merely be a rationalization since the individual could be unwilling to admit emotion-based attachments. Note that neither familiarity, nor subjective recognition, nor frequency of exposure is given as the basis for preference even though these variables have been empirically demonstrated to 'cause' preference. Clearly, the reasons given by subjects to explain a preference are not entirely credible.

Self-reports on nonconscious processing presents problems. Even if the individual is willing to report on the motivation for a behavior, or the affect behind the formation of a preference, or the preconscious antecedents to conscious attitude formation, s/he may be unable to do so. The nonverbal modules can process information, retain results, and activate behaviors -- all outside the awareness and control of the conscious mind (Gazzaniga 1985).

(3) *Preconscious Processing*: Janiszewski (1988) approaches the noncognitive aspect of attitude formation from a preconscious-processing perspective; the antecedents to the formation of an attitude are not necessarily related to the conscious deliberation involved. Preconscious preferences can be generated independently of conscious thought. Once preconscious processing has occurred the preference that is developed, prior to conscious thought, may actually have the ability to reinforce the preference that is developed during conscious processing. Because this influence occurs outside the conscious awareness, the consumer may not be aware of any preconscious antecedents.

According to SBT, some sorts of information can be processed and stored in the brain in the nonconscious modules; CM, the 'speaker' of the

bicameral mind (Jaynes 1977) can take advantage of the result of the nonconscious processing, but be unaware of the nature and mechanics of the calculation that produced it. Further, these nonconscious modules can activate real behaviors; SBT allows for the possibility that CM will be aware that a behavior activated by a nonconscious module has occurred and yet CM may not know the purpose beneath the behavior. The conscious mind sees this behavior to have come out of nowhere, out of pure caprice! How does the mind respond to such caprice?

WORKING WITH CAPRICE

All creatures are capable of being classically conditioned but the human brain is singular in its ability to make inferences about happenings in the external environment (Gazzaniga 1985). Pavlov's dog merely salivates when the bell rings; however, when Pavlov hears his wife slam the kitchen door, and then sees that she is late, and he surmises that dinner will also be late. Consumer behavior recognizes this inference-drawing ability. Perhaps, one curious extension of this is the notion of Symbolic Interaction. Essentially, symbolic interactionists assume that consumers do not merely regard a thing purely in and by itself; rather they imbue it with personal symbolic meaning. The ensuing behavior vis-a-vis this thing is partly a reaction to the objective reality and partly a reaction to the symbolic, subjective reality (e.g Solomon 1983). In other words, the individual does not react to a thing per se; rather s/he first changes the idea of the thing, then infers the correct interaction with this thing, in the given context, and only then does the individual act (Perinbanayagam 1985).

Just as the brain is capable of drawing inferences about the outside world, the brain should be capable of drawing inferences about the inside world. Symbolic consumption theorists have noted the consumers ability to send and to receive messages, through products or services consumed, both to self and others (Belk 1988; Solomon 1983; Hirschman 1983). If an action occurs the brain is compelled to interpret it through inferences. Thus, if a nonverbal module activates a novel and somewhat surprising behavior, tasting caviar for example, the mind will surmise: if I'm trying caviar, there must be a logical reason for it -- I guess I want to expand my horizons (Gazzaniga 1985).

According to SBT, the only module capable of drawing inferences about external or internal environments is the CM. This module is built to make inferences such as 'what is the purpose of this action?'. If no relevant data exist, this module will impute a purpose, thereby creating a motivation that never existed. This little module tirelessly generates these plausible conscious purposes to explain every action whether these purposes existed in reality or not. In this sense of explaining action, the mind relentlessly 'explains' even what it cannot explain. The constant need to maintain a consistent view of

the self and the constant imputation of rationality has interesting consequences for consumer behavior.

IMPLICATIONS FOR CONSUMER BEHAVIOR

SBT has one major implication for research on consumer behavior and one major implication for research methodology. First, for theory, the primary impact of SBT is to upset the theory of self. It is usually believed that people seek, express, confirm and ascertain a sense of self through what they consume. Indeed, philosophers have believed that possessions exist solely for the purpose of self-definition (Belk 1988). This sort of self definition rests squarely on the assumption that all behaviors are consciously and freely willed by the self. In other words, first there is purpose and then there is behavior. According to SBT, this need to feel that the self is in control is so strong that the CM is willing to 'fudge' a purpose if no purpose is apparent. In other words, there is purpose (P), then there is behavior (B), and if purpose (P) is not easily understood or surmised, CM readily provides a plausible purpose (Pp) as a reflex.

Although this inference-making keeps the sense of self intact, it jars the theories of consumer behavior research as a science. Researchers are essentially presented with the possibility of a subject who (1) cannot account for the motivation behind some, or perhaps even a great deal, of their consumption behavior; and (2) cannot discern what was a real motivation and what was a contrived motivation. This raises the very real question of whether the self is different from who the self implies it is; in other words, *am I different from who I imply I am?* Among other issues, one theoretically fascinating issue is the illusion of consistency. For example, what does it mean if for each time that motivation P occurs, behavior B follows, and the subject consistently *states* that the purpose was really Pp? Does this consistency mean that a theory based on Pp is validated since it seemingly leads to correct predictions? Even more complex, what happens to theory-testing when, for a variety of purposes (P1-Pn), the subject behaves the same way (B) and attributes the same purpose Pp?

This problem has been dealt with for some product categories. Hirschman (1983) noted that in the consumption of aesthetic products the consumption is a means to a goal rather than the goal itself. The consumption of aesthetic products is mainly experienced internally; therefore, identifying the rationale for a purchase could be extremely difficult due to the private nature of the experience. One way to get a handle on such fuzzy phenomenon might be to find the salient attributes. However, it would probably be impossible to identify an attribute such that there was (i) consensus, i.e. everyone agrees what any attribute is; and (ii) completeness, i.e. enough attributes of the phenomenon are captured. Further SBT suggests that even if such attribute description were in some way available, it would still be extremely difficult to

find what the importance of each of them were. Asking the consumer for a self report could result in the consumer either (a) knowing, (b) not knowing, (c) not knowing about not knowing and thus end up merely imputing an importance value. Again, what is theoretically disconcerting is that there seems to be no work done to enable a subject or a researcher to tell these three situations apart; the subject could answer with equal alacrity and aplomb in each of the three situation described above.

The second SBT implication is for research methodology. Although SBT precludes conclusively knowing what lies within, the interpretivist approach may offer a substitute for direct access to the nonconscious modules. The essence of interpretivism is that reality is essentially mental and perceived (Hudson and Ozanne 1988). Just like SBT states, the interpretivist school maintains that individuals "create devices, such as theories and categories, to help them make sense out of their worlds" (p.509). The interpretivist research focuses on discovering these 'devices' which help the individual create their environment.

An absolute understanding of the research subject and the 'devices' is never achieved in interpretivist research; rather, a temporal understanding susceptible to change emerges as the research process unfolds. The main thrust is to understand the individual from the individual's own perspective. This entails the use of tools such as empathy, intuition and translation (Hirschman and Holbrook 1986; Hirschman 1986). The methodology does not lead to predictive power; rather the focus is shifted to one of better understanding the problem at hand (Lincoln and Guba 1985).

CONCLUSIONS AND FUTURE DIRECTIONS

SBT primarily showed that there are structures in the brain that make it difficult to trust any consumer self-report. Even without desiring to deceive, a consumer can find it extremely hard to provide an honest answer to questions. The primary reason for this is that there is a module in the brain that ceaselessly provides the self with plausible rationales for behavior if a real one is not immediately apparent. In short, the mind explains even when it cannot explain. The primary outcome of SBT for consumer research is that the notion of self needs to be rethought. Specifically, three areas of work can be suggested: (i) how does the self relate to the self? e.g. how do you 'catch' a consumer imputing reasons instead of discerning the real reasons in a consumption context? (ii) how does the self relate to others? e.g. how can do you read the motivation of symbolic purchases? how do you read into the elaborate rationales that are used to justify purchases as simple fabrications? how can 'discovered' goals be separated from bona fide a priori goals? (iii) how does the self relate to decision-making? e.g. what are the idiosyncratic attributes used in individual purchases? do the decision-models really have a physiological basis? In the area of research methodology, SBT suggests

that the interpretivist scheme be used as often as possible since a consumer's behavior may be more easily intuited than measured. To the extent that SBT can be a reasonably correct model of consumer behavior, we must view the usual representations of consumer-decision making with even more skepticism than we did ten years ago when we were asked "Consumer Decision Making -- Fact or Fiction?" (Olshavsky and Granbois 1979).

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A Commentary on New Theoretical Perspectives on Consumer Behaviour

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ABSTRACT

Research on consumer behavior has tended to focus on a narrow range of phenomena. Although the range of phenomena has expanded in recent years and new approaches for the study of consumer behavior have been developed, the full richness of consumer behavior has yet to be realized. Three papers suggest that consumer researchers broaden their agenda by focusing on aspects of consumer behavior that have not been widely investigated. Although each paper suggests a different focal point, they are complementary. A model of consumer choice is used to show how the approaches suggested in three papers can be integrated with other research in the field. The model also helps identify other dimensions of consumer behavior that have not been widely researched.

INTRODUCTION

Human decision making is the nexus of the study of consumer behavior. The factors that lead to the need for a decision, the processes by which decisions are made, and the development of decision strategies through experience are the elements from which we attempt to build an understanding of consumer behavior. Consumer researchers have also examined a wide range of other factors, life-style, attitudes, value systems, personality, information processing, cultural differences, and so forth. There is always at least an implicit recognition that these factors are related to decision making in some way, and we frequently find empirical demonstrations that differences in decision outcomes are related to these other factors. Despite many years of research on consumer behavior, the papers we have heard today (Cherian and Harris 1989, Duncan 1989, and Rassuli and Harrell 1989) remind us that much remains to be done before we have a full understanding of consumer behavior. Further, these papers remind us that there are dimensions of consumer behavior that have not been well explored and that our traditional views of the processes of consumer choice may not always be appropriate for all types of consumers and situations in which we find consumers. Let us consider what each of these papers suggests.

THE IMPORTANCE OF BELIEFS

Duncan (1989) reminds us that consumers have a host of beliefs that influence consumer behavior. These beliefs have an impact on information search and shopping behavior, on decision rules, and even on problem recognition. Beliefs have not been ignored entirely by consumer researchers, but much of the research on beliefs has been in the context of models of attitudes where the focus of study has most often been beliefs about product attributes. Beliefs about other aspects of the market place such as sales personnel, ability as a shopper, usefulness of search activity, and so forth have received more limited attention. Yet, those

studies that have examined the impact of more general consumer belief systems have consistently found them to have a very strong influence on consumer behavior.

THE DIRECTIONALITY OF CONSUMER CHOICE PROCESSES

Rassuli and Harrell (1989) remind us that the assumptions about the direction of causality in consumer behavior may be overly simplistic. The notion that the end point of consumer behavior is purchase overlooks the fact that purchase may, on many occasions, actually be more appropriately regarded as the beginning point of consumer behavior. In fact, the notions of beginning and end in an on-going system involving reciprocal causality are not particularly meaningful. In such a system the points of entry and exit are dictated more by the purpose of the researcher than the nature of the process itself. The frequent focus on purchase as the end of the process is the result of the fact that most previous and current consumer research is carried out in a marketing context that is specifically oriented toward influencing purchase behavior. This does not mean that this is the best way to view consumer behavior, even when the purpose of the research is to inform marketing action. Starting the process at different points may yield some interesting and useful insights that could not be obtained by always looking at purchase as the end of the process. For example, one might look at the purchase process as the beginning of a process that gives rise to the identification of new beliefs or new problems for solution. In fact, if we assume some degree of purposefulness on the part of consumers, purchase is neither the beginning nor the end of this purposefulness. It is only a means to an end that falls somewhere in between the identification of a problem or need and its solution. This, of course, raises the question of whether consumers are always purposeful.

ARE CONSUMERS PURPOSEFUL?

Cherian and Harris (1989) offer the intriguing notion that consumers are not fundamentally purposeful. Rather, they suggest that the verbalizing component of the brain serves to impute purposefulness to all activities even though many activities are not, in actuality, purposeful. If by purposeful Cherian and Harris mean consciously purposeful, rational, and able to articulate purpose, then I would certainly agree. There are of course other meanings of purposefulness and I believe that all life forms are purposeful in at least some sense of the term. Rather than quibble with terminology, however, I would rather focus on the implications of the view of Cherian and Harris. First, I would note that their view is not new, nor is it necessarily irreconcilable with the broad view of consumer rationality. Nisbett and Wilson (1977) review

evidence that makes a compelling case for the fact that people often do not know the reasons for their own behavior, though they also often feel obliged to make up reasons when pressed. More recently, Etzioni (1986) has suggested that people may make a rational decision to behave irrationally in situations in which the costs of rational behavior may be too high given the anticipated consequences. In these types of situations an individual may still feel compelled to provide an explanation for behavior that is more rational rather than admit that they have decided not to be rational. It is also quite likely that in many such cases individuals are not even aware that they made a decision to be irrational because the decision to be irrational is so automated. In fact, we know that a great deal of decision making and behavior is automated and defies simple explanation.

Cherian and Harris (1989) suggest that because people impute purposiveness when none actually exists, self reports should not be trusted. I would modify their conclusion and suggest that self reports should not be relied upon exclusively. Neither should "experiments" that are constructed to produce outcomes consistent or inconsistent with the rational model (a number of researchers in consumer behavior appear to be sufficiently clever to produce all sorts of odd behavior through skillful manipulation of the decision environment, but this also tells us little about how consumers actually behave). I am equally uncomfortable with the suggestion of Cherian and Harris (1989) that because consumers do not know what they are actually doing, and why, it is better to have a researcher interpret the intent of a consumer. There is a logical fallacy in the assumption that someone who is incapable of understanding his or her own behavior is better able to understand someone else's behavior.

What I really think all this means is that we need multiple approaches to the study of consumer behavior. I also think these multiple approaches should be applied by the same researchers. Rather than one group of researchers doing experiments, another doing naturalist observation, and still another using self reports, the discipline would profit from having the same phenomenon investigated by several means. Thus, self reports might be complemented by observation and interpretation. "Interpretations" might be checked against self-reports or against the results of carefully designed experiments. Experimental results might be checked against the subjective perceptions of both the subjects of the experiment and other knowledgeable judges. This would make it somewhat more time consuming to do research, and require facility with numerous approaches to research, but it might lead us to a more complete understanding of consumer behavior.

THE NEED FOR AN INTEGRATED PERSPECTIVE

Although I agree with many of the conclusions of the authors of the three papers we

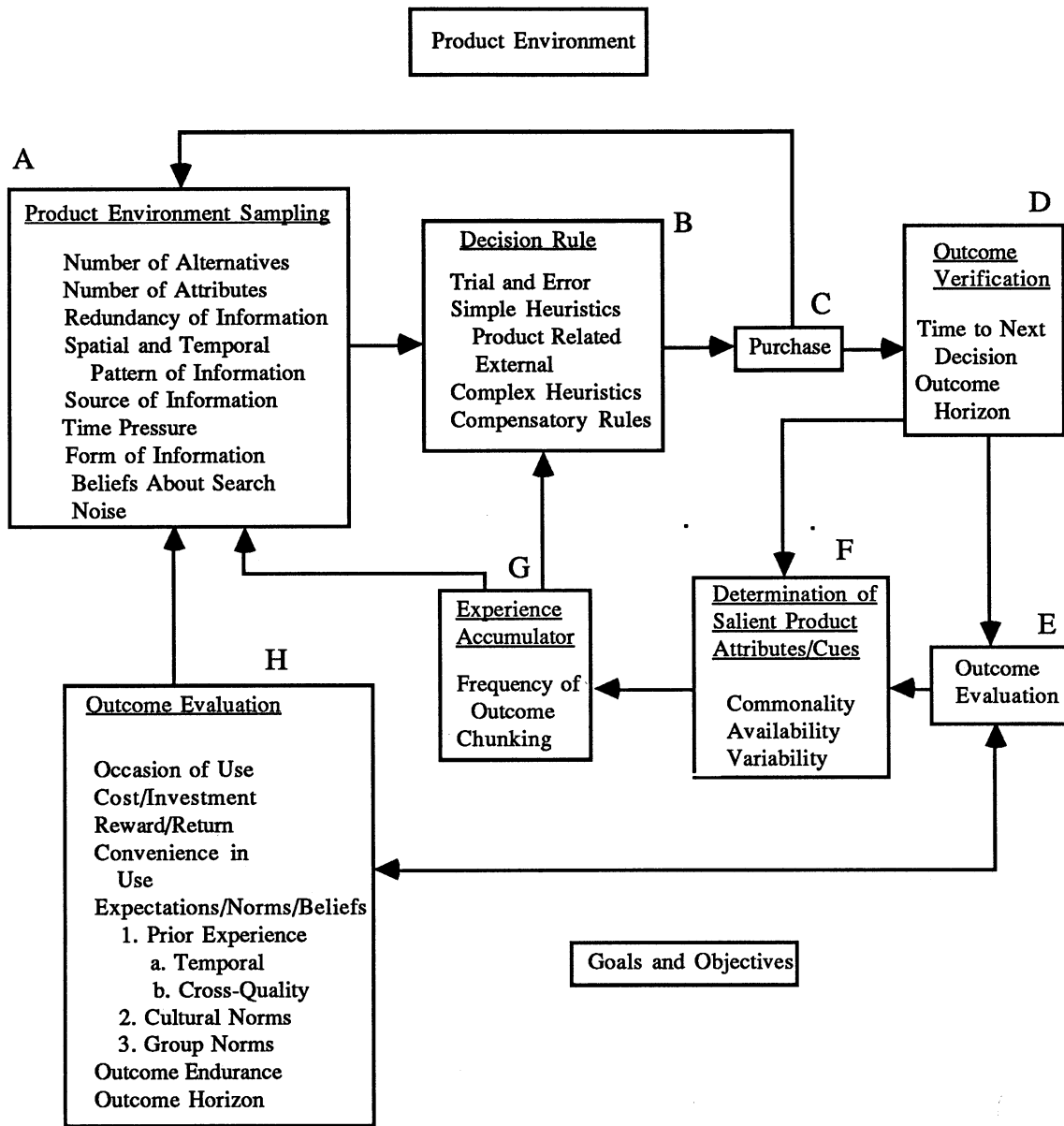
have heard today, I am concerned that each of the approaches we have heard is yet another opportunity for the fragmentation of the field of consumer research. Consumer researchers have borrowed quite liberally from other disciplines, but most of this borrowing has involved theories, concepts, or methods that are appropriate for a narrow class of phenomena. The more general phenomenon of consumer behavior gets lost as a result. While I do not think it is yet time for the development of new grand theories of consumer behavior, I do think it is time that we began to place specific studies, approaches, and theories in the more general context of consumer behavior.

At the risk of being accused of introducing yet another flow chart into a discipline that is already replete with them, I wish to try to illustrate what I mean by such integration using the three approaches suggested today. At the same time, I hope to point out some additional areas of neglect in the study of consumer behavior. Figure 1 is a simplified diagram of consumer decision making. Notice that there is no obvious beginning or ending. For purposes of illustration, let us enter the process in Box A-Product Environment Sampling. When a consumer recognizes a particular need, there is a search for a solution. Much of the consumer information processing literature has focussed on this aspect of the decision process and we have identified a wide range of factors that may influence the acquisition of information-the number of alternatives available, the number of attributes associated with each alternative, the spatial and temporal pattern of information, and so forth. The role of beliefs in determining the extent of this sampling has also received some attention, but far less than some of the characteristics of the information environment itself.

Social judgement theory and related theoretical perspectives have provided some understanding of this part of the process, particularly when the quality of information is not perfect and there is redundancy of information. Research on beliefs about the search process itself, sources of information, and the utility of particular types of information would also tell us a great deal about this type of consumer behavior. In fact, conceptualizing the process as a sampling process facilitates thinking about all of the determinants of the process. It also directs the focus away from the information environment itself and toward the sampling decisions being made by the consumer.

Ultimately information obtained in the search process may be used in a given decision rule (Box B). Decision rules have been the province of normative and behavioral decision theory, and more recently multiple criteria decision theory. Let me suggest that there have been few real efforts to link what goes on in Box A with what goes on in Box B. There must be a relationship and it is not so simple as more information leads to more complex decision rules. It is easy to find examples of extensive information search followed by the use of a simple heuristic, though it may be more difficult

FIGURE 1



to find examples of little search followed by more complex rules. On the other hand, we do know that decisions can be automated with experience. More experienced consumers tend to make global, brand based decisions and do relatively little information search. This process of automation (represented in Box G) is not well understood though information integration theory provides a means for modeling the process.

Whatever the decision rule employed, the decision may or may not be followed by an action that implements the decision (Box C in Figure 1). The impact of situational factors which may prevent

implementation of a particular decision is well documented. What is less well studied is the impact such factors may have on future search strategies and/or decision rules. For example, does a strategy or rule that frequently produces decisions that the consumer is unable to implement give way to other rules? In which situations are the decision rules actually used by a consumer known to the consumer and in what situations do the decision rules remain hidden from the consumer?

Post-purchase evaluation is well documented and a number of factors that influence it have been identified. I would like to suggest, however, that

there are really two distinct types of post-purchase evaluation. The first, represented in Box D, I have called outcome verification. In this process the consumer merely verifies that an outcome sought has been obtained—the aspirin relieved the headache, the soft drink quenched thirst, the life insurance policy provided a sense of security. There is no question about whether the outcome is desirable or not. The evaluation of the desirability of the outcome has been made at some previous point in time and the consumer needs only to verify that the expected outcome did in fact occur, or did not occur. In other situations it may not be so clear whether an outcome is desirable. This is particularly likely when the outcome has not been experienced before. Consider the first time you tasted beer or a pickle. You probably had to decide whether you even liked the taste (and that may have required several trials). This facet of the decision process has largely been neglected by all theories of decision making, yet it is at the very heart of the process. Some of the factors that may influence this process are listed in Box H, but we still don't understand preference formation. Motivation has not been a hot issue in consumer psychology for a long time. While I am not suggesting a wholesale return to motivation research, this is a dimension of consumer decision making that has not received its due attention.

For some products this experiential dimension may be all that is important to the choice process, and this has important implications for information search and for the selection of a decision rule. Part of information search may be experiential, involving product trial and outcome verification (the chair "feels" comfortable, the tennis racket or golf club "feels" right in one's hand, the drink was "refreshing"). This type of evaluation is distinctly nonverbal and has received scant attention. Our theories of decision making have tended to be largely cognitive, and it is not clear how experiential outcomes or attributes fit. This is perfectly consistent with the perspectives articulated by Rassuli and Harrell (1989) and by Cherian and Harris (1989).

Attribution theory suggests that consumers seek a theory to guide their behavior in the future. Such theories represent belief systems. These belief systems have also received some attention from consumer researchers, but more needs to be done. In particular, the development of these belief systems over time would be a particularly fruitful avenue for research. For example, having experienced a given outcome associated with a product, the consumer may attempt to identify distinguishing characteristics of the product—"Products with x produce y". This is depicted in Box F along with factors that have been shown to influence this process. The distinguishing characteristics identified by the consumer are likely to become more prominent in search activities and decision rules in the future. In effect these factors are believed to be important. Social judgment theory would also suggest that some situations provide better distinguishing information than

others, though the lack of a product characteristic that clearly differentiates superior from inferior products does not preclude the consumer from inventing one. In time, these differentiating characteristics may be abbreviated or combined, making it difficult to sort out the original distinguishing attributes. Indeed surrogate attributes may be used that have no relationship to the original benefits sought or experienced.

NEED FOR LONGITUDINAL RESEARCH

I have now walked through the decision process, indicating where various approaches appear to make their contribution and where gaps seem to exist. I would note one other problem in studying consumer decision making. We almost never begin with a naive consumer. We study consumers who generally have a very long history, so we are looking at a well developed process rather than a developmental one. This tends to introduce some significant biases into our way of thinking about consumer decision. A little reflection will suggest the nature of those biases—the decision process will tend to be more abbreviated and more cognitive than would be the case for a truly naive consumer. This is because purchase decisions tend to become more automated with experience and because the experiential aspects of consumption (and the outcome evaluation process) tend to be subordinated to verbal surrogates with experience.

CONCLUSION

I believe we have much to learn about consumer decision making. We can advance our knowledge quickly by doing two things. First, we must integrate the multiple perspectives on the phenomenon and identify the linkages among them. This also means bring multiple methodologies to bear on the study of the same events and processes. Second, we must look at the development of consumer behavior over time through well constructed longitudinal studies. This work is long overdue, and it is time to get on with the task.

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The Effects of Situational and Intrinsic Sources of Personal Relevance on Brand Choice Decisions

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ABSTRACT

In the present study, the effects of subjects' intrinsic sources of personal relevance (ISPR) and situational sources of personal relevance (SSPR) with using fragrances (perfumes and/or colognes) on their brand choice intentions were examined through the use of multivariate profile analysis of repeated measures. ISPR and SSPR, individually as well as together, were found to have significant influences on individual brand choice intentions. These results emphasize the importance of examining both variables concurrently in consumer research.

INTRODUCTION

Consumer researchers have reached a general consensus that views the involvement construct as the degree of personal relevance an individual perceives in a concept such as a product or product related behavior (Petty, Cacioppo, and Schumann 1983; Zaichkowsky 1985). Personal relevance is defined as "the perceived linkage between an individual's needs, goals, and values and his/her product knowledge (i.e., product attributes and benefits)" (Celsi and Olson 1988, p. 211). Key to this perspective is that the overall amount of personal relevance an individual experiences or feels at any particular point in time is determined by situational and intra-personal factors (Houston and Rothschild 1978). Celsi and Olson (1988) defined these factors as situational and intrinsic sources of personal relevance.

Situational sources of personal relevance (SSPR) are specific cues or contingencies in a consumer's immediate environment that are perceived as personally relevant in the context of that particular situation. For example, price promotions, the presence of significant others, or the perceived importance of an event create contingencies in consumers' immediate environments that may activate personally relevant goals or values such as "be thrifty" or "look good" (Celsi and Olson 1988). SSPR are transitory and decline in relevance when the personal goal is achieved. In contrast, intrinsic sources of personal relevance (ISPR) are "relatively stable, enduring structures of personally relevant knowledge which are stored in memory and concern objects or behaviors that are intrinsically relevant to the individual. For instance, wine connoisseurs and computer buffs tend to perceive consumption activities associated with these products as personally relevant across situations" (Celsi and Olson 1988, p. 212).

To our knowledge only two studies have specifically considered the combined effects of situational and intrinsic factors on consumer behavior. First, Richins and Bloch (1986) examined

the effects of situational and enduring involvement (i.e., SSPR and ISPR, respectively) on consumer information acquisition behavior. Then, Celsi and Olson (1988) demonstrated the effects of SSPR and ISPR on consumers' attention and comprehension processes. Both, Celsi and Olson (1988) and Richins and Bloch (1986) demonstrated that situational and intrinsic factors combined to affect consumers' behaviors and concluded that future consumer research should examine the effects of both factors on consumers' thought processes and behaviors.

Therefore, in the present study, our objective is to extend this stream of research by examining the effects of SSPR and ISPR on consumers' brand choice intentions.

Research Issues

As discussed above, ISPR and SSPR have been demonstrated to affect consumers' attention to and search for product information as well as their elaboration of that information. However, to our knowledge, no study has examined the combined effects of SSPR and ISPR on brand choice decisions. For example, consider the product class of fragrances (perfumes and colognes) which is characterized by many competitive brands and low brand switching barriers. Do women who use fragrances have a single brand of perfume and/or cologne that they wear in most or all circumstances, or, does the perceived level of SSPR in a situation affect their choice of brands? Does the level of a woman's ISPR with fragrances also affect her choice of brands? Moreover, do SSPR and ISPR interact? For instance, do women with low levels of ISPR with fragrances tend to perceive usage situations differently than women with higher levels of ISPR?

We would expect the answers to these questions to be yes. The situation should affect brand (e.g., fragrance) choice to the extent that the situation is perceived by the individual to be personally relevant and leads to the activation of goals such as the maintenance or enhancement of one's self-image. ISPR should also affect brand choice across situational frames by heightening the perceived instrumental value of the product class to enhance, accentuate, or maintain one's self-image. Finally, we would expect to observe an interaction between ISPR and SSPR since women with different levels of ISPR with the product class of fragrances are likely to have different perceptions of the same situation. This interaction would most likely occur when individuals are confronted with situations independently judged to be of moderate or ambiguous importance. For example, in a study concerning the sending of greeting cards in various situations, Walker (1988) found that women with high levels of

ISPR tended to perceive moderate situations (e.g., sending a greeting card to a non-significant other on a common occasion) as more personally relevant than did women with lower levels of ISPR.

In summary, we propose that SSSPR and ISPR will demonstrate significant effects on individuals' brand choice intentions. Furthermore, we propose that SSSPR and ISPR will interactively affect individuals' brand choice intentions. In the following study, we empirically test the above propositions.

METHODOLOGY

Overview

A study was designed to examine the effects of SSSPR and ISPR on women's brand choice behavior in the product class of fragrances. A questionnaire was given to 450 subjects to determine their level of ISPR with fragrances and brand usage intentions under different situations. A total of 200 subjects responded (response rate of 44%), of which 55 subjects were dropped due to missing data. The analysis to be reported here is based on a sample of 145 respondents, representing a usable response rate of 32%.

Subjects

The subject population was comprised of undergraduate and graduate university students from a large southern university. The subjects' ages ranged from 17 to 27.

Measuring Intrinsic Sources of Personal Relevance

In the present context, ISPR refers specifically to the self-relevant meanings stored in long-term memory that individuals associate with fragrance. Thus, measures of ISPR must capture or reflect the personal relevance individuals perceive in perfume/cologne. In this study, the subjects' ISPR with fragrance was measured with Zaichkowsky's Personal Involvement Inventory (cf. Zaichkowsky 1985). This scale was selected because it was developed to measure "a person's perceived personal relevance of the object based on inherent needs, values, and interests" (p. 342). This scale contains 20 7-point items each labeled with bipolar adjectives (e.g., important/unimportant; irrelevant/relevant; essential/unessential). Subjects were asked to think about what colognes/perfumes meant to them and then to complete the scales. By use of the Cronbach alpha, the internal consistency of this multi-item scale was found to be quite good with a reliability of .97. Moreover, the item-to-total correlations ranged from a low of .61 to a high of .87.

Situational Sources of Personal Relevance

Each subject was presented with 13 situations that varied in their levels of SSSPR relative to the product class of fragrances. A previous focus group was conducted and used as the basis for generating usage situations for the questionnaire. Most

situations revolved around typical activities of student life.

Ranking of the Situations. Three female college students served as a panel of judges and ranked-ordered the 13 situations on the criterion of importance of the situation for wearing a perfume/cologne. Three of the situations gave divergent rankings across the panel and were dropped from further analysis. For the remaining 10 situations, an interjudge reliability of .76 was achieved.

The situations were then divided into three groups representing differing levels of SSSPR (low, moderate, and high). The following are examples of low SSSPR (L-SSPR), moderate SSSPR (M-SSPR), and high SSSPR situations, respectively:

L-SSPR You are going to participate in a physical activity, like volleyball, at the beach.

M-SSPR You are going to the mall with a group of friends, both male and female. There are NO boyfriend/girlfriend relationships in the group.

H-SSPR You plan to study for exams with a group of female classmates at the library. A few members of the group and yourself have made plans to go to Five Points (an area with a number of college bars) after studying and will be leaving directly from the library.

The Dependent Measures: Shifts in Usage Intentions

In the questionnaire each respondent was asked to list her three (or fewer if she does not own at least three) most preferred brands of fragrances that she owns and the percentage of time that she uses each of them. Each of the subjects three brands were then rank-ordered according to their percent usage, where the most used brand was ranked number one, the second was ranked number two, and the third was ranked number three. This rank ordering of each subject's brands produced a baseline or "average" likelihood usage for that respondent which served as a point of comparison. In addition, each brand of fragrance listed by the subjects was classified into four categories (1 = high, 4 = low) representing the "prestige" image of the brand. Membership to each "prestige" category was determined by consensus opinion of two industry observers (the first author and an executive from an international cosmetic company) and was consistent with instrument variables such as price and exclusiveness of the distribution of each brand.

In the questionnaire, each subject was presented with each usage situation and was required to state which if any of her listed fragrances she would mostly likely use in that situation and in what order. Each response made by a subject in each

situation was then compared to the subject's baseline to derive whether, in a given situation, the respondent would shift upwards or downwards with respect to fragrance prestige. A negative shift of value -1 was assigned to situations when the respondent selects a lower prestige brand over a higher prestige brand. Conversely, a positive shift of value 1 was assigned to situations when the respondent selects a higher prestige brand over a lower image brand. If there is no change in response with respect to the baseline, then the shift has value zero. Finally, if the respondent chooses to wear no fragrance in a situation, the shift value assigned is -2. For example, consider the case where the baseline is (2,1,3), where the respondent's most often used brand has prestige value 2, her second most often used brand is of higher prestige than her most often used brand, and her third most often used brand is lower in prestige than her first brand. If her response to a situation is (3,2,1), then we would consider this a negative shift because in this situation she has stated an intention to use a lower prestige brand over her usual brand. If the response is (1,2,3), we would consider this a positive shift because the respondent has stated that she is more likely to use a higher image brand over her usual brand of prestige value 2. Similarly, we would consider a response of (2,3,1) as a shift of -1.

For each respondent, an average shift for each set of situations is computed. That is, for every respondent j , we compute $L\text{-SSPR}_j$, $M\text{-SSPR}_j$, and $H\text{-SSPR}_j$, where $L\text{-SSPR}_j$ is the mean shift across situations in the L-SSPR group, $M\text{-SSPR}_j$ is the mean shift across situations in the M-SSPR group, and $H\text{-SSPR}_j$ is the mean shift across situations in the H-SSPR group, respectively.

Research Design

The purpose of this research is to compare the effect of ISPR and SSPR on behavioral intentions. Subjects are given a questionnaire which they were asked to complete and return. Each subject is presented with all usage situations and asked to choose from her 3 listed fragrances, which ones she would most likely use in that situation. A research design employing multivariate profile analysis of repeated measures on different situations is chosen to control for individual differences between respondents. In particular, differences between respondents could be quite large relative to differences in ISPR and SSPR effects and, therefore, we hope to account for this within subject variations by the selection of this design. To minimize the carry-over effects across situations, the order in which the situations are presented to the respondent is counterbalanced.

METHOD OF ANALYSIS

Since each respondent has repeated measures of brand usage intentions as measured by shifts from her baseline, Winer (1971) suggested treating the trials factor (differing levels of SSPR) as a multivariate profile and conducting contrasts across

the estimates for the profile effects. The repeated measures model used in this analysis is presented below, where the situation (L-SSPR, M-SSPR, H-SSPR) is a fixed factor and the subjects are random:

$$X_{ij} = \alpha_i + \beta_i \text{ISPR}_j + \epsilon_{i(j)}$$

where

- i = situation treatment subscript (L-SSPR, M-SSPR, H-SSPR)
- j = respondent subscript, $j=1, \dots, 145$
- X_{ij} = shift in brand usage intentions for respondent j within situation treatment i
- ISPR_j = level of intrinsic sources of personal relevance for respondent j
- α_i = effect of situation treatment i
- β_i = effect of ISPR nested within situation i
- $\epsilon_{i(j)}$ = random error for respondent j within situation group i .

The multivariate profile analysis of repeated measures computations for this model is carried out using the MGLH program included in the SYSTAT software package (Wilkinson 1984).

RESULTS

The research hypotheses are tested by a series of multivariate profile hypotheses. We begin by testing the ISPR main effects first, then the SSPR effects, then the ISPR-by-SSPR effects. The main effect of ISPR is tested with a univariate F statistic. For all of the tests involving situations, the test statistic is a multivariate F. Furthermore, hypotheses contrasting adjacent pairs of profiles are tested with univariate F statistics. The homogeneity of covariance matrices hypothesis is supported by the data (Bartlett's Chi Square = 2.60 with 6 df).

Parameter Estimates

The above model was estimated and provided the following results:

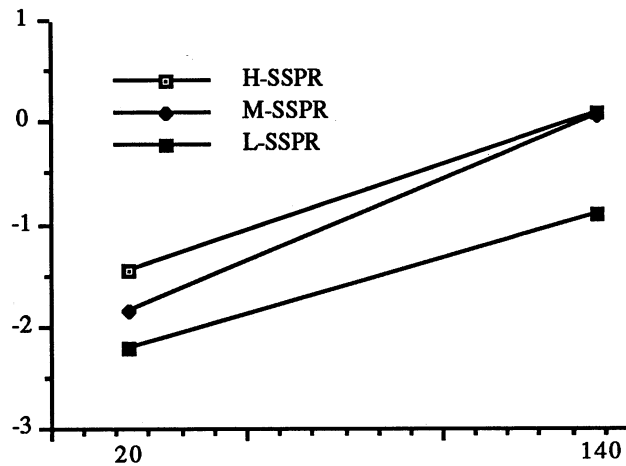
	L-SSPR	M-SSPR	H-SSPR
α_i	-2.443	-2.182	-1.726
β_i	.011	.016	.013
adj R^2	.133	.216	.163

The profiles corresponding to these estimates are shown in the Figure. These profiles indicate that the effect of ISPR on shifts in intentions differs - low and high ISPR respondents behave in different ways depending on the relevance of the situation.

ISPR Effects

The first hypothesis we test is that ISPR would have a significant effect on brand choice intentions (i.e., β_i is not zero for all i). This hypothesis is supported by the data ($F_{1,143} = 44.34, p < .01$). Referring back to the parameter

FIGURE
Profiles of shifts in brand choice intentions as a function of ISPR for three SSPR levels



estimates, we conclude that as the respondent's level of ISPR increases, she is more likely to shift towards more prestigious brands.

SSPR Effects

The next hypothesis we test is that the personal relevance subjects perceive in different situations (SSPR) affect their brand choice intentions. The results support this hypothesis with the multivariate SSPR effect found to be significant at the .02 level (Wilks' $\Lambda = .94$, $F_{2,142} = 4.59$, $p < .02$). From the Figure, we can see that as the perceived SSPR increases, the respondents state intentions to use more prestigious fragrances. The univariate F statistics for contrasting the adjacent profiles are $F_{1,143} = .98$, $p < .33$ and $F_{1,143} = 6.41$, $p < .01$ for the contrast of L-SSPR to M-SSPR and M-SSPR to H-SSPR, respectively. The univariate F tests indicate that this multivariate effect is substantially due to the second contrast.

ISPR-By-SSPR Effects

The third hypothesis we test is the multivariate ISPR-by-SSPR interaction. This effect is found to be significant at the .10 level (Wilks' $\Lambda = .97$, $F_{2,142} = 2.39$, $p < .10$). These results indicate that a person's level of ISPR has a differential effect on brand choice intentions which is dependent on the perceived level of SSPR. The univariate F statistics for contrasting the adjacent profiles are $F_{1,143} = 3.30$, $p < .10$ and $F_{1,143} = 2.72$, $p < .11$ for the contrast of L-SSPR to M-SSPR and M-SSPR to H-SSPR, respectively. Here the univariate F tests indicate that the multivariate effect is due more to the first contrast than the second contrast.

DISCUSSION

The results of this study provide evidence that subjects' brand choice decisions are influenced by situational and intra-personal factors. First, the results demonstrated that the subjects' level of ISPR influenced their brand usage intentions. As ISPR increased, the subjects tended to use more prestigious fragrances across situations. Second, subjects exhibited a positive shift towards more "prestige" fragrances as the level of SSPR increased across situations. This indicates, as expected, that the personal relevance perceived in situations affects consumers' brand choice decisions. Finally, the most important and interesting finding is the significant interaction between SSPR and ISPR. We find that the subjects exhibited a similar pattern of results when stating their brand choice intentions in the low and high-SSPR situations. However, in the moderate-SSPR condition, the subjects displayed a different pattern resulting in the interaction. When the subjects were presented with situations previously judged to be moderate, those with low levels of ISPR tended to respond to the moderate situations the same as they did to the low-SSPR situations. In contrast, subjects with high levels of ISPR tended to respond to the moderate situations the same as they did to the high-SSPR situations.

Why should the relationship between brand choice intentions and intra-personal relevance change with situations? Possible behavioral explanations are that the subjects' responses in the moderate-SSPR situations occurred as a function of (a) perceptual bias, (b) conscious choice based on the variance of possible outcomes in the moderate situations, or (c) a combination of "a" and "b".

In the case of perceptual bias, the high ISPR individual's world view, for example, may be such that end-states such as "looking good" or

"maintaining one's self-image" are so highly valued that the individuals tend to perceive their world differently than low ISPR individuals. Individuals with high levels of ISPR may simply perceive a greater range of situations as highly relevant to these personal goals. In contrast, individuals with lower levels of ISPR may perceive most situations as having little relevance. Future research could examine this issue by having the subjects also rate the personal relevance of each situation.

In the case of the conscious choice explanation, consider that the SSPR in all situations is really an "expectation" or average of all possible outcomes that those situations will be personally relevant. If we view SSPR in this fashion, it is reasonable to assume that most people would view high and low-SSPR situations in a generally consistent manner. For instance, "going dancing" or "doing your homework" will be consistently viewed by most people as having high and low levels of SSPR, respectively, relative to the goals of "looking good". However, in moderate-SSPR situations a greater variance of potential outcomes are possible. For instance, "going shopping with a group of friends" could become highly relevant if one of these friends unexpectedly brings along another friend of the opposite sex. Thus the probability that a moderate situation might in fact turn out to be of "high" or "low" relevance is not clear. It is here that ISPR exerts its greatest influence on brand choice selection. For instance, high ISPR subjects may be simply less willing to risk the outcome that a moderate situation may turn out to be highly relevant. Here the variance of possible outcomes leads the high ISPR subject to treat the "expected" moderate situation as if it were a high relevance situation (e.g., better to be overdressed than underdressed). This model of decision making under risk is consistent with what Kahneman and Tversky (1979) termed prospect theory.

The same rationale may apply to the low ISPR subjects who respond to the moderate-SSPR situations as if they were of low relevance. This does not seem likely, however. It is doubtful that low ISPR individuals would expend the cognitive energies required to analyze the range of possible outcomes from moderate situations. It is just not that important to them. In this case, it seems more likely that low ISPR individuals simply categorize most situations as having low relevance. Therefore, option "c" may be the most plausible, that is, high ISPR subjects may tend to analyze moderate situations in a conscious, controlled manner because of their involvement, while low ISPR individuals may perceive little difference between low and moderate-SSPR situations.

Future Research Issues

The results of this study demonstrate the importance to consumer researchers to further understand the nature of situations. Future research could focus on and attempt to identify the specific cues and contingencies in situations that individuals

perceive and respond to. Such research would lead to a more complete spectrum of situations and to the discernment of perceived risk associated with specific situations. In addition, future research should attempt to understand further the relationship between personal factors such as ISPR and situational factors. Do individuals with differing levels of ISPR categorize situations differently? When might interactions be expected? How will they manifest themselves? Under what conditions can we expect different groups of consumers to respond differently to the "same" information? Are these interactions caused by perceptual biases or are they the result of controlled elaboration of the situational information?

CONCLUSIONS

We have extended previous research concerning the effects of ISPR and SSPR on consumers' behaviors to include brand choice intentions. SSPR and ISPR, individually as well as together, were found to affect individuals' brand choice intentions. The interaction highlighted the subtle way that intra-personal factors can affect the way individuals respond to and possibly perceive situational information. These results emphasize the importance of examining both variables concurrently in consumer research.

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Effects Of Individual Difference Variables On Responses To Factual and Evaluative Ads

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Previous research has shown that factual ads that contain logical, objectively verifiable descriptions of tangible product features are more effective than other message appeals (Golden and Johnson 1983; Kuritsky, et al. 1982). Our research demonstrates that this is true only for people with certain cognitive personality orientations. We find that people who enjoy thinking, problem solving, and other mental exertions are more persuaded by and have greater confidence in factual ads. In contrast, people who strive to simplify their environment and avoid cognitive stress respond to evaluative ads that contain emotional, subjective impressions of intangible aspects of a product.

BACKGROUND

A considerable body of research has examined the relationship between person factors and responses to advertisements such as recall, recognition, and persuasiveness. Persuasiveness has been defined in many different ways and as used here encompasses the believability of an ad and how convincing it is, amongst other dimensions. Much of the research focuses on demographic factors (Lipstein and McGuire 1978). Although the findings are inconsistent, which make definitive statements difficult, this research seems to indicate that age is negatively related and education and income are positively related to commercial recall (Schlinger 1983). While these findings have had considerable impact on research in advertising effectiveness (in the design of copy testing experiments, for example), in comparison with demographic factors the relationship of other person factors, such as personality, with responses to ads has been neglected.

The study of individual difference personality traits in advertising research is important for several reasons. From the methodological perspective, researchers interested in improving the statistical power of their experiments but not specifically interested in individual difference effects must control for these effects if they are demonstrated to be related to ad persuasion (Sawyer and Ball 1981). From the advertising research perspective, demonstrating that personality factors influence persuadability of ads has practical implications for copy testing procedures. Since existing procedures control for demographics and product purchase readiness stage in subject selection, they are based on the implicit assumption that personality factors

are not important. However, if personality traits are related to persuadability, it means that an advertisement which is effective with a specific personality type may not be effective with another. Understanding this will help tailor advertising messages to different target audiences, target it more effectively, and better utilize advertising dollars.

In spite of the considerable potential importance of personality factors in advertising research, there are several good reasons for its neglect. Primarily, these variables have been found to be relatively ineffective in explaining different facets of consumer behavior (Kassarjian 1971; Wells 1975). One possible explanation is that the personality traits examined in previous research were borrowed from standardized personality inventories originally developed to measure abnormal personality predispositions and therefore not specifically relevant in the advertising context.

Individual difference personality traits that can be theoretically related to persuasion may be more effective in explaining responses to ads. One objective of this research is to show that personality traits that capture an individual's cognitive orientation will be effective in explaining responses to ads which include the persuadability of and confidence in ads. Consider, for example, the style of processing scale developed by Childers, Houston and Heckler (1985) which differentiates verbally oriented people from visually oriented people. Verbally oriented people have a preference and propensity to engage in verbal information processing. They agree more with items such as "I enjoy work that requires the use of words," and "I like to think of synonyms for words." In contrast, people who have a preference and propensity to engage in visual information processing agree more with items such as "My thinking consists of mental pictures and images." Childers, Houston, and Heckler (1985) hypothesized and found that verbally oriented people have better advertisement recognition and recall as compared to visually oriented people.

The Childers et al. (1985) study suggests that traits that capture a person's cognitive orientation are related to responses to advertising. But is this equally true for different types of ads such as emotional and factual ads? Intuition and research suggest not. For example, Rossiter and Percy (1978) found that preference for engaging in imaginal processing as measured by the Visualizer-Verbalizer scale (Richardson 1977) was strongly related to positive affective reactions to visually oriented print advertisements. The findings of Childers et al. (1985) combined with those of

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Rossiter and Percy (1978) suggest that in addition to individual differences, message content is an important determinant of responses to ads. The importance of message content in understanding responses to ads is supported by Holbrook and Lehmann (1980) who found that message content factors such as type of appeal are important predictors of advertising recognition over and above the predictive power of mechanical ad factors such as size and effects of product class.

In this context, another objective of this research, besides demonstrating the relationship between traits that capture a person's cognitive orientation and responses to ads, is to show that personality traits and ad content interact in affecting responses to ads. It is hypothesized that certain cognitive personality traits are related to responses to factual ads that contain objectively verifiable data and others are related to responses to evaluative ads that contain subjective, emotional appeals. The specific responses studied here are the persuadability of ads and confidence generated by the ads.

HYPOTHESES

This research studies the relationship between traits that capture facets of cognitive orientation such as *style*, preference for engaging, *effortful* cognitive activities, preference for cognitive *stimulation* and responses to factual and evaluative ads. Of the different traits that capture an individual's cognitive orientation this research focuses on: cognitive style, an individual's characteristic way of dealing with uncertainty (Cox 1967); need for cognition, an individual's tendency to engage in and enjoy effortful cognitive endeavors (Cacioppo, Petty and Kao 1984); style of processing, a preference and propensity to engage in a verbal and/or visual modality of processing (Childers et al. 1985); and cognitive innovativeness, an individual's preference for engaging in new activities that stimulate thinking (Pearson 1970).

Consider the cognitive style of people identified as "simplifiers" (Cox 1967) and that of visually oriented processors (Childers et al. 1985). Simplifiers strive to achieve cognitive structure by avoiding new information. According to Cox, they not only ignore new information, they also deny it, distort it, or in other ways defend themselves against its impact, thereby avoiding ambiguity and cognitive stress. Similarly, people who have a propensity to engage in visual processing (Childers et al. 1985) prefer watching demonstrations, using diagrams or pictures instead of reading instructions. Therefore, it is expected that simplifiers and visual processors should not respond to the objective, logical factual ads but should prefer evaluative ads that contain subjective, emotional impressions of products. In this context, it is hypothesized that simplifiers and visually oriented people should be more persuaded by and have greater confidence in the evaluative ad as compared to the factual ad.

People with high need for cognition, cognitive innovativeness and verbally oriented

people will respond differently from simplifiers and visually oriented people. According to Cacioppo and Petty (1982), people who have a high, as opposed to low, need for cognition are likely to acquire, elaborate on, and evaluate new information to which they are exposed because they enjoy effortful cognitive activities. Similarly, people who have high cognitive innovativeness enjoy thinking, pondering, and puzzling over issues and other mental exertions and seek new information that stimulate these mental activities (Pearson 1970). Also verbally oriented people enjoy reading, learning new words, thinking up synonyms for words, and doing work that requires the use of words (Childers et al. 1985). This suggests that people with high need for cognition and cognitive innovativeness, and verbally oriented people should be more persuaded by and have greater confidence in the factual ad as compared to the evaluative ad. In summary, the hypotheses are:

- H1. The cognitive style of simplification and visual style of processing have a significantly stronger relationship with the persuasiveness of and confidence in the evaluative as compared to factual ad.
- H2. Need for cognition, cognitive innovativeness and verbal style of processing have a significantly stronger relationship with the persuasiveness of and confidence in the factual as compared to evaluative ad.

METHODOLOGY AND ANALYSIS

The Factual and Evaluative Message

Factual and evaluative messages used in past research were selected as stimuli (Holbrook 1978). These ads describe six attributes of a fictional new automobile called the Vendome: (1) appearance, (2) handling and ride, (3) interior comfort and roominess (4) safety features, (5) service record, and (6) economy of operation. Pretests revealed that the two messages were perceived to be equivalent in meaning, favorability, length, and features described.

Procedure

Subjects were 78 undergraduate students attending a large north-eastern university. In two separate in-class sessions, subjects completed the cognitive style, style of processing, need for cognition, and cognitive innovativeness personality scales. In a third session, scheduled a week later so that the connection between the personality tests and their responses to the ads would not be made, the same subjects were randomly assigned to either the factual or the evaluative message condition. After reading the messages, each subject completed a questionnaire that measured responses to the advertising messages. Responses were measured on a nine-point scale ranging from (1) "not at all" to (9) "extremely" for 10 items used by Holbrook

TABLE 1
Loadings Of The Ad Response Variables On Two Varimax-Rotated Factors

Ad Response	Factor 1 Persuasiveness	Factor 2 Confidence
1. Well written	.76	.20
2. Coherent	.65	.28
3. Difficult	-.01	-.82
4. Interesting	.64	.41
5. Pleasing	.64	.45
6. Confidence	.10	.85
7. Believable	.71	-.01
8. Persuasive	.86	.05
9. Convincing	.85	.03
10. Certain	.41	.45
Eigen value	4.48	1.49
Percentage of Variance	45.70	14.90

(1978) which were found to tap persuadability of the ads and extent of confidence in the ad message (Items are shown in Table 1).

Preliminary Analyses

Responses to Ads. Of the 78 subjects, 37 were assigned to the factual and 41 to the evaluative message condition. Of these, 5 subjects were excluded from the analysis due to missing data. A principle components analysis was performed on ad responses yielding two factors that accounted for 60.6% of the variance in the original ten variables. The varimax-rotated factor loadings are presented in Table 1. These factors were interpreted as (1) persuasiveness, and (2) confidence. Factor scores were employed in all subsequent analyses involving responses to ads.

Reliability. All scales, except the verbal and cognitive style scales, satisfied the Nunnally (1978) reliability criteria of .70. The Cronbach's alpha for the need for cognition scale was .83, visual and verbal scales were .76 and .58, cognitive style scale was .42, and cognitive innovativeness scale was .88. Hence, in general, scale reliability is considered adequate. The correlations between the scales are reported in Table 2.

Hypotheses Testing

The statistical analysis used to test this hypothesis measured the differential effect of the independent variables (cognitive style, etc.) on the dependent variable (responses to ads) as a function of message content (factual/evaluative). Each ad response (persuasiveness and confidence) was regressed on the trait variable separately for the factual and evaluative message condition (Arnold 1982; Baron and Kenny 1986). If the unstandardized regression coefficients differ significantly, then the hypothesis is supported. The significance test is:

$$t = \frac{B_{21}-B_{11}}{(SE^2B_{21}+SE^2B_{11})^{1/2}}$$

with n_1+n_2-4 degrees of freedom

where

B_{21} = slope of Y on X regression line for those cases assigned to evaluative ad

B_{11} = slope of Y on X regression line of those cases assigned to factual ad

SE^2B_{21} = standard error of estimate of B_{21}

SE^2B_{11} = standard error of estimate of B_{11}

n_1 = number of cases assigned to factual message

n_2 = number of cases assigned to evaluative message

RESULTS

H1 is supported for cognitive style. The higher the cognitive style of simplification, the greater the persuasiveness of ($t= 1.94$, $df=73$; $p < .05$) and confidence in ($t=2.00$; $df=73$; $p < .05$) the evaluative as compared to the factual ad (Refer Table 3). However, H1 is not supported for visual style of processing. There are no significant differences in the relationship of persuasiveness and confidence with visual style of processing between the evaluative and factual ad.

H2 is supported for both need for cognition and cognitive innovativeness but not for verbal style of processing. The higher the need for cognition the greater the persuasiveness of ($t=4.18$; $df=73$; $p < .01$) and confidence in ($t=2.37$; $df = 73$; $p < .01$) the factual as compared to the evaluative ad. Similarly, the greater the cognitive innovativeness score the greater the persuasiveness of ($t= 1.74$; $df=73$; $p < .05$) and confidence in ($t=1.55$; $df=73$; $p < .10$) the factual as compared to evaluative ad. However, contrary to expectations, verbally oriented style of processing is not related to persuasiveness

TABLE 2
Correlations Between The Personality Traits

	(1)	(2)	(3)	(4)
(1) Simplifiers	--			
Style of Processing:				
(2) Verbal	-.05			
Style of Processing:				
(3) Visual	.09	.04		
(4) Need for Cognition	-.26	.22	-.11	
(5) Cognitive Innovativeness	-.15	.36	-.02	.40

TABLE 3
The Effect Of Personality Traits On Responses To Factual And Evaluative Ads

Personality Trait	Ad Response	Message Content		T-Value ^a
		Factual	Evaluative	
Independent Variable	Dependent Variable	(SE)	B(SE)	
Cognitive Style-simplifiers	Persuasiveness	-2.44(4.90)	12.02*(6.99)	1.94**
	Confidence	-4.10(3.73)	5.22(4.18)	2.00**
Style of Processing Visual	Persuasiveness	.60(3.3)	-3.5(4.1)	ns
	Confidence	-.10(2.6)	-0.1(3.9)	ns
Need for Cognition	Persuasiveness	3.09**(1.34)	-2.01**(0.82)	4.18***
	Confidence	2.48**(1.01)	-0.36(0.80)	2.37***
Cognitive Innovativeness	Persuasiveness	4.06(7.21)	-14.23*(7.69)	1.74**
	Confidence	8.38(5.52)	-2.90(4.73)	1.55*
Style of Processing Verbal	Persuasiveness	.30(4.2)	-6.8(5.2)	ns
	Confidence	-3.30(3.3)	2.3(5.0)	ns

* Significant at $p < .10$

** Significant at $p < .05$

*** Significant at $p < .01$

^aThe degrees of freedom for the 1-tailed test are 73.

and confidence in a factual as compared to evaluative ad.

DISCUSSION

The results suggest that different cognitive orientations are related differently with responses to factual and evaluative ads. The cognitive style of simplification is related with responses to the evaluative ad, and traits that capture effortful

cognitive activity are related with responses to the factual ad. The hypothesis, however, is not supported for style of processing. Contrary to expectations, verbal style of processing is not related with responses to the factual ad and visual style of processing is not related with responses to the evaluative ad. In the case of verbal style of processing, it seems reasonable to expect that people who have a preference for verbal information

processing would respond to the factual ad. Perhaps they respond by reading the factual ad and therefore they can recognize and recall it as found by Childers et al. (1985). But in the case of the ads used in this study, they do not believe what they read and are not convinced by it, therefore verbal style of processing is not related to persuasiveness of the factual ad. For the visual style of processing, the lack of support for the hypothesis may be due to the fact that the ads do not contain any visuals like pictures, charts or diagrams. Perhaps visual processors respond to pictorial ads more than ads that are factual and verbal.

These findings extend previous research on responses to factual and evaluative ads (Golden and Johnson 1983; Kuritsky et al. 1982). Previous research found that factual ads tend to be more effective than other message appeals. Our research replicates this finding for cognitive innovators and people who are high on the need for cognition. However, people who are not cognitive innovators and do not have a need for cognition do not respond to factual ads. Further, simplifiers respond to evaluative ads. However, since our study used student subjects before any generalization can be made to "all consumers" it must be replicated with a sample representing this population.

In addition to extending past research, our results have implications for procedures used to test ad copy. Existing procedures are based upon the implicit assumption that personality factors do not affect responses to ads. This study, however, provides some empirical evidence to the contrary. These findings indicate that an advertising appeal that persuades and generates confidence for one personality type might not do so for another. Hence, advertisers should carefully consider the personality characteristics of their message recipients, and tailor their persuasive messages to match the characteristics of their target audiences.

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Situational Product Relevance and Attitude Persistence

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ABSTRACT

Attitudes of subjects exposed to an advertisement for a bicycle were assessed immediately and two days later. Based on Petty and Cacioppo's (1981; 1986) Elaboration Likelihood Model, it was predicted and found that product attitudes formed under a condition of relatively high personal relevance showed less decay than product attitudes formed under conditions of relatively low personal relevance. In addition, it was predicted and found that individuals exposed to the critical ad under conditions of high personal relevance chose to spend more time thinking about the ad than individuals exposed to the same ad under low personal relevance conditions.

INTRODUCTION

In a recent ACR paper, Haugtvedt and Petty (1989) discussed how individual differences in need for cognition (NC) may be associated with different levels of attitude persistence. Because NC was developed as a dispositional operationalization of the motivation to process information construct in Petty and Cacioppo's (1981;1986) Elaboration Likelihood Model, Haugtvedt and Petty (1989) predicted and found that initial product attitudes of individuals high in need for cognition (HNC) decayed less over a two day period than did the attitudes of individuals categorized as low in need for cognition (LNC). That is, because HNC individuals tend to put more effort into carefully evaluating information and tend to be more influenced by the quality of arguments contained in a persuasive appeal (see Haugtvedt, Petty, Cacioppo, & Steidley, 1988), it was predicted that the attitudes formed by such individuals would be more durable. On the other hand, because individuals low in need for cognition tend to be less influenced by the quality of message arguments and more influenced by factors such as the attractiveness or expertise of an endorser, it was predicted that their attitudes would exhibit higher rates of decay. The underlying assumption was that attitudes would be more likely to persist if a broader cognitive base existed to support the attitude (multiple associations and cognitive responses for HNC individuals) than if attitudes were based on a lesser number of associations or thoughts (the single fact that an endorser was attractive or an expert for LNC, for example).

THE PRESENT STUDY

Despite the conceptual parallels between NC and the effects of situational variables that enhance message processing, no consumer study to date has examined the effects of situational motivations on the persistence of newly formed or changed attitudes. Thus, the present study was conducted to extend the Haugtvedt and Petty (1989) study by examining the

influence of the situational variable of personal relevance on the persistence of attitudes formed toward a consumer product.

Situational manipulations of personal relevance have been shown to affect the nature and amount of message processing in past research in both social psychology and marketing (see Petty, Cacioppo, and Goldman, 1981; Petty, Cacioppo, and Schumann, 1983 for examples). Existing studies have shown that under conditions of relatively low personal relevance, attitude change tends to be based on the quantity rather than quality of information (Petty & Cacioppo, 1984); celebrity status of product endorsers (Petty, Cacioppo, & Schumann, 1983); and the mere number of people supporting a position (Harkins & Petty, 1981). On the other hand, under conditions of relatively high personal relevance, attitude formation or change tends to be based on the quality of message arguments (see Petty & Cacioppo, 1986 for a thorough review).

In the only study to date to examine the effects of personal relevance on attitude persistence, Petty, Cacioppo, Haugtvedt, & Heesacker (1986, experiment 1) exposed undergraduates to the strong argument version of a message advocating the adoption of senior comprehensive exams (attributed to an expert source) under high and low levels of personal relevance. Based on previous research it was predicted that attitudes changed under conditions of high personal relevance would be based on evaluations of the arguments whereas attitudes changed under conditions of low personal relevance would be based more on the fact that the source of the message was an expert. Consistent with predictions, it was found that attitudes changed under high relevance conditions decayed less over a ten day period than did attitudes changed under low relevance conditions.

In addition to studying the effects of situational relevance on attitude persistence, another goal of the present study was to examine the idea that individuals presented an advertisement under high relevance conditions would, if given the opportunity, choose to spend more time thinking about or "reflecting on" an ad than individuals exposed to the same ad under low relevance conditions. This idea stemmed in part from Tesser's (1978) suggestion that the amount of time individuals spend engaged in what he has labeled "mere thought" can lead to greater attitude polarization. In research in this area, Clary, Tesser, and Downing (1978), for example, found that individuals who were given 90 seconds to reflect on their attitudes toward individuals were more polarized in their attitude than were individuals who were not given time to think. Whereas Tesser's research has examined the effects of assigning individuals various amounts of time to think, we were interested in whether the personal relevance of externally paced

advertisement would influence the amount of time individuals would choose to reflect on an advertisement. That is, we predicted that individuals exposed to an externally paced ad under conditions of relatively high personal relevance would choose to spend more time thinking about information contained in an ad after exposure than individuals exposed to the same ad under conditions of relatively low personal relevance.

METHOD

Eighty-six undergraduate students from an introductory marketing class participated in groups of two to six for extra credit. The students were informed that the study involved the computer presentation and evaluation of print advertisements. They were further informed that because of the number of ads to be evaluated, the study would involve two sessions. The ads were presented on one of six Macintosh SE computers using the application software HyperCard. A series of six advertisements were presented. An informational "card" containing the brand name of the product, where it was manufactured and where the product was to be introduced, appeared immediately before each ad. Importantly, the amount of time the information card and each advertisement remained on the screen was under computer control. After the presentation of each ad, a card (screen) with the statement "take a few seconds to reflect on the ad you just viewed. Click the button below when you are ready to move on" appeared. The amount of time between the removal of the ad and when the subject clicked the button served as a measure of "reflection time." Ads were presented for amounts of time varying from 15 to 22 seconds. The information card for the bicycle ad was presented for 10 seconds and was followed immediately by the bicycle ad. The bicycle ad was presented for 20 seconds. Personal relevance of the product was manipulated by informing subjects via the information card that the product would soon be available in the local or a distant market. The ad was specifically developed to contain strong arguments and positive cues (expertise of the endorser and sheer amount of information). After exposure to all of the ads, subjects were presented a series of questions via the same computer about the ads and products viewed. Among these were questions assessing their opinions of the products contained in the ads.

At the end of the first session, subjects were told to return at the same time two days later. In the second session, subjects' attitudes toward the products viewed in the earlier session were again assessed. They were then debriefed, asked not to tell other students about the nature of the study, and dismissed.

RESULTS

Analysis of attitude toward the bicycle assessed by agreement with the statement "Speedtour Bicycles are good" on a seven point disagree-agree scale revealed comparable attitudes in the low and high relevance conditions in the first session. The

mean attitude score of subjects in the low relevance condition was 5.06 and the mean attitude score of subjects in the high relevance condition was 4.72. Analysis of agreement with the statement "The bicycle advertised in session 1 is good" obtained in the second session revealed a significant difference in the attitudes of persons in the low and high relevance conditions ($F_{1,85} = 5.37, p < .02$). Mean delayed attitude of subjects in the low relevance condition was 3.68 whereas the mean delayed attitude of subjects in the high relevance condition was 4.42. As indicated by this pattern, a 2 (low vs. high relevance) X 2 (immediate vs. delayed attitude) mixed design ANOVA revealed the predicted interaction ($F_{1,84} = 7.71, p < .006$).

Analysis of reflection time revealed that subjects in the high relevance condition waited longer after the presentation of the critical ad ($F_{1,85} = 5.37, p < .02$) before moving on to the next ad than did subjects in the low relevance condition (mean reflection time in the high relevance condition = 6.38 seconds; mean reflection time under low relevance = 4.46 seconds).

DISCUSSION

Both the attitude and reflection time results are supportive of our hypotheses. Attitudes formed or changed under conditions favoring greater elaboration decayed less over a two day period than did attitudes formed or changed under conditions less favorable to argument elaboration. Aside from the Petty et al. (1986) study and the Haugtvedt and Petty (1989) study, very few studies have been reported on the persistence of communication-induced attitude change (see Cook and Flay, 1978, for a review).

Understanding the processes by which attitude formation or change situations influence the durability of attitudes would seem to have important theoretical and practical implications. While there has and continues to be interest in econometric studies on the duration of advertising effects on sales (e.g., Clarke, 1976) and the analytical modeling literature on advertisement scheduling (e.g., Balakrishnan & Hall, 1989), such approaches provide little insight as to the psychological processes at the individual level that may mediate the observed effects. We believe studies of the kind presented here have the potential to build a body of literature that might provide such understanding.

As discussed in the introduction, the Haugtvedt and Petty (1989) study provided evidence that the individual difference variable of need for cognition may be associated with different levels of attitude persistence and the Petty et al. (1986) study provided evidence that situational manipulations of personal relevance for a college exam can have an impact on attitude persistence. There are, however, a number of important differences to consider between the kind of message and situational manipulation used in the Petty et al. (1986) study and the current test of the basic principles in an advertising context. Students, for example, tend to hold very negative attitudes toward the issue of

senior comprehensive exams prior to message presentations and are thus very motivated in the high relevance conditions to engage in counterargumentation during message exposure. It is only when they are unable to successfully counterargue the very strong arguments contained in the message that attitude change takes place under the high relevance condition. On the other hand, most consumers would not hold such extreme negative views toward an unknown brand of consumer product portrayed in an advertisement. Additionally, the extent of personal relevance or strength of a personal relevance manipulation is likely to be very high for an issue like a college graduation requirement when compared to a personal relevance manipulation like the fact a product will soon be available in a local or distant market. Results of the present study suggest that even with the more subtle manipulations in an advertising context, situational personal relevance can have an important influence on attitude persistence.

The finding of differential reflection time is consistent with our idea of a subject's desire for time to "consolidate" their attitudes after exposure to an externally paced advertisement. Such a finding is also consistent with studies that have examined the distracting nature of rhetorical questions under high relevance conditions in persuasive audio messages (e.g., Petty, Cacioppo, & Heesacker, 1981) and past research on cognitive responses (see Wright, 1981). That is, previous studies have suggested that restricting an individual's ability to digest information from an externally paced presentation can influence cognitive responses. To our knowledge, however, the present study is the first to show that individuals under different situational motivation will take different amounts of time to think about an advertisement after it has been presented.

The impact of providing "reflection time," under appropriate conditions, is interesting and potentially very informative with regard to advertising practice. One might predict, for example, that ads likely to be processed under conditions of high personal relevance might have greater long term impact if individuals are given the opportunity to think about them after they have been removed. Having another ad follow too closely in time might disrupt thoughts and attitude "consolidation" presumably occurring during this time, ultimately reducing the impact of the ad. It should be noted that this suggestion may be quite different than one of simply keeping an ad in front of an individual longer. There may be some important advantages to having a person think about the ad without having the luxury of its presence. For one, such a process may be more effortful and lead to memorial advantages. Secondly, allowing one's own tendencies or schema's to influence or bias the information might lead to evaluatively more polarized and/or "stronger" attitudes (Sadler & Tesser, 1973). Future research designed to address this issue is currently being planned.

FUTURE DIRECTIONS

Although the results of the present study are consistent with predictions, little data at the process level of analysis was collected---largely do to constraints of the design. For example, one would ideally like to have collected cognitive response data from persons in the high and low relevance conditions to assess differential message processing. However, collection of such data immediately after the presentation of the advertisement may have caused individuals in the low relevance conditions to engage in more elaborative processing than they might "naturally" ---potentially artificially increasing the persistence of their attitudes. Additionally, previous research by the authors suggests that the collection of cognitive response data at the end of the second session (two days removed) yields little. The examination of such process measures, however, is being addressed in continued research on the topic of attitude persistence.

In addition to the study of attitude decay, fruitful future research might examine the effects of situational manipulations or dispositional tendencies on the extent to which an individual's newly formed/changed attitude will resist change when exposed to a later counterpersuasive appeal. One might, for example, present subjects who initially processed an advertisement under conditions of high vs. low personal relevance with a communication challenging the validity of their attitudes and beliefs. Individuals having a broader base of support (high relevance conditions) for their initial position would likely marshal that support to defend their opinions. Only when the "counterattack" is judged more cogent than their own supportive arguments, would such individuals change. On the other hand, individuals whose support of an initial position is based mainly on some simple cue association may be very susceptible to the influence of other strong cues associated with positions or ideas counter to their own. In any case, it is clear that much might be learned from an examination of attitude change processes over time as well as in multiple message contexts.

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Further Validation of the Consumer Susceptibility to Interpersonal Influence Scale

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ABSTRACT

Recently, a two-factor (normative and informational), 12-item measure of consumer susceptibility to interpersonal influence (SUSCEP) has been developed (Bearden, Netemeyer, and Teel 1989). The present paper summarizes a series of additional analyses designed to further examine the dimensionality and validity of this scale. These efforts include first, the results of correlating the SUSCEP measures with a number of consumer specific and general personality traits. Second, previously reported tests of the SUSCEP scale employing measures of attention-to-social-comparison-information and self-esteem are expanded to include comparison tests with interpersonal influence measures similar to those used by Park and Lessig (1977). The results of these efforts provide additional support for the validity of the two dimensional-SUSCEP scale.

INTRODUCTION

Interpersonal influence is viewed as an important factor in consumer decision-making (e.g., Ajzen and Fishbein 1980; Gatignon and Robertson 1985; Kiel and Layton 1981; Stafford and Cohanougher 1977). Only recently, though, have efforts been made to strengthen measurement in this area of consumer research. The objective of this paper is to present the results of additional validation research for the recently developed consumer susceptibility to interpersonal influence scale (SUSCEP) (Bearden et. al. 1989). First, a brief review pertaining to the interpersonal influence literature and the SUSCEP scale is offered. Second, the hypotheses, methods and results of research relating the SUSCEP scale to a number of personality characteristics are presented. Next, the hypotheses, methods and results of a follow-up effort which compares the SUSCEP measures to alternative self-report measures of interpersonal influence (cf. Park and Lessig 1977) are presented.¹

¹With a few exceptions, the results summarized in this paper represent additional validation tests not presented in the original manuscript describing the initial construction and validation of the SUSCEP scale. These exceptions include: the confirmatory factor analysis and reliability tests of the original scale briefly used to introduce the follow-up correlational validity tests; the correlations between ATSCI and the informational and normative dimensions for the student sample; and the two correlations between the SUSCEP factors and the behavioral indices reported as comparison to the Park and Lessig results.

Lastly, a brief discussion and suggestions for future research in interpersonal influence are offered.

Consumer Susceptibility to Interpersonal Influence

Consumer susceptibility to interpersonal influence is assumed to be a general trait that exists to varying degrees in different individuals. This construct is derived from McGuire's (1968) concept of influenceability and is consistent with early research demonstrating that individuals differ in their response to social influence (Allen 1965; Asch 1958; Cox and Bauer 1964; Janis 1954; Kelman 1961). Interpersonal influence has been conceptualized as being either informational or normative where informational influence is defined as the tendency to accept information from others as evidence about reality (Deutsch and Gerard 1955). Based on the work of Kelman (1961), normative influence has been viewed as either value expressive or utilitarian (Bearden and Etzel 1982; Burnkrant and Cousineau 1975; Park and Lessig 1977; Price, Feick, and Higie 1987). Value expressiveness reflects the individual's desire to enhance his or her self-image and is characterized by the need for association in terms of being similar to a reference group and feeling for another referent. Utilitarian influence is reflected in attempts to comply with the expectations of others in order to gain rewards or to avoid punishments mediated by others (Burnkrant and Cousineau (1975, p. 207).

Several consumer behavior studies support the existence of the three manifestations of interpersonal influence (i.e., informational, value expressive and utilitarian) (e.g., Bearden and Etzel 1982; Ford and Ellis 1980; Park and Lessig 1977; Pincus and Waters 1977; Price, Feick, and Higie 1987; Stafford 1966; Witt and Bruce 1972). Based on these manifestations, the consumer susceptibility to interpersonal influence scale (SUSCEP) was developed. However, the scale development procedures revealed that the value expressive and utilitarian factors were not distinct and hence, they were combined into one normative factor (Bearden, et. al. 1989). SUSCEP currently consists of 12 items--eight comprising a normative interpersonal influence factor and four comprising an informational influence factor. Though a number of validation procedures were performed, additional research is warranted to further establish SUSCEP's validity.

CORRELATIONS WITH RELATED CONSTRUCTS

Hypotheses

A number of measures assessing both consumer specific constructs and general personality traits were used to further evaluate the validity of the SUSCEP scale. First, two consumer-specific variables are hypothesized to be related to susceptibility to interpersonal influence, i.e., consumer confidence and consumer interpersonal orientation. Consumer confidence is defined as the individual's perceived ability to choose the best buy from available brands; consumer interpersonal orientation is defined as the willingness to interact with others regarding consumer related topics. These two variables represent likely antecedents of individual susceptibility to interpersonal influence. It is predicted that general consumer interpersonal orientation will be positively related to measures of susceptibility to interpersonal influence. In contrast, it is felt that confidence and susceptibility to interpersonal influence will be inversely related. These predictions are consistent with earlier findings that individuals high in consumer confidence should perceive less need for information from others and demonstrate less concern for the opinions of others (Locander and Hermann 1979). Formally stated, the first two hypotheses read:

H1: Both dimensions of SUSCEP (i.e., the normative and informational dimensions) will be positively correlated with consumer Interpersonal Orientation.

H2: Both dimensions of SUSCEP will be negatively correlated with consumer confidence.

A number of constructs in social psychology assess interpersonal relations among individuals. Three of these constructs, i.e., attention-to-social-comparison-information (Lennox and Wolfe 1984), inner-other directedness (Kassarjian 1962), and self-monitoring (Lennox and Wolfe 1984) are included here for further validation tests of the SUSCEP scale. Strong positive correlations are predicted for attention-to-social-comparison-information (ATSCI). ATSCI addresses the general tendency to conform and has been found related to the concern for reactions of others (Lennox and Wolfe 1984). Consequently, the measure should be strongly correlated with the normative factor and, although less so, positively correlated with the informational factor. Thus, the following hypothesis is offered:

H3: Both dimensions of SUSCEP will have a positive correlation with ATSCI. However, the normative factor of the SUSCEP scale will be more highly correlated with ATSCI than will the informational factor.

Inner-other directedness and self-monitoring represent generalized traits that deal with the

individual's interest in and responsiveness to others. For example, the frames of reference for other-directed individuals are the values and attitudes of others around them (Kassarjian 1962). Similarly, effective social integration and adjusting to what is situationally appropriate are the hall marks of the high self-monitor (Lennox and Wolfe 1984). These measures reflect operationalizations of generalized constructs that have some overlap with consumer susceptibility to interpersonal influence and, hence, modest positive correlations are predicted:

H4: Both dimensions of SUSCEP will exhibit modest positive correlations with measures of inner-other directedness and self-monitoring.

Method

Subjects and Measures. Two samples were utilized in the correlational tests. In the first, 220 adult consumers responded to the 12-item SUSCEP scale along with measures of consumer confidence and consumer orientation. The developmental procedures for the confidence and orientation measures began with an initial pool of 39 items. Similar judgmental procedures to those employed in the scale development literature (cf. Bearden, et. al. 1989) resulted in deletion of 15 of these items. Examination of corrected item-to-total correlations and an initial confirmatory factor analysis for the confidence and interpersonal orientation items resulted in deleting 5 confidence and 9 consumer IO statements. The remaining items were then examined in a subsequent two-construct confirmatory factor analysis. Although the χ^2 value was significant ($\chi^2 = 87.97$, $df = 37$), all items loaded as hypothesized and each t-value exceeded 7.27. In sum, these analyses resulted in 5 remaining items for the measures of consumer confidence (e.g., "As a rule, I have a great deal of confidence in my ability to evaluate products and brands.") and consumer IO (e.g., "I enjoy discussing products and brands with friends.") Internal consistency reliability estimates (coefficient alpha) were .81 and .79 for consumer confidence and interpersonal orientation, respectively.

In the second sample, 141 undergraduate students responded to the SUSCEP scale along with the three general personality measures. The scales developed by Lennox and Wolfe (1984) were used to measure attention-to-social-comparison-information and self-monitoring. Inner-other directedness was assessed via Kassarjian's (1962) scale. The top portion of Table 1 presents the summary statistics and reliability estimates for these measures.

Results

The factor structure and internal consistency of the SUSCEP scale was examined first (Bearden, et. al. 1989). (Only a brief summary of the factor

TABLE 1
Summary Statistics and Reliability Estimates for Measures and Correlational Results

<u>Summary Statistics and Reliability</u>					
Construct	No. of Items	Mean	SD	Range	Coefficient alpha Reliability
<i>Adult sample: (n = 220)</i>					
Consumer Confidence	5	28.50	4.90	5-35	.81
Consumer IO	5	21.69	6.34	5-35	.79
<i>Student sample: (n = 141)</i>					
ATSCI	13	39.01	8.81	0-65	.86
Inner-Other	36	84.89	8.39	36-144	.60
Self-Monitoring	13	43.19	5.91	0-65	.80
<u>Correlational Results</u>					
				<u>SUSCEP</u>	
				Info.	Norm.
<i>Adult sample</i>					
Consumer Confidence				-.15 ^b	-.53 ^b
Consumer IO				.50 ^b	.38 ^b
<i>Student sample</i>					
ATSCI				.24 ^b	.59 ^b
Inner-Other				.13 ^a	.37 ^b
Self-Monitoring				.14 ^a	.05

^ap < .10.
^bp < .05.

structure tests is reported here.)² For the adult sample, the hypothesized 2-factor structure (8 normative and 4 informational items) yielded a $\chi^2 = 79.83$ (df = 53) with a correlation between factors of $\phi = .37$. In comparison, the null model had a $\chi^2 = 845.58$ (df = 66) while the unidimensional model had a $\chi^2 = 167.84$ (df = 54). Thus, the two factor structure had a significantly better fit to the data than either the null or unidimensional model. The variance extracted estimates for the normative and informational factors were .53 and .55 and the square of the ϕ correlation between factors (.14) was less than the variance extracted estimates for

both factors. Thus, evidence for the convergent validity among items and discriminant validity between factors was provided (cf. Fornell and Larcker 1981). In addition, internal consistency reliability estimates for the normative and informational scales were .87 and .83. In the student sample, the two-factor model had a $\chi^2 = 107.41$ (df = 53) with $\phi = .44$. The competing one-factor structure had a $\chi^2 = 255.60$ (df = 54) and the null model yielded a $\chi^2 = 820.10$ (df = 66). The differences in fit, again, were significant. The variance extracted estimates for the normative factor and informational factors were .54 and .50 and were greater than the square of the correlation between them ($\phi^2 = .19$). The internal consistency estimates were .88 and .82 for the normative and informational factors, respectively. In sum, the dimensionality and reliability of the SUSCEP scale were largely supported.

The correlations between consumer self-confidence and consumer IO and the two dimensions

²The SUSCEP statements, the item-to-total correlations and factor loadings are presented in the original manuscript (Bearden, et. al. 1989, p. 477). Due to space limitations, they have not been reported in this paper.

of SUSCEP are shown in the bottom portion of Table 1. Confidence was inversely related to the two sub-dimensions and consumer IO was positively related to the sub-dimensions, as hypothesized. It is interesting to note that consumer IO was most strongly correlated (.50, $p < .01$) with the informational dimension, i.e., the factor most closely reflecting verbal communications with others. Similarly, consumer confidence was most strongly correlated (-.53, $p < .01$) with the normative factor, i.e., the dimension reflective of the expectations of others. In sum, H1 and H2 were supported.

Table 1 also presents correlational findings from the student sample. As predicted, ATSCI did correlate positively with the two sub-dimensions of the SUSCEP scale and was more strongly correlated with the normative factor than with the informational factor ($t = 6.02$, $p < .01$, for a test between dependent correlations (Cohen and Cohen 1975)) offering support for H3. Although not overwhelming, the correlations pertaining to H4 generally adhere to the anticipated pattern.

COMPARISON WITH PARK AND LESSIG ITEMS

One of the purposes of developing the SUSCEP scale was to provide consumer researchers with a general measure of consumer susceptibility to interpersonal influence (Bearden, et. al. 1989). Though other measures of consumer susceptibility to interpersonal influence exist, they are primarily product/situation specific (cf. Brinberg and Plimpton 1986; Park and Lessig 1977). Thus, it was predicted that SUSCEP should have stronger correlations with personality traits and other generalized indices of interpersonal influence than product/situation specific measures. To examine this premise, the SUSCEP scale was compared with the Park and Lessig (1977) measures of interpersonal influence in two separate studies. The first study examined the relationships between SUSCEP, the items of Park and Lessig and the ATSCI (Lennox and Wolfe 1984) and self-esteem (Eagly 1967) measures. The second study investigated the relationships between the Park and Lessig (1977) measures of susceptibility to interpersonal influence along with the SUSCEP scale and a series of aggregate indices of behaviors performed over multiple time periods (cf. Epstein 1979, 1980; Lastovicka and Joachimsthaler 1988). The following hypotheses are offered:

H5: The SUSCEP measures will exhibit stronger correlations with ATSCI and self-esteem than will the Park and Lessig measures.

H6: The SUSCEP measures will exhibit stronger correlations with an aggregate indices of consumer behaviors than will the Park and Lessig measures.

Method

In the original research of Park and Lessig (1977), 20 products were evaluated for each of their 14 items. For comparison purposes, five of these same 20 products were randomly selected for this study. Similar to their original procedures, the relevance of each item for each product was evaluated on a four-place scale ranging from "not relevant" (1) to "highly relevant" (4). Responses to their informational and normative items were averaged over products and then summed to form informational and normative interpersonal influence scales. The average internal consistency estimates were 0.55 and 0.86, respectively.

Park and Lessig (1977) computed scores for each product by assigning the highest score obtained on any one of the items representing a given dimension of susceptibility to interpersonal influence to that product. These high scores were then averaged across products to produce one score for each component of interpersonal influence. To enhance the comparisons between SUSCEP and the Park and Lessig measures, we summed their items and used this composite in a series of comparison tests. Since this approach differed from Park and Lessig's original scoring procedures, additional comparison tests were conducted using their original scoring procedures. The results of these analyses were similar to those found using the summed comparison measures.

ATSCI and Self-Esteem. A convenience sample of 47 undergraduate business students responded to a questionnaire containing the 14 Park and Lessig items for five products, the ATSCI scale, the twenty-item self-esteem scale described by Eagly (1967), and the SUSCEP scale. The internal consistency estimates for the ATSCI and the self-esteem measures were 0.82 and 0.88. Again, ATSCI was expected to be more strongly correlated with the normative factor than with the informational factor. However, it was predicted that the correlations between ATSCI and the Park and Lessig items should be lower than the ATSCI-SUSCEP correlations. It was also predicted that both dimensions of the SUSCEP scale would be inversely related to self-esteem (McGuire 1968).

Relationships With Behavioral Indices. Similar to the procedures of Epstein (1979, 1980), the alternative measures of susceptibility to interpersonal influence (i.e., the Park and Lessig measures and the SUSCEP scale) were correlated in a second study with an aggregate index of consumer behaviors. First, a convenience sample of 35 undergraduate business students was used to elicit 21 and 17 behaviors reflecting the definitions of the normative and informational dimensions of susceptibility to interpersonal influence. Example normative behaviors included worrying about what others thought of the respondent's selection of clothing to wear and copying the purchase behavior of someone the respondent admired. Example informational behaviors included discussing products with friends or relatives and/or seeking expert advice of others prior to making a purchase.

TABLE 2
Comparison with Park and Lessig Items and Correlations with Other Constructs

	Normative		Informational	
	SUSCEP	Park and Lessig	SUSCEP	Park and Lessig
<i>ATSCI and Self-Esteem: (n = 47)</i>				
ATSCI	.68 ^b	.25 ^b	.16	.17
Self-Esteem	-.21 ^a	.03	-.23 ^b	.04
<i>Stability Indices: (n = 43)</i>				
Behavioral Index (Normative)	.37 ^b	.05	--	--
Behavioral Index (Informational)	--	--	.15	.07

^a_p < .10.
^b_p < .05.

Following elicitation of these behaviors, a questionnaire containing the Park and Lessig items for 5 products along with the SUSCEP items was administered to a new sample of 43 subjects. Next, at four separate intervals, these same 43 subjects reported their performance regarding the 21 normative and 17 informational behaviors during the preceding 48 hour period. Similar to the methods used by Epstein (1979), the behavioral measures were averaged over administrations to form behavioral indices.

Results

The reliability and dimensionality of the SUSCEP scale were examined first. The results again show support for validity of the scale. For the sample examining the relationships between the two measures of susceptibility to interpersonal influence and ATSCI and self-esteem, the hypothesized two-factor structure for SUSCEP was again supported ($\chi^2 = 97.96$, $df = 53$). The differences between the two-factor structure and a null model ($\chi^2 = 348.28$, $df = 66$) and a one-factor model ($\chi^2 = 119.38$, $df = 54$) were significant. The variance extracted estimates were .41 and .55 for the informational and normative factors while the correlation among the two factors was .36 ($\phi^2 = .13$). In addition, the internal consistency reliability estimates were .72 and .91 for the informational and normative factors. Overall, these results are supportive of the dimensionality and internal consistency of the scale.

For the sample examining the relations between the behavioral indices, the hypothesized two-factor SUSCEP scale ($\chi^2 = 133.99$, $df = 53$) again had a better fit to the data than did the null model ($\chi^2 = 355.27$, $df = 66$) or a unidimensional model ($\chi^2 = 138.91$, $df = 54$). The internal

consistency estimates were .91 and .72 for the informational and normative factors.

Table 2 presents the correlational results for the comparisons between SUSCEP and the Park and Lessig measures. As reported in the original scale development, ATSCI was again more strongly correlated (for a test of differences between correlations) with the normative dimension of SUSCEP than with the informational dimension ($t = 4.37$, $p < .01$). Importantly, the normative factor of SUSCEP was more highly correlated with the ATSCI scale than was the Park and Lessig measure of normative influence ($t = 3.43$, $p < .01$). Furthermore, the correlation between the informational dimension of SUSCEP and self-esteem was greater than the correlation between the Park and Lessig informational measure and self-esteem ($t = 1.67$, $p < .05$). Though the correlation between the normative dimension of SUSCEP and self-esteem was stronger than the correlation between the normative measure of Park and Lessig and self-esteem, this difference was not statistically significant.

The correlation between the even and odd summary averages for the normative and informational behavioral indices were 0.72 and 0.80. As Table 2 indicates, neither correlation between the normative and informational behavioral indices and the Park and Lessig measures was significant. In contrast, the normative factor of the SUSCEP scale was significantly correlated with the normative behavioral index ($r = .37$, $p < .05$) and, although the magnitude of this correlation is modest, it compares favorably with the trait-behavior correlations reported by Epstein (1979, p. 1118). In addition, the correlation between the normative factor of SUSCEP and the normative behavioral index was significantly greater than the correlation between the normative factor of the Park and Lessig measure and the normative behavioral

index ($t = 1.89, p < .05$). Although the correlation between the SUSCEP informational factor and the informational behavioral index was stronger than the correlation between the Park and Lessig informational measure and the behavioral informational index, the difference was not statistically significant. Overall then, H5 and H6 were largely supported.

DISCUSSION

This research sought to provide additional evidence regarding the validity of the recently developed consumer susceptibility to interpersonal influence scale (Bearden, et. al. 1989). The first series of tests examined the relationships between the two dimensions of the SUSCEP scale and a number of consumer specific and psychological traits. Overall, the results supported the convergent and discriminant validity of SUSCEP. Subsequently, SUSCEP was compared to previously used measures of interpersonal influence (i.e., Park and Lessig 1977). The general pattern of correlations demonstrated that the SUSCEP scale was more strongly related to behavioral indices reflecting both normative and informational influence than the Park and Lessig measures. Again, since the Park and Lessig items were product specific and the SUSCEP items more applicable to a wider range of consumer behaviors, the higher correlations between SUSCEP and the behavioral indices were expected.

The SUSCEP scale should prove to be useful for a number of consumer behavior applications. First, studies examining the differences in susceptibility to interpersonal influences based on gender and age could be performed. Earlier research posited that females have a stronger interpersonal orientation toward others than males (e.g., Solomon 1963). It has also been suggested that females interact more frequently with their peers about consumption matters and are more susceptible to social influence (i.e., possess stronger social motivations for consumption) than males (Churchill and Moschis 1979). Overall, age might exhibit a curvilinear relationship with the highest levels of susceptibility to interpersonal influence occurring during the teen and early adult years. However, for informational influence alone, research indicates that the influence of others (largely the extended family) as sources of information increases with advancing age (cf. Phillips and Sternthal 1977). Lastly, the SUSCEP scale should be useful in experimental research. Studies that examine normative vs. informational influence in terms of referent similarity and expertise could be undertaken (Burnkrant and Cousineau 1975; Price, Feick, and Higie 1987). Also, experiments could be designed where subjects are exposed to either informational or normative influence, and then the extent of the influence observed and measured. This observed level of susceptibility could then be compared with self-report levels via the SUSCEP scale, offering a stronger validation test for SUSCEP.

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The Conceptual Organization of Behavior and Attitude-Behavior Consistency

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ABSTRACT

The attribute-processing perspective views behavior as being driven primarily by cognitions and as being instrumental to the realization of consumption objectives. Alternatively, the recent surge of interest in the role of affect in buying behavior suggests that behavior may be consummatory (noninstrumental) and driven by emotions. Therefore, the validity of the single-component perspective was tested against a two component (consummatory and instrumental) model of behavior. Additionally, the effect of focusing on an attitude component (affective/cognitive) on attitude-behavior relation was examined. Results indicate that the two-component model achieved discriminant and convergent validity whereas the single-component model did not. Moreover, attitude-behavior correlations were higher when attitude and behavior were influenced by the same attitude component than when they were influenced by different attitudinal components.

INTRODUCTION

A basic tenet of the attribute-processing perspective is that the comprehension of the brand attribute claims leads to a change in consumers' stored cognitions. Thus, consumers are postulated to be problem-solvers and rational buyers who "base their decisions on the persuasive information provided" (Day 1973). The logical flow of the stages of cognitive processing (e.g. attribute comprehension-attitude-behavior-problem solving) assumes causation and assumes that behavior is instrumental to the realization of enduring goals (e.g., problem solving). Although it continues to explain important consumption phenomena, the attribute-processing perspective has failed to produce consistent findings regarding attitude-behavior consistency (e.g. Ajzen and Fishbein 1977).

The restricted conceptualization of attitude and behavior in the attribute-processing perspective has contributed greatly to this failure. For example, it is frequently argued that attitude may not be formed from decomposable origins (e.g. physical attributes) rather it may "involve a gestalt, configural appraisal of the stimulus object, going beyond the assessment of the utility contributed by each individual attribute" (Batra 1986). It is also generally accepted that consumption may not involve solving a problem, or realizing other such enduring goals. It may involve instead some sensory pleasures, joy, and emotional responses (Holbrook and Hirschman 1982). It appears that there are situations in which attitude would be based on affect rather than cognitions and consumption goals would be transient rather than enduring. In such situations, behavior should be viewed as being consummatory (e.g. to obtain pleasure) and driven

by affect rather than instrumental (e.g. to achieve enduring goals) and driven by cognitions.

This article has two purposes. The first is to provide empirical tests of the validity of these conceptualizations by contrasting a single-component with a two-component (consummatory and instrumental) model of behavior. The second is to provide empirical evidence as to whether focusing on either attitude component (affective/cognitive) affects attitude-behavior relation.

The next section is a discussion of the conceptual organization of attitude. It is followed by a conceptual analysis of behavior and a discussion of the effects of thought on attitude-behavior consistency. Finally, an experiment designed for achieving the research objectives is outlined and the findings are thoroughly examined.

ATTITUDE ORGANIZATION

The attitude concept was originally defined as being a single-component entity of likes and dislikes (e.g., Bem 1970). This concept was subsequently reconceptualized to include cognition and conation in addition to affect (e.g., Kothandapani 1971, McGuire 1969). The latter definition has received some empirical support. In an experiment that was designed for predicting contraceptive behavior among low income Negro women, Kothandapani (1971) examined the discriminant and convergent validity of this tripartite classification. He found convincing evidence both to support this classification and to conclude that conation was a better predictor of contraceptive behavior than either of the other two components of attitude (Kothandapani 1971).

However, the inclusion of conation in attitude structure is not universally accepted. This is because the difficulty of directly observing overt behavior has resulted in the use of conation as a surrogate for behavior by many researchers. This conceptual equivalence explains findings of higher conation than affect or cognition-behavior correlations. Moreover, a behavior involving the use of a drug (e.g., contraceptive) that could produce genuine health problems might be more influenced by a medical decision (e.g., prescription) than by affect or cognition. Thus a midpoint position which contends that attitude is composed of only affect and cognition is adopted here. At the same time, conation is considered to be an evaluative response based on the more accessible, more salient of only two attitude components - affect or cognition (e.g., Bagozzi and Burnkrant 1979, Millar and Tesser 1986). The affective component of attitude toward a brand is thought to contain the feelings (e.g., pleasure, happiness, joy) that may be evoked by the brand and the cognitive component is thought to contain the encodings of physical attributes of, and beliefs about the brand (e.g., price, size,

effectiveness). Bagozzi and Burnkrant (1979) examined the validity of a single-component model of attitude and compared it to a two-component model. They reported evidence to support an affective-cognitive conceptualization and lack of evidence to support a single-component model of attitude.

BEHAVIOR ORGANIZATION

Much research indicates that all products, no matter how mundane, carry attributes such as packaging, color, or taste that are not central to the objective value (e.g., effectiveness) of the product - symbolic features. It is also known that people make decisions so as to experience an emotion or to realize some type of utility. For example, a person may drive to a shopping mall on a nice evening just to enjoy him/herself by looking at store windows while another may do the same thing to maintain good health by buying a needed prescription. Similarly, a customer may purchase a product (e.g., toothpaste) because its symbolic features (e.g., taste) are richer and more salient than its objective attributes (e.g., fluoride) while another may do the same thing for just the opposite reason.

It appears that purchase behavior can be differentiated along customers' expectations from consuming the product (e.g., freshness/healthy gums from consuming toothpaste). Thus, purchase behavior that stems primarily from the pursuit of sensory pleasures, happiness, or any emotional responses consummated coincident with consumption of the product is different from purchase behavior that stems primarily from the pursuit of objectives that last beyond the time of actual consumption. These two types of behavior depend on the primary stimuli, and are called consummatory behavior (primary stimuli are immediate consummatory emotional responses) and instrumental behavior (primary stimuli are enduring objectives).

Figure 1 shows path diagrams of a single-component and a two-component model of behavior. A confirmatory factor analysis using LISREL VI (Joreskog and Sorbom 1984) was used for testing the fit of each model.

The single-component model achieves convergent validity if (a) responses that differentiate consummatory from instrumental behavior exhibit high intercorrelations and (b) an insignificant chi-square is obtained. Discriminant and convergent validity of the two-component model will be achieved if (a) within-component correlations are high, (b) across-component correlations are logically consistent and significantly lower than within-component correlations, (c) rho-statistic (Bentler and Bonett 1980) is within an acceptable range ($\rho \geq 0.90$), and (d) root mean square residual (RMSR) is within an acceptable range ($\text{RMSR} \leq 0.10$). A final test of the overall fit of both models based on an inferential evaluation of nested models (Long 1988) could be carried out to determine which model fits the data better. Based on this analysis, the following hypotheses were tested:

H1: A two-component (consummatory and instrumental) model of behavior achieves discriminant and convergent validity whereas a single-component does not.

H2: A two-component (consummatory and instrumental) model of behavior fits the data better than a single-component model.

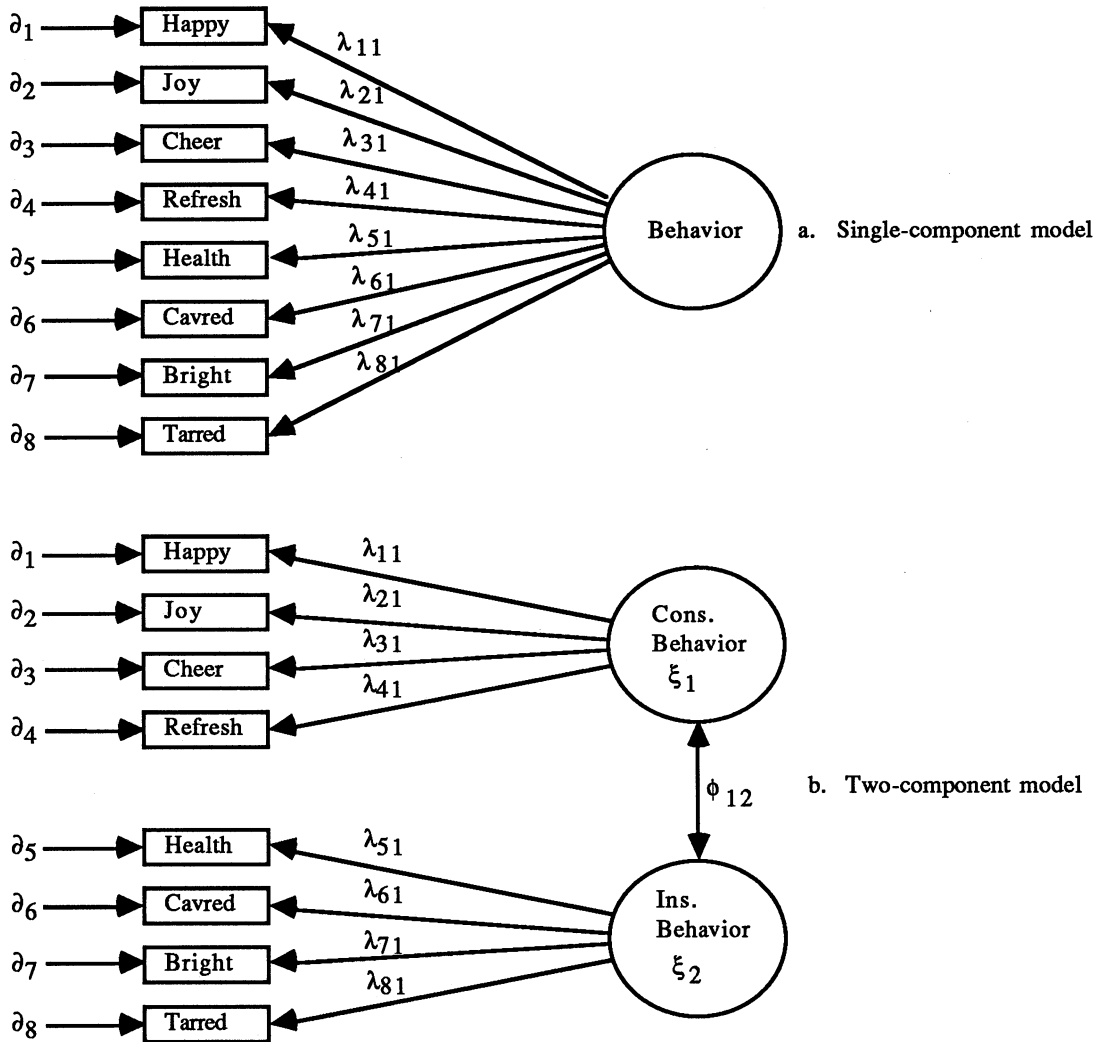
EFFECTS OF THOUGHT ON ATTITUDE-BEHAVIOR RELATION

In recent years, research in attitude-behavior relation has proliferated and has primarily examined the conditions under which attitude and behavior would or would not correlate (Wilson, Dunn, Bybee, Hymann, and Rotondo 1984). An area that has captured much attention, and is also the focus of this article, is the effect of affective and cognitive focus on attitude-behavior consistency. In one study, Fazio, Zanna, and Cooper (1978) stimulated their subjects to think about the attitude objects (puzzles) by instructing them to empathize with a similar individual on a videotape who was playing with the puzzles. Fazio et al. (1978) found that when subjects were instructed to think about the attitude objects (puzzles), the amount of salient information about the attitude objects increased. The attitudes of those subjects who were led to focus on the attitude objects were also found to be better predictors of behavior than subjects' attitudes in the control condition (who did not think about the attitude objects).

In contrast, Wilson et al. (1984), using a similar paradigm, found results that were contradictory to those reported by Fazio et al. (1978). Wilson et al. (1978) predicted that analyzing the reasons for one's own attitude (thinking in terms of why a person feels the way s/he does) would shift attitude in a direction away from behavior, thus attitude-behavior correlation would be low. In a series of experiments using puzzles, vacation scenes, and dating mates as attitude objects, Wilson et al. (1978) found that when subjects analyzed the reasons of why they would or would not like the attitude object, their self-reported attitudes accounted for only 1% of the variance of behavior while subjects' attitudes in the control condition were found to account for approximately 30%.

In an attempt to provide a resolution to the apparent contradictory findings, Millar and Tesser (1986) conducted an experiment in which they used puzzles, similar to those used in Wilson et al. (1978), as attitude objects. Millar and Tesser (1986) reasoned that if attitude report and behavior emanated from the same attitudinal component (either affective or cognitive), attitude-behavior correlation would be high. And, if behavior was initiated by an attitudinal component that would be different from that component dictating attitude report, attitude-behavior correlation would be low.

FIGURE 1
Path Diagram of a single-component and a two-component model of behavior



Note: Cons. Behavior-consummatory behavior; Ins. Behavior-instrumental behavior; Happy-happiness; Joy-joy; Cheer-cheerfulness; Refresh-refreshment; Health-gum health; Cavred-cavity reduction; Bright-brightness; Tarred-tartar buildup reduction.

In Millar and Tesser (1986), the time spent playing with each puzzle, the proportion of each puzzle chosen, and the order of choice in a free-play period were recorded for each subject. The play time for subjects in the cognitive and affective-focus conditions was correlated with their attitude reports. These correlations were higher when behavior and attitude reports were driven by the same attitude component (a match situation) than when each was driven by a different component (a mismatch situation).

However, one could argue that some methodological issues in Wilson et al. (1984) and in Millar and Tesser (1986) may have contaminated

their findings. In formulating a general evaluative response about an attitude object, some of its salient objective attributes or symbolic features would be more important than others. Thus, it is possible that subjects' attitudes toward the attitude objects (puzzles were used in both studies, and vacation scenes and dating mates were used in the first) might have had more symbolic or hedonic than physical or attribute origins. For example, the joy of triumph or the agony of defeat probably influences one's liking or dislike of a puzzle far more than the puzzle's contribution to one's analytic ability. Thus, since Wilson et al's (1984) subjects did not have a large number of cognitions to begin with,

they may have generated a biased set of reasons, just to appear more analytical, that might not have reflected their true attitudes.

Similarly, since Millar and Tesser's (1986) subjects in the cognitive-focus condition did not have many relevant attributes about the puzzles to start with, they may also have generated a biased set of reasons, but to a lesser extent than in Wilson et al. (1984). In fact, Millar and Tesser (1986) reported insignificant differences between affective- and cognitive-focus condition correlations when subjects' behavior was driven by cognitions, and the proportion of puzzles chosen and order of choice were used as behavioral measures.

Second, since Millar and Tesser (1986) did not include a control cell to compare with, it is difficult to conclude whether analyzing reasons in the cognitive-driven behavior condition increased attitude-behavior correlations or just did not decrease them. For the same reason, it is also difficult to conclude whether focusing on the affective component of attitude in the affective-driven behavior condition increased attitude-behavior correlations or simply did not decrease them. Third, considering the time span over which Millar and Tesser's (1986) study was completed (a few minutes), it could be argued that salient-attitude reports in the cognitive focus condition might have habituated subjects' behavioral responses when behavior was driven by the same cognitions. Thus, the observed consistency between attitudes based on cognitions and behaviors driven by these cognitions might have been inflated.

While taking these issues into consideration, the conceptual parallel between affective (cognitive) attitude that is based on feelings (cognitions) and consummatory (instrumental) behavior that is stimulated by symbolic (objective) attributes of the product was maintained in the present research. In the course of doing so, a research paradigm that is similar to those used by Wilson et al. (1984) and Millar and Tesser (1986) was utilized. Second, the attitude objects employed in this research were products (toothpaste brands) that would have different symbolic origins (e.g. packaging, color) for the hedonic component of attitude and several physical origins (e.g. fluoride, abrasive) for the cognitive component. Third, a control group was included and attitude-behavior correlations for all experimental cells were compared with those of the control group. Finally, subjects' actual behavior was observed one week after obtaining self-reported attitudes. The following hypotheses were tested:

- H3: If attitude report and behavior are influenced by the same attitude component (affective/cognitive), attitude-behavior correlation would be high; whereas if they are influenced by different attitude components, attitude-behavior correlation would be low.
- H4: Focusing on the attitude component that drives behavior would result in a high

attitude-behavior correlation; whereas the lack of focus on a specific attitude component would result in a low attitude-behavior correlation.

METHOD

Fifty six male and fifty two female undergraduate students from a marketing course at a major mid-western university completed a short questionnaire that was designed to measure initial attitudes and initial behavioral intentions. After collecting this instrument, subjects were randomly assigned to one of 2 (affective/cognitive attitude focus) / 2 (consummatory/instrumental behavior) cells and a control condition. Subjects completed another questionnaire (ostensibly for a different experiment), were thanked, and promised a gift (was intended to measure actual choice) in the coming days.

Procedure

On the first questionnaire, subjects provided some demographical data, recalled as many brands as they could from four different product classes including toothpaste, ranked the recalled brands, and indicated their preferences. The purpose of this instrument was to facilitate the contrast of subjects' initial to post-experimental attitude-behavior correlations. The second questionnaire contained the following regarding each of five toothpaste brands: (a) a black-and-white picture of the brand, (b) a 9-point bipolar scale for measuring the attitude toward brand, (c) eight 9-point bipolar scales for measuring behavioral responses that, based on a pretest, were found to differentiate consummatory from instrumental behavior, (d) a thought-listing question for measuring the degree of affective and cognitive focus, and (e) a purchase intention question. This instrument was designed to measure the differential effects of experimental manipulations.

Subjects were approached by an experimenter who, as a cover story, claimed that the purpose of the first questionnaire was to measure market share for the brands that subjects could recall. They were given two minutes for each product category and were instructed not to turn pages unless they were told. After collecting the first instrument, participants were approached by another experimenter who distributed the second instrument and asked them to read and follow all instructions carefully. They were given all the time they needed for examining the picture of any brand and for answering the questions.

Subjects were asked to keep a little numbered-post-it note from the first questionnaire, attach the note to the second questionnaire, write the number of the note on a little card attached to the second questionnaire, and keep the card to claim the gift. When gifts were claimed a week later, each subject deposited his/her claim card in the same box from which the toothpaste tube was chosen. Finally, the researcher matched the questionnaires and the card to isolate the responses of each individual.

Experimental Manipulations

An important issue in this research was whether to use fictitious (novel) or familiar and popular brands as attitudinal objects. The selection of well-known over fictitious brands was governed by a number of practical and theoretical considerations. These were: (a) an attempt to resemble a marketing situation as close as possible, (b) an attempt to measure overt behavior under the volitional control of subjects and correlate this index of observed behavior with attitude so as to properly illustrate attitude-behavior consistency, (c) an attempt to equate all recall cues across brands and subjects (the brand picture was the only cue), (d) an attempt to stimulate subjects to report real sentiments from their past experiential consumption episodes, and (e) an attempt to eliminate the likelihood of generating artificial (biased) inferential information, thoughts, and sentiments that would be otherwise increased if written attributes, needed with novel brands, were provided.

Subjects in the affective focus condition were instructed to focus on how they felt about each brand while they were viewing its picture, whereas those in the cognitive focus condition were instructed to think about the reasons that made them feel the way they did. The purpose of the brand picture was either to remind subjects of the sentiments and feelings they experienced whenever they used the product in the past or to aid in recalling the stored attributes of, and beliefs about the product. Subjects in the consummatory behavior condition were led to believe that they would receive a social sensitivity test (how well they would fit with others) at the end of the experiment, whereas those in the instrumental behavior condition would receive a brand and attribute-recall test (how much information they could recall). Neither group was actually tested. To get maximum help on the anticipated tests, subjects in the consummatory behavior condition should have heightened their stored feelings and emotions upon viewing the pictures. While those in the instrumental behavior condition should have accessed their stored belief and brand-attribute information. Subjects in the control condition were not given attitude focus and behavior manipulation instructions.

Attitude and Behavior Measures

Each subject indicated on 9-point bipolar scales how much s/he liked or disliked each brand. One on the scale indicated dislike very much and 9 indicated like very much. Behavior was observed one week after completing the questionnaires; each subject chose and received one tube of toothpaste from the five brands used.

Affective and Cognitive Focus Measures

Subjects listed all the thoughts that occurred to them while they were examining the picture of each brand. These thoughts were later coded by two judges into feelings and reasons. The two coding sets were highly correlated ($r=0.93$). The feelings

represented the affective focus and the reasons represented the cognitive focus.

Responses Differentiating Consummatory From Instrumental Behavior

Each subject indicated on 9-point bipolar scales how much s/he agreed or disagreed with four consummatory and four instrumental behavior statements regarding each brand. The representativeness of these statements to consummatory and instrumental behavior was established by a pretest of twenty subjects from the same population. Consummatory behavior statements tapped the degree of happiness (happy), joy (joy), cheerfulness (cheer), and refreshment (refresh) felt by each subject if the brand of toothpaste under consideration was used. Instrumental behavior statements measured the extent of belief that the brand of toothpaste might contribute to gum health (health), cavity reduction (cavred), teeth brightness (bright), and tartar-buildup reduction (tarred). On all scales, 1 indicated completely disagree and 9 indicated completely agree.

ANALYSIS AND RESULTS

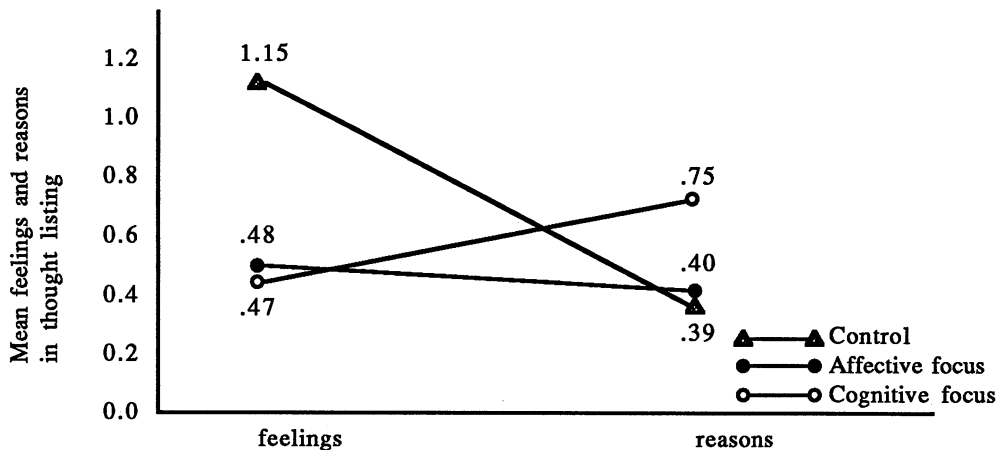
Confirmatory Factor Analysis

For the single-component model to achieve convergent validity and provide a good fit, the variables differentiating consummatory from instrumental behavior should exhibit high intercorrelations and an insignificant chi-square should be obtained. The test of this model using LISREL VI gave zero correlations and a significant chi-square ($\chi^2_{28}=3629, p=0.0$). Thus, the single component model did not achieve convergent validity and it could not be accepted without testing a two-component model.

In the two-component model, the first set of these variables (happy, joy, cheer, and refresh) was hypothesized to have high loadings ($\lambda_{11}-\lambda_{41}$) on consummatory behavior and zero loadings ($\lambda_{51}-\lambda_{81}$) on instrumental behavior. The second set (health, cavred, bright, and tarred) was hypothesized to have high loadings ($\lambda_{52}-\lambda_{82}$) on instrumental behavior and zero loadings ($\lambda_{12}-\lambda_{42}$) on consummatory behavior. The correlation (ϕ_{21}) between the two components of behavior should not be high.

The correlation matrix used in the analysis (not included) showed that variables loading on consummatory behavior were highly correlated ($r=0.70$ to $r=0.94$) and variables loading on instrumental behavior were highly correlated ($r=0.61$ to $r=0.83$) while across-component correlations were low. LISREL estimates showed high loadings from the first set of variables on consummatory behavior (happy=0.962, joy=0.972, cheer=0.956, and refresh=0.735), high loadings from the second set of variables on instrumental behavior (health=0.918, cavred=0.877, bright=0.731, and tarred=0.800), low correlation between consummatory and instrumental

FIGURE 2
Mean feelings and mean reasons generated in thought listing protocol



behavior ($\phi_{21}=0.37$), high Bentler and Bonett's rho-statistic ($\rho=0.90$), and a low root mean square residual ($RMSR=0.1$). These results indicate that the two-component model (consummatory and instrumental) achieved discriminant and convergent validity.

The last goodness-of-fit test conducted here was an inferential evaluation of nested models. Since the free parameters in the single-component constitute a subset of the free parameters in the two-component model, it was possible to test a null hypothesis that the single-component fits the data better than the two-component model. If the null hypothesis could not be rejected (by obtaining an insignificant chi-square), then the single-component would be more desirable than the two-component model because the first would be more parsimonious than the second. The test resulted in a significant chi-square ($\chi_9=3472$, $p=0.0$), thus the null hypothesis was rejected and it was concluded that the two-component model of behavior (consummatory and instrumental) fits the data better than the single-component.

Attitude-Behavior Relation

The number of reasons for each subject was analyzed in a 2 (consummatory vs. instrumental) / 2 (affective vs. cognitive) / 2 (male vs. female) ANOVA. The only significant source of variation was thought focus, $F(1,86)=9.45$, $P=0.0028$. Subjects in the cognitive focus condition produced more reasons ($M=0.75$) than did subjects in the affective focus condition ($M=0.39$), $F(1,86)=4.58$, $P=0.0051$. The number of feelings produced by subjects was also analyzed in a similar ANOVA and thought focus was the only significant source of variation, $F(1,86)=17.77$, $P=0.0001$. Subjects in the affective focus condition generated more feelings ($M=1.15$) than did subjects in the cognitive focus

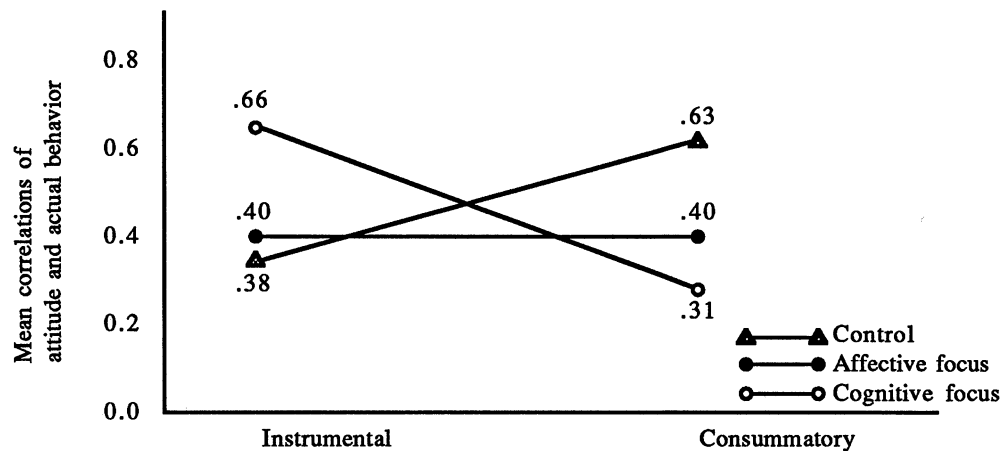
condition ($M=0.47$), $F(1,86)=6.96$, $P=0.0003$ (see figure 2).

Two measures of behavior were constructed and correlated with subjects' self-reported measures of liking and dislike of the five brands of toothpaste, actual choice of toothpaste and the tube size. Correlations were transformed to z-scores and analyzed in two separate 2 (consummatory vs. instrumental) / 2 (affective vs. cognitive) / 2 (male vs. female) ANOVAs. The two ANOVAs gave identical results. The only significant interacting effect was type of behavior / type of focus, $F(1,86)=16.9$, $P=0.0001$. Subjects in the instrumental behavior condition had higher attitude-behavior correlations when they focused on their cognitions ($M=0.66$) than when they focused on their feelings ($M=0.38$), $F(1,40)=2.77$, $P=0.05$. Similarly, subjects in the consummatory behavior condition had higher attitude-behavior correlations when they focused on their feelings ($M=0.63$) than when they focused on their cognitions ($M=0.31$), $F(1,44)=5.03$, $P=0.004$. It is interesting to note that subjects in the control condition had attitude-behavior mean correlations of $M=0.40$ (see figure 3).

DISCUSSION

This article has demonstrated that consumers' behavior can be differentiated according to consumers' expectations from consuming the product. A two-component model of behavior achieved discriminant and convergent validity whereas a single-component model did not. Focusing on the attitude component (affective/cognitive) that drives behavior (consummatory/instrumental) increased attitude-behavior correlation above that in the control condition (when subjects were not instructed to focus). Alternatively, focusing on the attitude component that does not drive behavior decreased

FIGURE 3
Mean correlations of attitude and behavior



attitude-behavior correlation below that in the control condition.

It is possible that subjects' age and purchase experience may have contributed to the observed differences in attitude-behavior correlations. This possibility was investigated in a number of additional analyses. First, a 2 (type of behavior) / 2 (type of focus) / 2 (sex) / 4 (purchase frequency) / 5 (age group) ANOVA indicated that significant differences between mean correlations at 0.08 significance level still existed and the only two-way interaction to reach significance was type of focus / type of behavior, $F(1,86)=5.36$, $P=0.02$. Second, a 5 (age group) / 4 (purchase frequency) / 2 (sex) ANOVA indicated that no significant main or interacting effect was produced by any of these variables, $F(25,62)=1.41$, $P=0.14$. Third, mean correlations of attitude and behavior, attitude and behavioral intention, and initial attitude and initial behavioral intention for experimental conditions, were compared to those for the control condition. This analysis showed that there were no significant differences between mean correlations of the five groups ($F \leq 1.87$, $P \geq 0.15$) except between attitude-behavior mean correlations. These findings clearly indicate that factors other than the type of focus and the type of behavior do not explain the observed differences in attitude-behavior correlations.

CONCLUSION

Though the attribute processing perspective has yielded valuable insights into consumer attitude-behavior relation, it falls far short of completely explaining the consumption phenomena. The findings of this research provide partial support to the notion that purchase behavior is largely dependent on the expectations of the consumer in consuming the product. Current findings are also consistent with findings in social psychology, and are apparent in some of the current advertising practices. For example, AT&T appeals to both

behavioral components by airing two different advertisements, "reach out and touch some one" and the "price of the call" ads. Toothpaste commercials are usually diversified to appeal to the majority of consumers by emphasizing the benefits (e.g. fewer cavities) and/or stressing the consumption experience (e.g. fresh breath) consumers can expect from using the brand. Even beef is advertised as a red, tasty, and delicious meat and as a good source of necessary nutrition.

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Constructing A More Difficult Recognition Test For Television Commercial Scenes

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ABSTRACT

One of the disadvantages to using recognition as a measure of memory is that scores are often indiscriminantly high because the task is too easy. This paper investigates varying the length of time of exposure during the test, the length of the mask about the test stimulus, the number of exposures to the stimulus and the length of the decay period as variables that might reduce the ceiling effects often associated with recognition. Data show that controlling test scene length, its interaction with mask length, and decay period can increase the difficulty of the recognition task.

INTRODUCTION

Measuring memory of advertising is of interest to both academic and industry researchers. While recall has in the past been the most commonly used dependent variable in testing responses to television commercials, recognition has become more viable in recent years. It has been argued that recall may mask the amount of actual memory that exists, and that recognition is more appropriate to the level of learning necessary for in-store brand choice decisions (Bettman 1979).

While recognition measures may be more effective and appropriate in certain situations, one important problem remains. Recognition measures tend to produce ceiling effects, or indiscriminately high scores, especially for pictorial stimuli (Shepard 1967; Haber 1970), and even more so for dynamic pictorial stimuli (Goldstein, et. al. 1982) such as movies (their stimuli) or television commercials. These results make it difficult to use recognition to test memory for visual components of television commercials. The purpose of this paper is to investigate a method which will reduce these ceiling effects by making the task more difficult.

To date, a number of ways of avoiding ceiling effects have been developed. For example, (1) the memory decay period can be increased (Shepard 1967; Singh, Rothschild and Churchill 1988), (2) the number of distractor items in a forced choice recognition test can be increased (Singh and Rothschild 1983), or (3) the similarity of the distractors to the target items can be manipulated (Dole and Baddeley 1962). This paper will discuss manipulating the length of exposure to visual recognition test items as another method of avoiding ceiling effects. Using short test item exposure times, if effective, will have two advantages over other methods. First, less subject time will be required than for designs allowing either relatively long exposure to test items or long delays between exposure to commercials and test taking;

this will also reduce subject fatigue. Second, the need to invent distractor items of comparable difficulty will be reduced compared to designs employing multiple distractor items.

LITERATURE REVIEW

This section is organized into two parts which describe (1) the Search of Associative Memory (SAM) model and (2) factors affecting recognition test scores for pictorial stimuli.

The Search of Associative Memory (SAM) Model

There are several dominant models of recall and recognition memory in the psychological literature. Dissatisfaction with the validity of any current models led Gillund and Shiffrin (1984) to develop this model for both recall and recognition. Recall is assumed to involve a rather lengthy search of long-term memory plus a fast, often implicit, recognition-like process that allows a subject to decide that an item recovered from the sampled image is appropriate. Since only the recognition aspects of the model are important to this paper, the recall segments will not be explained further.

In the SAM model, recognition consists of a complex direct access process in which many memory images are contacted by a retrieval cue. It is assumed that in a "yes/no" recognition test the subject probes memory with two cues, the context cue and the tested item. Context is used in a broad sense here to include subject factors such as mood and alertness, as well as environmental factors such as time of day, other objects in the testing room, lighting, etc.

The number of images in long term memory contacted by the context and test item cues determines the familiarity of the tested item. If the familiarity is greater than some subjective criterion, the subject replies "yes", otherwise s/he replies "no". In "forced-choice" and "batch" recognition tests subjects generate familiarity values for all test items and choose the items with highest familiarities.

According to Gillund and Shiffrin the strength of long-term memory and hence the familiarities of items on a recognition test are functions of three factors: (1) rehearsal and coding processes that take place during the study of, or exposure to, the to-be-remembered material, (2) pre-experimental associations or memories for all test items, and (3) the match, or similarity, between the cue encodings at study and test.

Given these factors, Gillund and Shiffrin use Signal Detection Theory (SDT) to explain subjects'

performance in recognition tests. In SDT, the familiarity values for items are assumed to fall into two overlapping, roughly "normal" distributions. The distribution of old, or previously studied items, should be higher on the familiarity scale than the distractor items, although the tails of the distributions will probably overlap. Familiarity values for distractors in a recognition test will be influenced by pre-experimental memory for the distractors (factor 2 above), as well as similarity between distractors and target test items (factor 3 above). Familiarity values for target (previously studied) test items will be influenced by these two factors plus the amount of processing subjects perform during exposure to the study material (factor 1 above). Subjects are assumed to place a criterion or cut-off value near the intersection of the two distributions. Criterion values are assumed to be subjective and variable based on subjects' evaluations of the familiarity of the distractors as a group and the targets as a group. Test items evoking a familiarity value greater than the criterion elicit a "yes" response and other test items elicit a "no" response.

In the context of advertising, the SAM model predicts that using recognition to test advertising effectiveness can lead to indiscriminately high test scores. In general recognition scores will be highest when target and distractor familiarity distributions are farthest apart. Picture memory may be stronger and more enduring than verbal memory in this model if pictures tend to be more novel or to provide more information than verbal stimuli. At the same time, test item novelty causes pre-experimental memory for test items to be lower. Thus stimulus richness and novelty tend to push the distractor and target distributions apart.

High scores can be avoided by increasing the similarity of distractor and target test items, hence moving the two familiarity distributions closer together. One example concerns subjects' knowledge of an upcoming test. If subjects are unaware of an upcoming test, then they are less likely to try to remember the "study" material, their encoding during "study" may not be very effective, and the target and distractor test items should appear equally unfamiliar.

Factors Which Affect Recognition Test Scores

There are a wide variety of methods and variables that impact upon recognition test scores. One of the most common concerns the *length of time between study and test*. For example, Shepard (1967) presented subjects with 612 pictures to examine at their own pace. Subjects were then given two-item forced choice recognition tests after no delay, a two hour delay, a three day delay, a seven day delay or a 120 day delay. The average recognition accuracy scores ranged from 99.7 to 57.7%. Shepard explained these results in a Signal Detection Theory framework. In a two-item forced-choice recognition test, subjects presumably choose whichever item seems more familiar and call it

"old". Over time the familiarity of the truly "old" items fades, leading to more errors.

A study by Singh and Rothschild (1983) showed that manipulating the *number of distractors* in a forced choice recognition test and manipulating the *number of exposures* to study material also could affect recognition memory. In their study, subjects viewed segments of local news programs interspersed with commercials. Commercials were repeated 1, 2, or 4 times (a within subjects factor), and subjects received either a 5- or 9-alternative visual recognition test (between subjects factor). Significant main effects on recognition were found for repetition and for number of distractors.

Decreasing *length of exposure to test items* may also diminish subject performance. A study by Franken and Rowland (1974) found just such an effect for recognition memory of pictures. During study, 150 color slides were shown to subjects for 5 seconds each. Immediately thereafter a "yes/no" recognition test was given consisting of 15 slides randomly selected from the 150, plus 15 new slides. Eight exposure durations ranging from 120 to 5000 milliseconds (msec) were used. The corresponding recognition accuracies obtained ranged from 77.5% to 92.7%. At test exposure levels of only 120 msec, subjects performed quite well; scores reached an asymptote by 500 msec.

When considering using extremely brief test item exposures, the question of *masking* needs to be considered. Studies show that visual sensory memory or iconic store can last about 250 msec. (Sperling, 1960).¹ A visual mask following stimulus presentation will erase or interfere with images in the icon, hence shortening the time subjects effectively perceive the stimulus. Because iconic memory fades and because individuals differ with respect to rate of fading (Sperling 1960), using a mask following stimulus presentation should give better control over the effective length of the stimulus.

Forward masking is also of interest when stimulus presentation is very brief. A mask preceding the stimulus will have the effect of focusing subjects' attention on the screen. This is especially important in studies using variable presentation rates, relatively long interstimulus intervals, or any presentation device other than a tachistoscope. The length of the forward mask is not critical as long as it is more than 100 msec. Di Lollo (1980) has shown that at lengths of less

¹The iconic store or visual sensory memory holds visual information in an unidentified form for a brief time before higher mental processes recognize the information. Its function is to hold information during eye blinks so that sight seems to be continuous. A mask is a non-test stimulus that can immediately precede or follow the test stimulus and has the capability to disrupt or enhance the iconic storage process depending upon its length and placement. Operationally, the mask often appears as a random pattern.

than 100 msec forward masks interfere with perception of stimuli so that the mask and the stimuli appear to overlap; as a result subjects see both at the same time. This work also implies that if a stimulus interval is less than 100 msec, a mask following it may be perceptually integrated with the stimulus. If the following mask is long enough to persist beyond the mask-stimulus integration, subjects may be better able to cognitively separate the two and more accurately judge the familiarity of the stimulus.

A study by Dole and Baddeley (1962) demonstrated that the *similarity of the distractors to the target items* also affects recognition test scores. They concluded that when memory is imperfect, only some of the relevant characteristics of the study material can be remembered. If the distractors and the target items on a recognition test are very similar, they will both be similar to the imperfect memory and subjects will be unable to tell which they have seen before. While the Dole and Baddeley study used numbers as stimuli, the results can be expected to transfer to studies using pictorial or verbal stimuli.

The studies reviewed above provide a number of methods of decreasing recognition test scores. While their authors did not use the Gillund and Shiffrin SAM model for recognition memory to interpret the results, they fit into the SAM model rather well. In the following section four hypotheses are developed concerning methods of reducing recognition test scores based on the SAM model of recognition.

HYPOTHESES

As suggested by Gillund and Shiffrin's model for recognition memory, test scores can be affected by manipulating the familiarity of distractors to target items in a recognition test. This can be accomplished by manipulating the processing that takes place during study of the to-be-remembered material, manipulating pre-experimental memory for test items, or manipulating the match between cue encodings at study and at test. In this section four methods discussed above are developed into hypotheses.

Manipulating the match between cue encodings at study and at test can be accomplished by manipulating the length of exposure during the test period. This may affect the match between the subject's internal representation of the test item and its corresponding memory from previous study. While such a notion may seem obvious, it has not been tested in advertising and rarely tested in psychology; it needs to be tested for quite brief time periods in order to be useful to advertising tests of recognition. Therefore:

- H₁: Increasing the test length of exposure to the recognition stimulus has a positive effect on recognition memory when dealing with brief time periods of exposure.

Forward masks of less than 100 msec may be perceptually integrated with the test item. Following masks may be perceptually integrated with test items of less than 100 msec. However if the following mask is longer than 100 msec minus the length of the test item, subjects may have an easier time of cognitively separating the two. Therefore:

- H₂: Increasing the length of the forward mask (up to 100 msec) and the following mask (up to the length of the test item minus 100 msec) will have a positive effect on recognition memory.

The match between cue encodings at study and at test can also be manipulated by varying the delay between study and test. This has been shown often in the past but needs to be observed within the present context of brief text exposures. Therefore:

- H₃: Increasing delay between study and test has a negative effect on recognition memory.

Multiple exposures to study material should create a stronger memory for that material and a "richer" context encoding. This also has been shown in the past but needs to be observed within the present context. Therefore:

- H₄: Increasing the number of exposures to study material has a positive effect on recognition memory.

Of these four hypotheses, the first two are concerned with issues that have not been tested in the advertising and consumer research literature, while the latter two will serve as replications and extensions of previous work. The first two represent the major thrust of this study.

METHOD

The experimental design was a 3 (scene length of 30, 60 or 90 msec) by 3 (scene plus mask length of 180, 300 or 420 msec) by 2 (15 or 30 minute delay between presentation of study material and recognition test) by 2 (1 or 2 exposures to the study materials) split plot design. The first two factors, length of scene and length of recognition task, were within subjects factors, while length of decay period and number of exposures were between subjects factors.

Subjects

Twenty undergraduate students participated in the study. Subjects were assigned to one of three conditions such that there were 10 subjects in one condition (one exposure, 15 minute delay) and 5 subjects in each of the other two conditions (two exposures, 15 minute delay, and 2 exposures, 30 minute delay). All subjects were exposed to all levels of scene length and scene plus mask length.

Procedure

Subjects were told they were part of a control group for a study measuring EEG (brain wave) responses to television programming, and were asked to watch a series of video tapes. To enhance the cover story, subjects were asked to sit as still and quietly as possible while viewing, as movement caused muscle artifact noise in EEG patterns and we wanted them to act in the same way as the actual EEG subjects. Subjects were allowed to move about as much as they liked between video tapes; they participated in the study one at a time. In actuality, the study was a pretest for a later EEG study; the issue of the recognition test discussed herein was the sole purpose for the pretest.

Subjects were not told specifically what they would be viewing, nor was there any hint that memory measures might follow. Subjects sat in a small room (12' by 13') about 6 feet from a 13" Sony Trinitron color television. They stayed in their seats for the duration of their participation except for a short 2-3 minute break between viewing of the final tape and the beginning of the testing period.

All subjects began by viewing a 10 minute acclimation tape. They then viewed a stimulus tape consisting of 12 different 30 second commercials. The commercials were separated by 30 seconds of blank tape. A tape recorded voice asked subjects to close their eyes 5 seconds after each commercial ended and to open their eyes again 5 seconds before the next commercial began. At this point, some subjects saw the set of commercials a second time. After viewing the commercials, all subjects viewed a 7 minute distractor tape, followed by a short 2-3 minute break.

Some subjects were then given an unaided recall test for the commercials which served as a distractor and 15 minute decay period. All subjects were given the recognition tests. Finally, subjects were debriefed and asked specifically not to discuss their participation with other students.

In sum, subjects were randomly assigned to one of three groups. Group 1 had two exposures to the messages during initial viewing and participated in the recall test; group 2 also had two exposures but no recall test, while group 3 had one exposure and no recall test. In all other respects, all subjects participated equivalently.

Stimulus Materials

Acclimation tape: This 10 minute tape consisted of 3 short segments of college sporting events. The purpose of the tape was simply to let subjects get comfortable with their surroundings.

Commercial tape: Twelve thirty-second commercials intuitively judged to evoke a variety of positive, neutral and negative emotions were selected. None of the selected commercials had ever been aired in the test city and none of the brands represented in the commercials were marketed in the test city.

Distractor tape: A 7 minute tape of a man making a vase on a potter's wheel was shown to all

subjects after final viewing of stimulus commercials to allow memory to decay.

Measurements

All subjects judged two practice and thirty-six actual pictorial test items as presented on video tape. Each item consisted of 1, 2 or 3 frames (33, 67 or 100 msec) from a commercial preceded and followed by a random dot pattern mask. Half of the items were scenes from the test commercials and half were foils from another group of similar, previously unseen, untested commercials. The items were imbedded in one of three scene plus mask lengths (200, 333, and 466 msec).

In constructing the recognition test video tape, the masks were laid down first for the scene plus mask length period, and then the test scenes were recorded over and in the middle of each mask. As a result, the length of the scene and the length of the scene plus mask were controlled, but the length of the forward and following masks took on the value of the time remaining after the other values were controlled. While not necessarily optimal, this construction was dictated by editing equipment capabilities. The test items were recorded at 10 second intervals and a voice announced the item number of each test item. The ten seconds was ample time for subjects to view the stimulus and record the answer. Subjects recorded their responses on computer readable answer sheets based on a 5 point scale ranging from "definitely saw before" to "definitely did not see before."

RESULTS

Table 1 shows how each of the independent variables in the study affected recognition. Answers from the 5 point scale were summarized into binary responses with all midpoint "not sure" responses counted as incorrect. The value in each cell of Table 1 corresponds to the percentage of correct responses. Note that a proportion of 40% would indicate random guessing (2 values of the 5 point scale); overall, subjects performed significantly better than chance ($Z=4.50$; $p<.001$). Table 2 shows analysis of variance results.

Effect of Scene Length on Memory

There was a significant main effect for scene length (33, 67, or 100 msec) on scene recognition ($F=38.96$; $p<.001$). As Table 1 shows, there also were significant differences between correct recognition scores for scene lengths of 33 (.26 recognition) and 67 (.53) msec ($t=6.15$; $p<.001$), between scene lengths of 67 (.53) and 100 msec (.65) ($t=2.62$; $p<.005$), and between scene lengths of 33 and 100 msec ($t=8.87$; $p<.001$).

There was a significant interaction between length of scene and length of scene plus mask ($F=10.32$; $p<.001$) so that recognition scores were highest when the scene was relatively long but the scene plus mask was relatively short. When the scene was short, the length of the scene plus mask did not matter. There was no significant interaction between scene length and number of exposures

TABLE 1
Recognition Scores As A Function Of Independent Variables

	proportion of correct recognition	t	p	df
<i>Total Population</i>	0.49	4.50 ^a	<.001	719
<i>Length of Test Scene:</i>				
33 msec. scene length	0.26 ^c	8.87 ^b	<.001	(33 vs 100)
67 msec. scene length	0.53	6.15	<.001	(33 vs 67)
100 msec. scene length	0.65	2.62	<.005	(67 vs 100)
<i>Length of Scene Plus Mask:</i>				
180 msec. scene plus mask	0.50			
300 msec scene plus mask	0.48			
420 msec scene plus mask	0.49	ns for all pairs ^b		
<i>Length of Delay:</i>				
15 minute delay	0.51			
30 minute delay	0.41	2.37 ^b	<.01	718
<i>Number of Exposures:</i>				
One exposure	0.49			
Two exposures	0.49	ns ^b		

^a one-tailed Z test

^b one-tailed t test.

^c df for length of test scene ranges from 458 to 498.

($F = .09$; ns). In calculating interactions, length of delay was suppressed due to the incomplete nature of the design.

Effect of Length of Delay

There was a significant main effect for length of delay ($F = 9.01$, $p < .003$). Subjects with a short delay were correct 51% of the time while subjects in the long delay were correct only 41% of the time. Interactions between length of delay and other variables were suppressed due to empty cells in the design. Length of delay period (15 versus 30 minutes) was determined by the absence or presence of the recall test.

Effects of Number of Exposures and Scene Plus Mask Length

There was a marginal main effect due to number of exposures ($F=2.78$; $p<.096$), and no effect due to scene plus mask length ($F=.05$; ns). There was no significant interaction between number of exposures and scene plus mask length ($F=1.30$; ns), nor was there a significant three way interaction between number of exposures, scene length and scene plus mask length ($F=.80$; ns).

DISCUSSION

The purpose of this study was to continue the investigation of the potential viability of recognition as a response variable in the study of memory for advertising. One of the key inhibitors to the widespread use of recognition has been the general tendency toward high scores during its use. It has been shown in other studies that the length of the decay period, the number of repetitions of the stimuli, and the similarity between the distractors and the test stimuli all can have an impact on lessening ceiling effects. In the current study, the variables of concern were primarily the length of the stimulus during the test and the impact of a surrounding mask.

By showing the test stimulus for brief periods of time, recognition scores, in the aggregate, were kept lower. In earlier work, a decay period as short as that used herein, coupled with an exposure period of as little as one half second would have led to levels of recognition above 90% and little variance across stimuli. It seems clear that the extremely brief exposure periods used in the present study have accomplished the desired goals.

Presumably the extremely short test exposure periods did not allow subjects to create clear internal representations of the test scenes. Consequently, a memory search using the imprecise internal

TABLE 2
Analysis Of Variance

Main Effects

Source of Variation	d.f.	MS	F	p
Length of Test Scene	2	8.76	38.96	.001
Scene Plus Mask Length	2	.01	.05	ns
Length of Delay	1	2.03	9.01	.003
Number of Exposures	1	.63	2.78	.096
Explained	6	3.26	14.51	.001
Residual	713	.23		

(Interactions suppressed due to empty cells)

Main Effects And Relevant Interactions

Source of Variation	d.f.	MS	F	p
Length of Test Scene	2	8.76	40.42	.001
Scene plus Mask Length	2	.01	.06	ns
Test Scene x Scene Plus Mask Length	4	2.24	10.32	.001
Number of Exposures	1	.00	.01	ns
Exposure x Test Scene	2	.02	.09	ns
Exposure x Scene Plus Mask	4	.28	1.30	ns
Exposure x Test Scene x Scene Plus Mask	4	.17	.80	ns
Explained	17	1.63	7.54	.001
Residual	702	.22		

representation of the test stimulus was less likely to contact memories of the studied material. When subjects' perceptions of the test stimuli were vague, they may have tried to fill in the missing parts, or cognitively create a clearer image using whatever memory they had of the studied material and any pre-experimental pictorial images.

The length of the scene plus the mask was not found to significantly affect recognition memory although there was a significant interaction between scene and scene plus mask length. A main effect due to mask and scene length may have been obscured by nonindependence in that the preceding and following masks were the same length for each test item. The interaction between scene and scene plus mask also could imply that forward and following mask lengths may affect recognition of different length scenes differently. This issue needs to be addressed more extensively in future work.

The major focus of this study was to shed light on the potential for seeing differences in memory as a function of the length of a test stimulus. In addition, by examining decay and repetition effects under the conditions of brief test stimuli, further insights could be gained.

Length of delay was found to affect recognition scores. As hypothesized, the length of delay between study and test had a negative effect on recognition. Even a fifteen minute difference was

found to significantly affect recognition memory for the pictorial stimuli. The delay allowed time for subjects' memories to fade, and also progressively altered the context. As the difference between study context and test context increased, the memory test showed poorer performance.

Number of exposures was found to only marginally affect recognition memory. Perhaps this was due to the phenomena of particularly strong memory for pictorial stimuli even after one exposure. It could be that the second exposure did not significantly increase memory for the visual aspects of the commercials. Even though memory after one or two exposures may have been quite high, recognition ceiling effects were avoided by using extremely brief exposure to test items. This would lead to the recommendation that one repetition be used (again to simplify things for the subject) when recognition testing involves extremely brief exposures to the test stimuli.

A test using a 30 minute decay with a 33 msec test would be incredibly difficult, and, as in the present case, would lead to mostly "don't know" responses. More realistic would be a 15 minute decay with a 67 msec test. This level of difficulty would allow subjects to respond at a low, but better than chance rate, and would also minimize the amount of time that a subject would need to be detained.

There were several potential design flaws in this study, yet the key finding concerning the value of extremely short test stimuli still emerged as significant. The potential flaws include the following: (1) *Small number of subjects*. While there were only 20 subjects in the study, there were 720 observations, given the within subjects nature of the design. (2) *Incomplete design*. The incomplete factorial design made it impossible to test for all the interactions; while that test will need to be repeated, the main effects still clearly remain. (3) *Confound*. The length of the decay period is confounded with the presence of the recall test; that is, in the 30 minute decay, there was a recall test which was absent in the 15 minute decay condition. This should not be a concern because other work (Darley and Murdock 1971; Postman, Jenkins and Postman 1948) has shown that a preceding recall test does not bias the results of a following recognition test. In the present case this is even less of an issue since the recall test was a verbal test of the entire message, while the recognition test was a pictorial test of scenes. In addition, the recognition scores after the recall test are lower than those without this test. The results, therefore, are consistent with the decay literature; the recall test of the whole seemed to act as a distractor for the parts.

The potential value of using these data is twofold: (1) to keep recognition scores from being so high that there is not enough variance to discriminate between memory for different stimuli, and (2) to allow the recognition test to be done more quickly and without the lags generally necessary to allow for the decay of memory.

Furthermore, as the need for more precise advertising tests becomes more prevalent, researchers are beginning to test component parts of messages rather than entire messages. As this trend increases, the issues discussed herein will become more relevant. Showing frames that represent scenes of commercials will allow advertisers to learn what is happening at various times in the commercial, and to then adjust the script to link well remembered scenes with key message points, or to rework those scenes that are remembered poorly.

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Affect Intensity as an Individual Difference Variable in Consumer Response to Advertising Appeals

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ABSTRACT

Recent research in psychology has identified stable individual differences in the level of intensity with which individuals experience their emotions. In other words, high affect intensity individuals, when exposed to an emotion-eliciting event or stimulus, consistently manifest more intense emotional responses. This paper reviews the literature on affect intensity and suggests a variety of advertising settings where this variable might be used to predict individual differences in emotional response and overt behavior.

INTRODUCTION

Just as the 70's can be described as the decade of cognitive theory development, the 80's can be viewed as the decade of affective theory construction by consumer behavior researchers. Beginning with the work of Holbrook (1978) and continuing to the present, researchers have been actively at work building a significant body of literature on the role of affect in consumer behavior. In the 1987 December issue of *The Journal of Consumer Research*, a special section titled, "Consumer Affect, Emotions, and Feelings," appeared demonstrating the importance of affect in our study of consumer behavior. Today the literature on affect in consumer behavior includes numerous articles, monographs, book chapters, and even a few complete books. We have found that, through the inclusion of affect variables in our models of consumer behavior, our understanding of how consumers behave has been enhanced. As a result of these studies, our entire perspective on how consumers behave has been modified (i.e., Holbrook et al. 1984, Zajonc and Markus 1982, Gardner 1985, Peterson et al. 1986).

Nowhere has this effect been more evident than in the study of how people respond to advertisements (Batra 1986, Burke and Edell 1986). Affect in the form of emotions can play an important role in mediating consumer responses to advertising (Holbrook and Batra 1987), and different ads can elicit different emotional responses (Edell and Burke 1987). Yet, as has occurred many times before in new areas of inquiry, one discovery leads to a whole set of new or related issues that are in need of investigation. For example, it has been observed that different people will respond differently to the same emotional ad (Aaker et al. 1986 and Edell and Burke 1987); however, we do not know why people respond differently to the same emotional stimulus.

Recently, Haugtvedt et al. (1987) have argued persuasively for the utility of individual difference variables as an aid in better understanding why different people have different reactions to the same

ad. Their work focused on the usefulness of the need for cognition personality construct in understanding how advertisements influence the formation of attitudes toward a product. According to Haugtvedt et al. (1987), individuals with a high need for cognition have a natural tendency to engage in and enjoy effortful cognitive activities.

The purpose of this paper is to further examine the usefulness of individual difference variables as moderators of individual responses to advertisements. However, unlike Haugtvedt et al. (1987) this paper will look at individual differences in affect reactivity rather than cognitive activity. The recent developments in the psychology literature on intensity of affect by Larsen and Diener (1985) holds considerable promise for increasing our understanding of affective processes that occur in response to advertisements.

Larsen and Diener (1985) developed the affect intensity construct to reflect the strength of a person's emotional responses to daily life events. Through the use of the affect intensity construct it may be possible to identify a type of individual who is more likely to respond favorably to an affectively oriented advertisement such as an emotional appeal than to a cognitively oriented advertisement such as an informational appeal.

THE AFFECT INTENSITY CONSTRUCT

In investigating individual differences in response to emotion-provoking stimulation, Diener, Larsen, Levine, and Emmons (1985) found that certain individuals consistently experience their emotions with greater intensity than others. Diener, Larsen, Levine, and Emmons (1985) related their findings to the theoretical work of Petrie (1967) on stimulus intensity modulation theory. According to Larsen and Diener (1987):

This theory suggests the existence of a stimulus intensity modulation mechanism located in the CNS (Central Nervous System). This mechanism functions to modulate the individual's responsiveness to sensory stimulation. It functions much like a "volume control" device, amplifying or augmenting the effects of stimulation for some individuals while damping or reducing the effects of stimulation for others.

From the perspective of stimulus intensity modulation theory, Diener et al. (1986) suggest that:

... some individuals modulate the intensity of emotional stimuli such that they consistently exhibit stronger or more intense emotional reactions. Other individuals are much less emotionally reactive to the same levels of

emotion-provoking stimulation. We refer to stimulus intensity modulation in the emotional domain as *affect intensity*, and we consider affect intensity to be a stable individual difference dimension.

Larsen and Diener (1987) have developed two methods for assessing an individual's characteristic magnitude of emotional responsiveness, affect intensity. The first method requires that a subject report their daily moods over a period of a month or longer. Although this approach has strong ecological validity, the reporting and subsequent calculations can prove to be extremely burdensome for both subject and researcher. Consequently, the development of an easier method of measurement was deemed necessary. The second method of measuring affect intensity, the Affect Intensity Measure (AIM; Larsen, 1984), was developed to address the awkwardness of the daily moods report measure. The AIM consists of a 40-item questionnaire designed to cover a broad range of emotions of both positive and negative tone such as joy, bad, troubled, happy, nervous, and peaceful (i.e., "I feel pretty bad when I tell a lie" and "When I feel happiness, it is a quiet type of contentment"). In addition, Larsen (1984) sought to capture specific physical sensations which accompany strong emotional responses such as having one's heart race, being sick to one's stomach, or having a shaky voice (i.e., "When I talk in front of a group for the first time my voice gets shaky and my heart races").

Another consideration in the development of the AIM was that the items should reflect intensity of emotional response instead of the frequency of emotional reactions. Therefore, Larsen avoided the use of items such as "I am very happy quite often" which contains both frequency and intensity elements. Instead, he developed items which tapped the intensity component unconfounded by frequency like "When I feel happy it is a strong type of exuberance." The complete questionnaire along with scoring instructions can be found in Larsen and Diener's (1987) article, "Affect Intensity as an Individual Difference Characteristic: A Review."

The intercorrelation of the AIM items was assessed with coefficient alpha to be between .90 and .94 across four separate samples, while test-retest reliabilities for the AIM have been reported to be .80, .81, and .81 over 1-, 2-, and 3-month intervals respectively (Larsen and Diener 1987). The validity of the AIM was assessed by calculating its convergence with the subject's daily mood reports and parental reports of the subject's emotional intensity. Across three separate samples the AIM correlated with subject's daily mood reports .61, .52, and .49 (Larsen and Diener 1987). When parental reports of the subject's emotional intensity were compared to the subjects' AIM, a correlation of .50 was found. Thus, it appears that the AIM is a reasonably reliable and valid measure of the typical intensity with which individuals experience their emotions.

General responses to emotional or non-emotional stimuli by individuals either high or low on affect intensity are given in the following figures.

Figure A illustrates how the affect intensity construct operates as a moderator of emotional response. When the stimulus is strongly emotional in character the high affect intensity individual will have strong emotional responses. An individual with low affect intensity will have emotional responses to the strongly emotional stimulus but these responses will be much weaker in strength. Thus, affect intensity is said to influence an individual's emotional responses to an emotional stimulus. However, as Figure B shows, affect intensity will have no discernible effect on an individual's emotional responses when the stimulus is non-emotional.

Rosenberg (1968) refers to the process of examining a relationship between two variables under different conditions as specification. Sharma et al. (1981) states that a specification variable is, "one which specifies the form and/or strength of the relationship between a predictor and a criterion variable." When the specification variable is related (correlated) to the criterion variable and interacts with the predictor variable, Sharma et al. (1981) refers to the variable as a moderator variable of the "quasi-moderator" type. In previous studies, the affect intensity variable has exhibited the characteristics of interacting with the predictor variable and being related to the criterion variable. Therefore, affect intensity appears to be a variable which moderates the relationship between a stimulus and a criterion variable. To gain a better understanding of the affect intensity construct, an examination of the literature on affect intensity is in order.

PREVIOUS STUDIES ON AFFECT INTENSITY

Temperament

In a study (Larsen, Diener, and Emmons, 1984) which measured the relationship of affect intensity to other temperament variables such as sociability, activity, arousability, and emotionality, it was found that affect intensity correlated significantly with each of these dimensions. This implies that persons who have relatively high affect intensity are more active, more sociable, more physically arousable, and more emotionally reactive.

Larsen (1984) further examined the relationship of affect intensity to other temperament characteristics by factor analyzing a battery of standard temperament measures along with measures of affect intensity. This factor analysis empirically demonstrated that there were two underlying factors among these measures. The first factor consisted of measures of sociability, activity level, and affect intensity. The second factor consisted of measures of emotionality, arousability, and affect intensity. What was most striking about this finding was that

FIGURE A
WHEN AFFECT INTENSITY WILL MODERATE AN EMOTIONAL RESPONSE

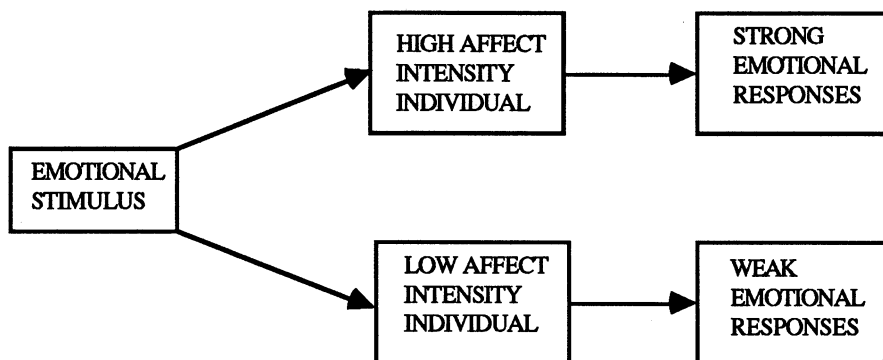
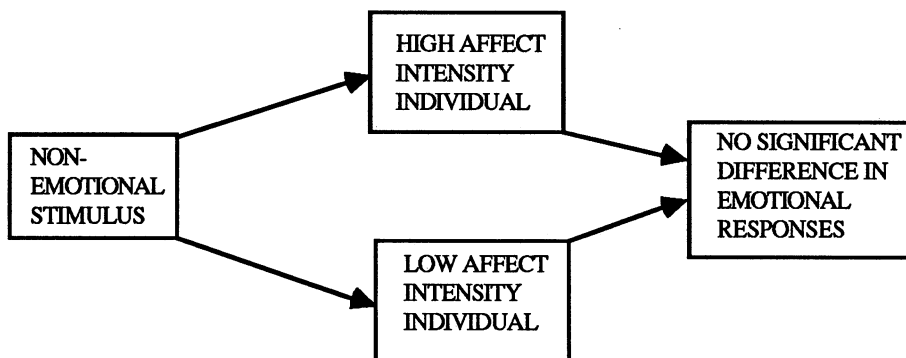


FIGURE B
WHEN AFFECT INTENSITY WILL NOT MODERATE AN EMOTIONAL RESPONSE



all the other temperament measures had simple factor loadings, high on one factor and low on all others, while affect intensity loaded on both factors. Larsen and Diener (1987) comment:

It is interesting that affect intensity loads on both of the temperament dimensions that emerged. It could be that affect intensity taps into some common underlying mechanism that contributes to both sociability/activity and arousability/ emotionality. Or it could be that affect intensity is an energizing force that drives or at least contributes to these temperament characteristics. ... (I)t appears that emotional response intensity is a component of various temperament dimensions that has previously gone unrecognized (p.20-21).

Daily Life Events

The relationship of affect intensity to daily life events has been investigated extensively. For example, Larsen and Diener (1987) have found that individuals high in affect intensity respond with stronger emotions to emotion-provoking events

which occur naturally in daily life (eg. success or failure at accomplishing a small task, seeing a violent scene on the evening television news). Although the severity of events experienced (how good or how bad) does not differ between individuals high and low in affect intensity, there is a tendency for high affect intensity persons to engage in day-to-day activities which are prone to provoke more emotion than low affect intensity individuals.

One implication for marketers is that certain types of television programs might attract high affect intensity individuals while other programs attract low affect intensity individuals. For example, high affect intensity individuals might be more prone to watch television news or television programs with emotionally charged plot lines than low affect intensity individuals. While the study of affect intensity as a segmentation tool is beyond the scope of this study, the potential for conducting this type of investigation in the future certainly exists.

Sensation Seeking

Because high affect intensity individuals are more prone to engage in daily activities with greater

emotion provoking potential than low affect intensity individuals, it has been hypothesized that affect intensity might represent a form of sensation seeking. However, Larsen et al. (1986) found that affect intensity had almost no correlation with the standard measure of sensation seeking, Zuckerman's (1979) Sensation Seeking Scale. Larsen et al. (1986) attributed their finding to basic differences in the nature of the two constructs. Sensation seeking refers more to behaviors which involve risk seeking, exciting, and thrilling activities which are different from every day life events, while affect intensity refers to having consistently strong emotional responses. Larsen and Diener (1987) state:

... One way to maintain this consistency is to engage more frequently in those ordinary daily activities, available to anyone, that provide a higher probability of provoking emotion. Thus individuals high on the affect intensity dimension do not seek out-of-the-ordinary experiences as much as they seek out an ordinary daily life that is more emotionally stimulating (p. 24).

Emotionally Relevant Cognitions

Another way to create consistently greater emotional responses to life events is to consistently engage in more emotionally relevant cognitions. It has been hypothesized by Epstein (1984) that cognitions can intensify emotional reactions to events when the person makes judgments about the stimulus event (i.e., intensified anger directed at a parent because that parent's child abuse behavior was viewed as irresponsible) and/or has beliefs about options of response (intensified anger because of the belief that parents who abuse children should be punished). Isen (1984) suggest that mood can prime associated cognitive material in memory, increasing the probability that these thoughts will intensify. Attribution theory (Weiner, Russell, and Lerman (1978)) suggests that attributions about the cause of an event will affect the intensity of a person's emotional reaction to the event.

Beck (1976) gave an account of certain cognitive operations that are relevant to emotional responses. Two of these are personalization and overgeneralization. Personalization occurs when an individual interprets experiences in a self-referential manner. Larsen et al. (1987) categorized personalization as consisting of two types of cognitive responses, personalizing statements and empathic statements. Overgeneralization occurs when a person takes a single event as being representative of how things are in the world. Larsen et al. (1987) categorized overgeneralization as consisting of two types of cognitive responses, global statements and fantasy elaboration.

It has been argued by Larsen, Diener, and Cropanzano (1987) that, when a high affect intensity individual personalizes the source of a negative event, he or she is making an internal attribution. However, when a high affect intensity

person overgeneralizes from a specific emotion evoking event, then he or she is probably activating additional emotion related material in memory. These cognitive operations are then thought to intensify a person's emotional response to an emotional stimulus. Larsen, Diener, and Cropanzano (1987) found that individuals with high affect intensity engaged in more personalizing and more generalizing cognitive operations than did individuals with low affect intensity in response to affective stimuli. When the stimulus was of a non-emotional nature, Larsen et al. (1987) observed no significant difference in emotionally relevant cognitive responses between high and low affect intensity individuals.

Figures C and D illustrate when affect intensity will and will not moderate emotionally relevant cognitive responses.

In summary, affect intensity refers to a stable individual difference characteristic defined in terms of a person's standard degree of emotional responsiveness. It appears to be closely related to both sociability-activity and emotionality-arousability temperament factors. It has been found that affect intensity is not related to the sensation seeking construct. In addition, it appears that high affect intensity individuals experience more emotionally relevant cognitive responses and strong emotional responses when exposed to emotional stimuli. Moreover, the affect intensity construct seems to capture an individual difference dimension which could be highly related to how an individual might respond emotionally to such daily life events as exposure to an advertisement.

FUTURE RESEARCH

The literature reviewed in this paper suggests that it would be worthwhile to pursue the study of the role of affect intensity as a predictor of emotionally relevant cognitive responses and emotional responses to advertisements using ads of different hedonic tones. For example appeals designed to produce fear, empathy, warmth, joy, and happiness could be worthy of study (Bagozzi and Moore 1989, Moore and Hoenig 1988). Such work might prove to be helpful in better understanding individual reactions to various emotional appeals.

Another avenue of investigation for researchers interested in the role of affect intensity in the processing of commercial messages would be the study of affect intensity's influence on the memory of emotional versus informational ads. In addition, one might investigate whether high affect intensity subjects experience slower burnout to emotional appeals than low affect intensity subjects.

Stayman and Aaker (1988) suggest that feelings may be strongest at early exposures to an ad having a direct effect on brand attitudes. The study of affect intensity's effect on emotions and emotions effect on attitude toward the ad and attitude toward the brand when the number of ad exposures are varied would be a valuable follow-up to Stayman and Aaker's work.

FIGURE C
WHEN AFFECT INTENSITY WILL MODERATE EMOTIONALLY RELEVANT COGNITIVE RESPONSES

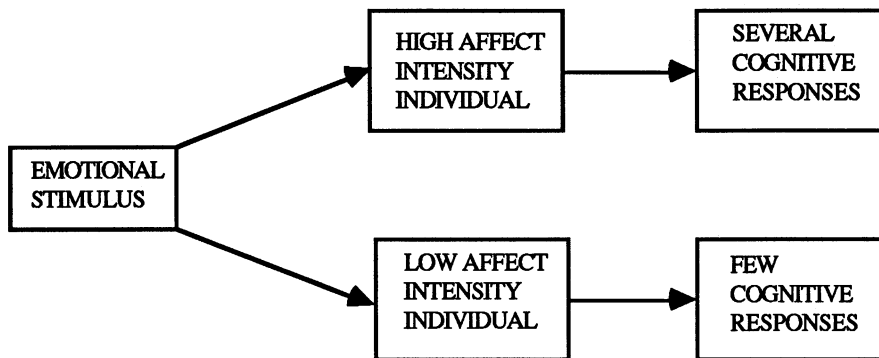
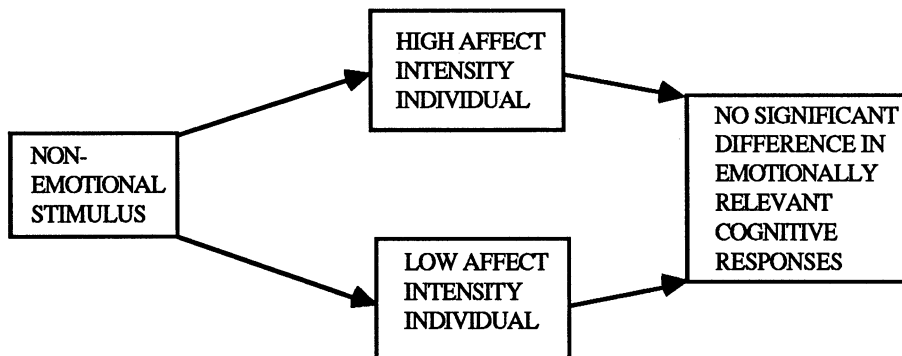


FIGURE D
WHEN AFFECT INTENSITY WILL NOT MODERATE EMOTIONALLY RELEVANT COGNITIVE RESPONSES



The opportunities for important work in this area appear to be great. We leave it to future research efforts to empirically confirm the usefulness of the affect intensity construct in enhancing our understanding of how advertising works.

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Consumer Socialization Research: Content Analysis of Post-1980 Studies, and Some Implications for Future Work

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ABSTRACT

Studies of childhood consumer socialization since 1980 are content analyzed. Results show a high proportion of experimental research designs, participation by many authors from diverse disciplines, and multiple theoretical perspectives. In 14 sources surveyed, publications show a steady pace, at about 10 articles per year. Suggestions are offered for the next era of research in the field.

In 1979, an ACR paper asked: "Research on Marketing and Children: Upside or Downside on the Product Life Cycle?" Ten years later, that question is answered, because the question can be still be asked! This paper will overview sustained research in the area of "consumer socialization" since the 1970s, then present a content analysis of research since 1980, and, finally, suggest some fruitful areas for future research.

Our study is a rough set of the idea that Kassarian (1986) advanced: that stages of research can be likened to product life cycles, beginning with innovators, followed by mainliners, and, finally, by technicians. If the three types of researchers roughly correspond to the introductory, growth, and maturity stages of the life cycle, then our content analysis ought to provide a fix on where we are in the research scheme of things.

OVERVIEW OF CONSUMER SOCIALIZATION RESEARCH AND ITS ROLE IN CONSUMER BEHAVIOR

We define "consumer socialization" research in terms of three dimensions:

- (1) *Process Focus.* Most definitions of "socialization" refer to longitudinal processes by which individuals acquire skills, knowledge, and attitudes relevant to some area of social functioning. While studies of consumer socialization are usually cross-sectional, rather than longitudinal, the research interest is on intra- or inter-personal processes relevant to consumption. Some authors have examined populations such as the elderly, for example, but most research in the field has focused on children and adolescents.
- (2) *Economic Transactions.* Research in the area is concerned with economic exchanges, whether they are direct, or through othersDDmost often, through parents.

- (3) *Marketing Stimuli are Relevant.* Studies of children's use of television, family interaction, and the like are useful, but we believe the field is best defined by limiting it to phenomena involving marketing variablesDDthat is, commercials instead of programming, family interaction about consumption rather than general interaction patterns.

Using this definition, studies of consumer socialization can be traced to early pioneers: Guest's 20-year longitudinal study of brand attitudes(1972); McNeil's studies of child and family consumer behavior (1964); and Wells' pioneering work in measuring children attitudes and their influence in the family (1966). Nonetheless, these early studies were not the progenitors of a sustained stream of research. That stream began in the early 1970s and became sustained, in our view, largely because of "public policy" questions that were raised by consumer action groups, such as Action for Children's Television, and by federal regulatory agenciesDDmost notably the Federal Trade Commission. Policy questions were the *raison d'etre* for early research, and the focus was on television advertising's effects. Since age-related differences in children's responses to advertising were alleged, the most useful theoretical framework was Piaget's cognitive development theory, which poses age-related stages of development in children's perceptions and cognitive functioning. By the mid-to late 1970s researchers broadened their theoretical perspectives, and research issues were extended beyond television and the relatively narrow policy questions. New theoretical perspectives were brought to bear, including attribution theory, social learning theory, and theories about family communication patterns.

By the 1980s, significant work had been done to develop and validate measures for use in research with young people, beginning with Rossiter's validation of an attitude scale (Rossiter, 1977), Ward and Faber's multitrait, multimethod validation of purchase request attempts reported by both parents and children (1979), and progressing through contemporary work by Macklin and Roedder-John on a variety of measurement issues.

Throughout these 17 years, consumer socialization research has attracted researchers from diverse behavioral disciplines, and, within consumer behavior, has been usefully exploited by researchers seeking to apply concepts, theories, and measures useful in other areas of consumer research. In fact, we would argue that there are three primary reasons for sustained interest in consumer socialization:

1. The field is multi-disciplinary and multi-theoretical. As we will document in our content analysis, the field attracts researchers from a variety of behavioral disciplines, reflecting the fact that the breadth of consumer socialization phenomena invites the application of many theoretical perspectives.
2. The field has direct, readily-apparent relevance to "the real world." In addition to the concerns of public policy groups from government agencies to consumer groups and self-regulatory bodies, marketers who make appeals directly or indirectly to young people are a relatively defined group, and their questions about marketing effectiveness lend themselves to equally apparent research questions.
3. There are many opportunities for research. As we have suggested, individuals with diverse research interests can find some area in which to apply those interests in the field of consumer socialization, from intra-individual cognitive processes, to social processes, to longitudinal processes, to applications of advanced measurement techniques. Experimental, survey, and modelling approaches all have utility. In a way, the field is just the reverse of an earlier era in consumer behavior research, when the focus was on searching for suitable consumer behavior phenomenon for the application of particular theoretical perspectives (Ward and Robertson, 1973).

But where are we in 1989, and where should we go from here? We conducted a content analysis of research in the area of consumer socialization, beginning with the year 1980 and continuing through 1987 (not all 1988 journals were available at the time of our analysis). Previous reviews have focused on the pre-1980 period (Adler, et al, 1980). To try to answer the larger question, we focused on these questions:

1. Are we correct in our belief that the field has attracted many researchers, from diverse disciplines?
2. What is the nature of post-1980 research? Based on Kassarian's thoughts (1986), our working hypotheses were:
 - Younger (pre-school-aged) children would be represented in research, since almost all earlier work focused on school-aged children;
 - Lab or field experiments will predominate, moving beyond one-shot surveys and convenience sample research

that marked the early years of research in the field:

- The orientation of research would be more toward positive or "pro-social" consumer socialization outcomes, since there is less pressure to address public policy questions, which most often pose "negative" outcomes (e.g., deceptive advertising practices);
- There will be more "process-oriented" research than "stimulus-oriented" research, reflecting current trends in consumer behavior, and less concern with the policy questions that had prompted earlier research focusing on the effects of particular stimuli (e.g., effects of host selling in television commercials);
- Research will reflect a broad range of theoretical perspectives, and some studies would incorporate more than one theoretical base (the "multi-theoretical" perspective called for in earlier research);
- There will be little research oriented specifically to public policy issues.

While we do not have a before/after design since we do not have specific content analysis data from studies in the pre-1980 period, our expectations are shaped by our impressions of the pre-1980 period, and by general reviews of that research.

METHODOLOGY

We began by examining papers that reviewed research in the general area of "consumer socialization." We further limited our search to studies dealing with pre-teenage children. We derived a frequency distribution of referenced publications and examined the periodic indices of these journals to search for categories that met our criteria for the studies in consumer socialization discussed earlier. We identified the following as leading publications in the area and as a set containing over 90% of the published research in consumer socialization:

Child Development

Journals of:

Academy of Marketing Science
 Advertising
 Advertising Research
 Applied Developmental Psychology
 Broadcasting
 Communications
 Consumer Affairs
 Consumer Research
 Family Issues
 Marketing
 Marketing Research
 Public Policy and Marketing
 Proceedings, Association for Consumer Research

TABLE 1
Frequency of Childhood Consumer Socialization Studies: 1980-87 in Selected Proceedings and Journals

Year	n
1980	16
1981	14
1982	10
1983	10
1984	10
1985	10
1986	12
1987	10
	92

After identifying the articles in these publications that fell within our definition of "consumer socialization," we categorized them in terms of type of study. "Orientation" of the study was assessed: positive or "prosocial" orientation; "negative effects" orientation, or not applicable. "Positive" studies were those focusing on positive outcomes of exposure to marketing stimuli (such as sharing or positive sex-role attitudes as a function of exposure to television advertising stimuli), or those that portrayed children as learning positive aspects of consumer behavior. "Negative effects" were defined as studies dealing with outcomes of exposure to marketing stimuli that were identified as dysfunctional, such as materialism, parent-child conflict, and the like.

We also coded studies in terms of their topics. These were defined as:

- stimulus-related: dealing primarily with specific effects of particular marketing stimuli, such as host selling, public service announcements, program-commercial separators, and the like;
- process-related: dealing primarily with general processes, such as family communication process, information processing, attitude formation;
- general effects research: identifying studies investigating various effects as a function of undefined or general stimuli, or as a function of pre-existing states (e.g., descriptive studies of frequency of children's product requesting behavior, influence of product knowledge on comprehension of advertising);
- measurement studies: focusing on application of particular measures, or on measure validation.

Papers were also coded in terms of whether they explicitly mentioned a policy issue or not. A "policy issue" was defined as one that had been mentioned by a regulatory, self-regulatory, or consumer action group, e.g., the desirability or lack of desirability of hosts selling, amount of

advertising, program tie-ins with advertising products, and the like.

The academic affiliations of all authors on each study and the expressed theoretical base of each study were the final coding categories.

Two judges, working independently, coded the set of studies. With the exception of the academic affiliation of the authors, each of the measures were tested for interjudge agreement. Judges were in complete agreement for type of publication. Reliability for the remaining categories exceeded 90%, except for theoretical perspective, which had a reliability rating of only 73%. The latter category was difficult to code, because the stated theoretical orientations of the papers were not always comprehensive.

FINDINGS

We found 92 studies appearing in the 1980-87 *ACR Proceedings* and in the journals listed above. A reasonably steady distribution of studies through the years (shown in Table 1) suggests some "maturation," but no sharp decline of interest. A total of 155 different authors (65 first authors) contributed; 17 first authors contributed more than one study during 1980-87, with two authors contribution 6 studies each.

Over one-half (52%) of the authors listed Marketing as their academic affiliation; Communication or Journalism was the second most represented field (15%). Other fields included Psychology (10%), industry researchers (7%), and Advertising departments (5%). Education, Human Development, and Child/Family Studies contributed most of the remainder (a few affiliations were not ascertained).

Reflecting concentration of research in Marketing, and, more specifically, in Consumer Behavior, 19 of the 92 articles were published in the *ACR Proceedings* and 16 in the *Journal of Consumer Research*. Fourteen were published in the *Journal of Broadcasting*. These findings offer a mixed answer to our first research question: childhood consumer socialization research since 1980 shows concentration by researchers in marketing and publication in consumer behavior outlets, but the

TABLE 2
Types of Publication in Consumer Socialization: 1980-87

	<u>n</u>	<u>%</u>
Survey	12	13
Lab or Field Experiment	45	49
Longitudinal or Panel study	7	8
Secondary Data Analysis	8	9
Conceptual or Review Paper	14	15
Case Study	1	1
Other, or n.a.	<u>5</u>	<u>5</u>
	92	100

TABLE 3
Orientation of Research

	<u>n</u>	<u>%</u>
Prosocial or Positive	42	63
Negative Outcomes	<u>25</u>	<u>37</u>
	67	100.0

field has attracted a high number of research contributors.

Next, we posed a series of expectations about the nature of research in the field. First, we expected researchers to include more younger children in studies than was generally the case in pre-1980 research. About 50% of the studies were based on empirical research with pre-teenage children (as opposed to conceptual or review papers, research with other family members as subjects, etc.), and, of these, 26, or about half, included children 5 years of age or less. This finding confirms our suspicion that researchers would venture down the chronological age continuum.

We also expected a prevalence of lab or field experiments, reflecting maturation of research approaches in consumer socialization. In fact, the data in Table 2 strongly support our expectation: about half the studies were experimental.

Next, we expected a substantial portion of research to be oriented toward "positive" or "prosocial" consumer socialization outcomes, such as attitudes toward sharing, saving, and the like, as opposed to "negative" outcomes, such as deception, nagging parents, and so on. We only coded studies in one or the other category when the orientation was quite clear, at least to the two judges scoring the studies. Table 3 indicates that of the 67 studies we could code in one category or the other, 42 were "prosocial," or "positive," while 25 focused on negative processes or outcomes.

We expected most research to be focused on processes, including intra- individual processes (e.g., information-processing perspective), inter-individual processes (in the family, among peers, siblings), and more general process notions, such as changes in consumption-related knowledge,

attitudes, and skills over time. We expected this trend toward process-oriented research in large measure because the relatively low level of public policy debate, as compared to earlier years, should shift the interests of researchers away from input-output designs to test for effects of specific stimuli (e.g., types of television advertising). This expectation was not supported (Table 4). Stimulus-related research accounted for 40% of total publications, versus 24% for policy-oriented papers.

Another perspective is the extent to which studies are designed to address specific policy questions, or, in the case of non-empirical research, the extent to which policy questions are the primary focus of the paper. Of the 92 papers, 33 (36%) were coded as "policy-oriented." Again, while we do not have prior data, we would suspect that number may well be somewhat less than in previous years.

Finally, we hypothesized that studies would reflect a broad range of theoretical perspectives, and that a substantial proportion would be "multitheoretical," in that they draw on more than one theoretical tradition in the formulation of hypotheses and/or interpret results in terms of multiple perspectives. Results are shown in Table 5. Of the 70 studies that could be coded in terms of our categories of theoretical perspectives, about one-fifth were "multitheoretical." Cognitive development theory is often one of the perspectives in multitheoretical works, and it is the theory that is most often the basis for single-theory studies. Alas, atheoretical papers account for 14% of the total. The fact that only 5 papers deal explicitly with "measurement" issues may mean that consumer socialization research is not yet as Kassarian's final stage, when the "technicians" move in. However, our perception is that many papers include detailed

TABLE 4
Study Topic Orientation

	<u>n</u>	<u>%</u>
Process-oriented	24	26
Stimulus-oriented	37	40
Effects-oriented	16	17
Measurement	7	7
Other	<u>8</u>	<u>7</u>
	92	100

TABLE 5
Theoretical Perspective of Childhood Consumer Socialization Studies

	<u>n</u>	<u>%</u>
Multitheoretical	21	22
Cognitive Development	15	16
Atheoretical	15	16
Information Processing	10	10
Measurement	4	5
Social Learning	7	8
Family Process	<u>13</u>	<u>15</u>
	92	100

discussion of measurement issues as part of broader topics and objectives.

In summary, we find support for our expectations that: (1) the field of consumer socialization research is alive and well, attracting a steady stream of research over the past seven years; (2) the field attracts many scholars bringing a wide variety of theoretical perspectives, but the field of study which contributes the greatest number of papers is Marketing; (3) there is some trend away from policy-specific research, but many studies still focus on effects of specific stimuli; (4) there is some trend toward a truly "multitheoretical" perspective in that more than one theory or conceptual framework is brought to bear on consumer socialization phenomena.

THE NEXT TEN YEARS

Where does our analysis place consumer socialization on the "research life cycle" in 1989, and what does it suggest for future research directions? We believe consumer socialization research is in the "mature" stage of the product life cycle, exhibiting a reasonably steady pace of new research through the years. The diversity of disciplines and theoretical perspectives suggests that studies prior to 1980 cut a wide swath, while post-1980 research has focused on the specific issues early work exposed.

We believe that future research directions should build on the characteristics of the field that have attracted researchers to the field to this point in time—namely, that future research should remain multi-theoretical and multi-disciplinary, that research

questions continue to have significant implications for practice, and that researchers continue to explore various opportunities for research in the area.

We believe that these attractive characteristics remain, regardless of whether one believes that the most fruitful direction is to strive for a

general theory of consumer socialization, (e.g., Howard and Sheth, 1969) on the one hand, or focus on relatively narrow research questions such as policy issues—on the other hand. However, our belief is that the most fruitful directions for future research lie between the two extremes posed above. That is, we advocate "middle-range" research, or "micro-theoretical" notions—a position well established in behavioral sciences generally (Merton, 1957) and in consumer behavior specifically (Ward and Robertson, 1973; Ray, 1974). Future research should aim to specify and model reasonably discrete and specific sub-areas within the overall field. However, given the research to date, we believe that the marginal utility of additional studies in some areas is less than it may be in other areas. For example, the large pool of studies of children's information-processing patterns in recent years has greatly increased our knowledge in that area. As another example, so much research has been done based on cognitive development theory that there is little left to know about stage-related cognitive phenomena.

On the other hand, we believe the marginal utility of additional studies in the following areas is high, and that research can be oriented toward

deriving the following "middle-range" theories and models:

- (1) Children's influence on aspects of consumer behavior in the family unit, and conversely, the impact of family variables on children's consumer socialization processes. While many studies decry the fact that "family decision-making" as field of consumer behavior study focuses primarily on husband-wife dyads rather than on the entire family unit, relatively little research has been done in the last seven years on the expanded view of the family. The topic would seem to be especially important, given contemporary social and demographic changes affecting the composition of families, and their functioning as a social unit.
- (2) The durability of early consumer socialization processes. Virtually every definition of "socialization" stresses the idea that socialization processes involve learning that is applied in later situations. While we recognize the difficulty of specifying elements of learning for study, the prevalence of cross-sectional studies in the area leaves us begging for more information on not only what is learned and when, but also how long learning lasts and how it is changed.
- (3) Consumption as a relative experience for young people. Many authors discuss the fact that consumption is just one of many things children and adolescents experience, but the literature is silent on the relative nature and significance of consumption as a relative experience.

In conclusion, we believe consumer socialization research is maturing. We have gone through the "introductory" stage, when Kassarian's "innovators" exploited theoretical perspectives (e.g., cognitive development), driven by policy questions of the day. Research in the 80s is less tied to policy questions, and reflects a broad range of theoretical perspectives and more rigorous experimental research. The choice point now is if we continue to refine areas that have become "well-mined," attempt to construct broad, general theories, or seek to specify relatively specific areas of interest in this broad field and derive models and theories of the "middle-range" to satisfactorily explain and predict some circumscribed phenomena. We believe the field can enjoy a fruitful "mature" stage by pursuing the latter course.

A listing of the studies that were content analyzed for this research may be obtained by writing to the first author.

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An Investigation of Mothers' Communication Orientations and Patterns

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ABSTRACT

This study investigated the efficacy of communication orientations and a typology of family patterns based on communication differences. Previous studies of these orientations and typology have been based on the responses of adolescents. Mothers served as the subjects in this investigation. Results from exploratory and confirmatory factoring as well as preliminary construct validation of the orientations and typology provided some support for their use with samples other than adolescents. Extensions and implications of the findings for consumer socialization are suggested.

INTRODUCTION

Marketers have sought to determine why differences in consumer behavior develop. Consumer socialization provides useful insights in this regard by attempting to identify and clarify those processes by which an individual acquires a consumer identity, complete with differential opinions, knowledge and skills. This study, by focusing on mothers' perspectives, provides additional insights on family communication about consumer learning.

Background

One research stream focuses on the influence role of various communication agents (e.g., parents) in consumer socialization (e.g., Moschis and Moore 1978; Moore and Moschis 1981; Moschis, Moore and Smith 1983; Moschis, Prahasto and Mitchell 1985; Moschis and Mitchell 1985). Since consumer socialization is the process "by which young people acquire skills, knowledge and attitudes relevant to their functioning in the marketplace," (Ward 1980, p. 380) understanding the nature of parent-child communication may provide an explanation for differences in consumer behavior and skills. In this context, Chaffee et al. (1971) and others (McLeod and Chaffee 1972; McLeod and O'Keefe 1972) provide a useful framework which describes family communication orientations and patterns in political socialization. This framework has been adapted to a consumer socialization context (cf., Moschis 1985; Moore and Moschis 1981). A review of the conceptual bases of these orientations and patterns follow.

Consumer Socialization Communication Orientations

These patterns are derived from two uncorrelated family communication dimensions. Socio-oriented parental messages promote deference to parents and monitoring and control of children's consumer learning while concept-oriented parental communications encourage children to develop their own consumer skills and competencies. These

dimensions can be arrayed to form a two by two typology depicting four parental communication patterns: Laissez-faire, Protective, Pluralistic, and Consensual.

Laissez-faire parents are neither socio- nor concept-oriented and hence little parent-child communication of either type occurs in these families. Protectives emphasize deference to parents, control and mediation of children's consumer socialization at the expense of building consumer competence and skills in the child. Pluralistics encourage the development of consumer skills without promoting acquiescence to themselves or controlling children's exposure to the marketplace. Finally, Consensuials stress both orientations. Their children are encouraged to take interest in ideas outside the scope of family beliefs and traditions, yet simultaneously are expected to learn and conform to parental consumer behaviors, values and ideas.

These patterns are believed to account for differential outcomes in offspring beyond those attributable to parent-child interactions such as modeling and reinforcement strategies and have been cited as directly or indirectly impacting consumer learning (Moschis 1984; Moschis and Moore 1978; 1983; Moschis, Moore and Smith 1983; Moschis, Prahasto and Mitchell 1985). Direct influences involve acquisition of consumption related information and formation of beliefs, norms and behaviors while indirect influences include affecting and mediating children's interactions with other sources of consumer influence, e.g., media (Moschis 1985).

Yet, while these findings provide understanding of the influence of these patterns on consumer learning, this research has been conducted almost exclusively on adolescents' views of family communication. In the only variations to this sampling frame, Moschis and Mitchell (1985) used mother and adolescent pairs; however, only the youngsters responded to communication orientation items. Similarly, Foxman et al. (1989), using mother, father and adolescent triads, found that family communication patterns were an influencing factor on consumption decisions. Again, while data were gathered from a variety of family members, pattern assignment was based on adolescent responses to socio and concept measures.

In summary, while these patterns have been related to consumer learning and family influence relations they have been investigated from the perspective of adolescents. Thus, only one partner (adolescents) of the communication dyad (i.e., parent-child) in consumer socialization has been studied. Likewise, validity assessment of these orientations and of the typology of family communication patterns has been limited to samples

of adolescents. Also, key assumptions across some research are the orthogonality and unidimensionality of the communication orientations which are essential preconditions for assigning individuals to the patterns in the typology. Thus, there appears to be several gaps in our understanding of these orientations and in their application. By focusing on mothers, this study sought to provide additional insights into these orientations and patterns.

METHOD

As part of a larger study, self-administered questionnaires were distributed to mothers via their children in three elementary schools from a variety of socioeconomic areas in a mid-western city. Mothers were asked to answer items with respect to their youngest school aged child to avoid multiple responses from the same family and because of previous research emphasis on adolescents' views of their family communication environments.

In addition to the need to study mothers' perspectives using the socio- and concept-orientations, mothers were selected for these reasons. In consumer socialization terms, mothers are important because of their greater familiarity with the marketplace and its relation to children (Aldous 1974), their roles as mediators of consumer socialization agent influence (Abrams 1984), and their long-term impact on the consumption choices of children (Alsop 1988).

Questionnaires were collected two weeks after distribution and the 46% response rate ($n = 499$) was similar across schools. Principals considered this rate to be normal compared to other take home items requiring a parental response and it was similar to rates reported previously (cf., Grossbart and Crosby 1984). 451 cases were retained for analyses, incomplete items occurred in a random fashion and there were no differences on dependent variables between respondents who did/did not complete all items.

Communication Pattern Variables

The most recent versions of the concept and socio scales (Moschis, Moore and Smith 1983) were slightly revised to allow mothers, rather than adolescents to serve as respondents. Six concept items reflected maternal emphasis on developing children's competence and skills as consumers (e.g., I tell my child to decide about things he/she should or shouldn't buy) while five socio items tapped maternal emphasis on monitoring and controlling children's consumptive behavior (e.g., I want to know what my child does with his/her money) (see Table 2). Responses were summed across items in each scale. One socio item (as cited in Moschis, Moore and Smith 1983) was deleted because it was deemed reflective of general parenting orientations rather than specifically oriented toward consumption issues (i.e., Parents say they know what is best for the child and he/she shouldn't question them).

As these measures were to be used to classify mothers per one of the communication patterns a check was performed on the potential impact of

responding to these measures in a socially desirable manner. Correlations were calculated between each index and a 19 item version of Crowne and Marlowe's (1964) social desirability scale. Social desirability accounted for less than 1% of the variation in socio-orientation and less than 2% of the variation in concept-orientation. Another correlation analysis investigated the possible confound of mothers couching their responses according to their youngest school aged child. However, neither communication orientation was related to birth order of the child or the number of children in the family.

Indicators of Media Mediation, Monitoring and Control

Moore and Moschis (1981) provided initial validity evidence for socio and concept indices by relating communication patterns (e.g., Protectives) to the adolescent's media use (e.g., amount of tv viewing). In an attempt to be consistent with procedures used by these authors, differences across patterns were examined for mother's reports of children's aggregate tv viewing, parent-child discussions about advertising, viewing tv with children and control of children's tv viewing. These variables appeared to be consequences and/or natural outcomes of fostering consumer competencies vs. controlling children's consumer learning (as tapped by the concept- and socio-orientations). Although differences across patterns were not hypothesized, certain relations were intuitively appealing. For example, Protectives and Consensuals ought to be higher on variables reflecting maternal control tendencies, i.e., amount and restriction of children's tv viewing, as they emphasize socio-oriented messages. Likewise, Pluralistics and Consensuals should be higher on tendencies to foster the development of the child's consumer skills and knowledge, i.e., parent-child discussions about advertising and viewing tv with children since they stress concept-oriented messages. Laissez-faires might be low on all tendencies as they refrain from either type of message.

Amount of children's tv viewing was indicated by number of hours a child viewed tv for a typical weekday and weekend. Mothers also noted the extent they discussed tv, magazine, newspaper and radio advertising with children. Coviewing tapped the frequency mothers watched tv with children on weekdays and weekends and the importance mothers placed on this activity. Finally, mothers cited extent of restrictions placed on children's tv viewing in terms of programming, times and amounts (see Table 1).

Analyses

The analytical procedure was composed of three parts. First, alpha and beta reliability analyses and exploratory factoring were used to examine item patterns and indicate whether item responses from mothers to the socio and concept scale items were similar to those obtained from adolescents in prior studies. Next, since the four

TABLE 1
Communication Pattern and Media Variables

Index	No. of Items	Scale	Alpha	Beta	Source
Concept	6	vo/n	.70	.50	Moschis, Moore & Smith (1983)
Socio	5	vo/n	.50	.49	Moschis, Moore & Smith (1983)
Amount of tv viewing	3	hours			Crosby & Grossbart (1984)
Discussions about advertising	3	vo/n	.84	.80	Crosby & Grossbart (1984)
Coviewing*	4	vo/n sa/sd	.90	.85	Authors
Control of tv viewing	3	vo/n	.82	.76	Ward, Wackman & Wartella (1977)
Social desirability	19	yes/no	.71	.50	Crowne & Marlowe (1964)

* The 3 coviewing items, e.g., I watch tv with my children on weekdays, Saturdays and Sundays were multiplied by a fourth item, i.e., It is important for my child and I to watch tv together so I know what kind of programs and ads he/she is watching and summed to tap the significance that mothers place on viewing tv with children. All other media items were summed across items.

Scales: vo/n = 5 point, very often/never; sa/sd - 5 point, strongly agree/ strongly disagree; hours = hours viewed for a weekday, Saturday and Sunday.

communication patterns are based on a theoretical orthogonal array of the two communication dimensions, confirmatory factor analysis was used as a test of this structure. Support for this array (versus competing depictions) would provide evidence for using it when investigating the impact of communication on consumer socialization. Finally, following previous investigations of communication patterns (e.g., Moschis and Moore 1979), median splits on the socio- and concept-orientation raw scores were used to place mothers into one of the four cells of the communication typology. Means on the various media variables were compared via oneway ANOVAs across communication patterns as an indicator of construct validity (cf., Moore and Moschis 1981).

RESULTS

Alpha reliabilities for the concept and socio scales using mothers (see Table 1) were very similar to those reported by Moschis and Mitchell (1985; concept alpha = .72; socio alpha = .51) for adolescent respondents. Initial exploratory factoring suggested a four factor solution accounting for 59.3% of the variation. Both concept and socio communication items loaded on two factors,

suggesting these orientations may be multidimensional. The socio beta of .49 also raises questions about its unidimensionality (Table 1). Loading patterns were relatively clean, e.g., socio items loaded primarily with other socio items as opposed to cross loading with concept items (see Table 2). Confirmatory factor analyses (as discussed below) suggested a four factor oblique solution, thus, rotated oblique results from exploratory factoring are presented in Table 2.

Confirmatory factoring via LISREL VI was used to examine several competing conceptual views. First, as noted, it could provide an indication of the appropriateness of the orthogonal array. Second, it might be argued that these orientations are not orthogonal dimensions but are merely end points or locations on a single continuum. That is, only one underlying consumer socialization communication dimension exists and mothers merely vary between controlling and fostering children's consumer learning. Finally, perhaps these items do not represent any underlying structure. Confirmatory factoring allows for comparing hypothesized models to each other and to a "null" model where complete independence is assumed between all indicators.

TABLE 2
Oblique Factor Results

Item*	Factor 1	Factor 2	Factor 3	Factor 4
1. I tell my child to decide about things he/she should or shouldn't buy. ¹	836	083	110	-125
2. I tell my child to decide how to how to spend his/her money. ¹	704	064	255	-305
3. I tell my child buying things he/she likes is important even if others don't like them. ¹	664	-105	417	181
4. I tell my child what things he/she should or shouldn't buy. ²	-106	760	119	-090
5. I tell my child he/she is not allowed to buy certain things. ²	-133	690	-057	042
6. I complain when I do not like something my child bought for himself/herself. ²	157	603	-061	054
7. I ask my child to help me buy things for the family. ¹	-131	109	799	-091
8. I ask my child for advice about buying things. ¹	220	-044	785	057
9. I ask my child what he/she thinks about things he/she buys for him/herself. ¹	443	-120	632	-111
10. I tell my child he/she shouldn't ask questions about things children do not usually buy. ²	-049	364	-152	764
11. I want to know what my child does with his/her money. ²	256	403	-050	-667
Factor Correlation Matrix				
Factor 1		040	261	-112
Factor 2			-056	-020
Factor 3				-029
Variance explained	22.6	16.1	11.4	9.3

* Revised from Moschis, Moore and Smith (1983); ¹Concept-orientation item; ²Socio-orientation item; all decimals implied

TABLE 3
Chi-square and Goodness of Fit Values for Alternative Models

Model	df	X^2	AGFI ^a	Fit Index ^b
1. Null	55	708.36	.69	-----
2. One factor	44	338.38	.81	.52
3. Two factor orthogonal ^c	44	217.54	.87	.69
4. Two factor oblique ^c	43	216.35	.87	.69
5. Four factor orthogonal ^c	44	255.11	.86	.64
6. Four factor oblique ^c	39	161.39	.90	.77

Note: Inclusion of the 4 factor orthogonal model for comparison was based on exploratory factor results

^a adjusted goodness of fit index

^b ratio of null model X^2 - comparison model X^2 divided by null model X^2 , see Bentler and Bonett (1980); Shimp and Sharma (1983)

^c as an initial step for model comparison, indicator/construct relation estimation was limited to those suggested by exploratory results and previous theory, i.e., the lambda γ parameter corresponding to the *highest* absolute loading for each variable from the exploratory findings was estimated; all other lambda γ parameters for that indicator across constructs were constrained to zero

Fit indices (i.e., Adjusted Goodness of Fit Index - AGFI) and a ratio using the null model as a reference (Bentler and Bonett 1980; Shimp and Sharma 1983) were used to compare models. Exploratory factoring (i.e., eigenvalues greater than one) suggested additional models to the null and two factor orthogonal possibilities. The results of these comparisons are presented in Table 3. The null model, postulating that each of the 11 items from the socio and concept scales are unitary constructs (i.e., that there is not a more parsimonious explanation for the data structure), served as a comparison for subsequent models. The one factor model represented the unitary communication construct possibility. The two factor orthogonal model was suggested by previous theory and represents the underlying structure of the four communication patterns. The four factor models were suggested by exploratory results. Both oblique solutions (models 4 and 6) were attempts to improve fit by allowing for intercorrelation (oblique rotation) between the dimensions.

All models, regardless of rotational methods or number of dimensions, were improvements over the null. In every case, both fit indices indicated improvement in fit between the data and a hypothesized model compared to the null. Allowing for intercorrelation between factors did not significantly improve the two factor model (model

4, Table 3) but did impact the four factor model (model 6, Table 3).

Finally, construct validity of the communication framework was assessed using a procedure similar to Moore and Moschis (1981). Four oneway ANOVAs were performed using communication pattern as an independent variable. Amount of tv viewing, discussions about advertising, coviewing of tv between mothers and children and mother's control of children's tv viewing were the dependent variables. These results are depicted in Table 4. No differences between communication patterns were observed for amount of children's tv viewing. However, Laissez-faires were lower than all groups except Protectives on discussions about advertising and were lower than Pluralistics on coviewing. Laissez-faires were also lower than Pluralistics and Consensuals on controlling viewing. Pluralistics were higher than Protectives on discussing advertising while Protectives and Laissez-faires were higher than Pluralistics on controlling viewing.

DISCUSSION

The objectives of this study were three fold. First, we attempted to explore the socio- and concept-communication orientations from the perspective of mothers due to their significance in the consumer socialization process. Second, we

TABLE 4
 Mother's Mediation, Monitoring and Control of Children's Media Use

Mediation Type	Laissez-faire ^a (n = 161)	Pluralistic ^b (n = 130)	Protective ^c (n = 80)	Consensual ^d (n = 80)	Univariate F
Amount of tv viewing	-.02	.05	.07	-.11	.64
Discussions about advertising	-.24	.31 ^{ac}	-.21	.19 ^a	9.68*
Coviewing	-.14	.16 ^a	-.16	.18	3.91*
Control of tv viewing	-.22	-.04	.33 ^{ab}	.19 ^a	6.89*

* $p < .01$; Wilks lambda multivariate test statistic for mediation variables = 0.872, approximate $F = 5.21$, $df = 12,1175$; table values are standard scores to enhance pattern comparisons across mediation types; superscripts^{abcd} indicate significant differences (Tukey pairwise comparisons, $p < 0.05$); for example, the superscripts^{ac} under Pluralistic for discussions about advertising indicate that Pluralistic mothers talk to their children about advertising more than Laissez-faire^a and Protective^c mothers.

investigated the efficacy of the four cell communication pattern typology (as proposed by Moschis and others), plus other depictions of parent-child communication. Finally, we studied the relations between communication patterns and mother's mediation, monitoring and control of children's media use as a preliminary step toward validation of the socio and concept communication scales. The following discussion considers each of these issues.

Maternal Communication Patterns

As noted, exploratory and confirmatory factoring suggested a four dimensional array. This model (model 6, Table 3) reflects splits in each scale, suggesting that mothers' communication orientations may be multidimensional (see Table 2). For example, one concept dimension reflects mothers' tendencies to instruct children to make decisions about purchases irrespective of the opinions of others (e.g., Item 1, I tell my child to decide about things he/she should or shouldn't buy). The other concept dimension reflects mothers' tendencies to solicit children's opinions regarding purchasing/consumption decisions that may or may not be related to the child (e.g., Item 7, I ask my child to help me buy things for the family).

The socio-orientation appears to be composed of maternal tendencies toward control of children's consumption (e.g., Item 4, I tell my child what things he/she should or shouldn't buy). Mothers also appear to be exerting control via cold indifference toward their children's consumption activities (e.g., Item 10, I tell my child he/she

shouldn't ask questions about things children do not usually buy and Item 11, I want to know what my child does with his/her money -- negative loading). The child may be expected to know that certain consumption activities are simply not discussed because the limitations on his/her behavior have been previously established and are nonnegotiable.

These splits may be due to differences in how mothers vs adolescents perceive communication orientations in a household, i.e., mothers may have a broader perspective on nuances in familial communication tendencies. As such, maternal orientation multidimensionality may suggest finer and more numerous communication pattern delineations than the four typically derived from adolescent responses. Specifically, this might be manifested in communication patterns defined by variations on the four communication orientations indicated in Table 2. Within construct multidimensionality may also suggest the need for scale revisions (e.g., addition of other items) for respondents other than adolescents.

Confirmatory Factoring

As expected, the null model depicted the worst overall fit. The best fit was the four factor oblique solution with the constraints on model estimation noted in Table 3 (superscript^c). Exploratory and confirmatory factor analyses all indicated the within construct multidimensionality of both orientations and multidimensionality of the socio-orientation is also suggested by its beta reliability of .49 (Table 1). Confirmatory factoring also suggested these orientations are not merely

locations on a unitary communication dimension as was depicted in the single factor model. Unfortunately, the two factor orthogonal array which was based on prior theory and used in past research to categorize adolescents' perceptions of their family communication environments into one of the four communication patterns, does appear to be "improvable". While this finding does not ease classification of mothers into communication patterns it may suggest mothers perceive communication about consumption issues differently than their offspring (although this study dealt with mothers of elementary school children).

Yet, even though these orientations appear to be multidimensional there *are* empirical and conceptual reasons to not discard the two dimensional orthogonal array. First, the exploratory factoring scree plot suggested a two factor orthogonal solution. Second, although the four factor oblique solution delineates a 56 point X^2 improvement compared to the two factor orthogonal array, the improvement in the AGFI and Bentler and Bonett (1980) fit indices is not substantial (see Table 3, models 3 and 6). Third, the correlations between factors for the four factor oblique solution are quite low (see Table 2). The highest correlation (i.e., between concept factors) indicates that less than 7% of the variation in one concept factor is accounted for by the other even though these factors were allowed to interrelate. Hence, although several analyses suggested within construct multidimensionality with intra-construct relationships, socio and concept dimensions are only marginally related. This supports the basic independence of the concept and socio tendencies but does not necessarily provide additional evidence for a two dimensional structure.

This evidence suggests a research dilemma, i.e., using multidimensional socio and concept scales which may be a more accurate depiction of how mothers perceive these constructs vs a concomitant loss of subject classification ease and model interpretability. Given these liabilities should researchers refrain from classifying mothers per the typical four patterns? To provide some guidance, as noted, we conducted additional tests of the typology's efficacy by investigating the relations between communication patterns and mother's mediation, monitoring and control of children's media use. These tests provide preliminary indications on the construct validity of these orientations and the typology.

Media Mediation, Monitoring and Control by Communication Pattern

Surprisingly, there were no differences between communication patterns on mother's indications of amount of children's tv viewing (see Table 4). This is contrary to previous findings (e.g., Moore and Moschis 1981) and may be a reflection of using mothers and querying them on the viewing habits of their youngest elementary age child. The lack of significant differences may also be a result of the within construct

multidimensionality issue cited previously. Our results indicate children's tv viewing does not vary by mother's communication type. What is not known is whether mothers report differences in adolescent viewing across communication patterns.

However, differences across patterns were found for other media use variables. Note that relations between these variables and patterns are not simple reflections of maternal response consistencies due to assumed similarities between the independent and dependent measures. For example, the discussions about advertising index asked mothers for the frequency they talk to children about the content of tv, magazine, newspaper and radio advertising. This variable is conceptually distinct from *either* the concept or socio indices (i.e., I tell my child to decide about things he/she should or shouldn't buy and I tell my child what things he/she should or shouldn't buy).

Laissez-faires, who by definition, are lowest on both communication orientations are also lower on discussing advertising with children than all groups except Protectives. Very little parent-child communication occurs in Laissez-faire families (Moore and Moschis 1981). Hence, it is not surprising that these mothers report few interactions with children about advertising. Likewise, this general lack of communication is also manifested in controlling tv viewing less than all other groups except Pluralistics though Laissez-faires coview less than Pluralistics.

Pluralistics might coview with children because this activity provides a springboard for parent-child discussions about advertising. Pluralistics foster consumer learning without emphasizing monitoring and control of consumption behavior. Thus, it's reasonable that Pluralistics discuss ads more than Protectives and Laissez-faires who both deemphasize concept messages.

Protectives emphasize control and monitoring of consumer learning via socio-oriented messages at the expense of building consumer skills. Not surprising then, Protectives are higher than all groups except for Consensuals on control of tv viewing but control apparently does not translate into differences on children's tv viewing. Both Protectives and Consensuals emphasize socio-oriented messages and hence might be expected to be similar on control of tv viewing.

Consensuals were higher than Laissez-faires on discussing ads and control of tv viewing. This is reasonable since Consensuals emphasize, while Laissez-faires deemphasize, the communication tendencies that might be related to these concepts, i.e., concept- and socio-oriented messages, respectively. Consensuals were higher on coviewing than all groups and the lack of significant differences may be a function of differential sample sizes (see Table 4). Like Pluralistics, they too may be using coviewing as a stimulus for discussions about ads.

The lack of additional media related differences may be due to the reasons previously cited for finding no differences on amount of

children's tv viewing (e.g., within construct multidimensionality). Still, even with these limitations, the differences that were found could be reasonably expected given concept and socio variations between the four communication patterns. Thus, researchers may have some confidence in the construct validity of these orientations and in the practice of assigning mothers to one of the patterns.

SUMMARY, EXTENSIONS AND CONCLUSIONS

Since past research has often used adolescent respondents this study attempted to extend communication pattern research by sampling mothers with elementary age children. We revised communication orientation items to facilitate their use by mothers rather than adolescents. We also investigated the efficacy of the pattern typology which can be constructed from these communication orientations and several alternative arrays. Finally, because of possible multidimensionality of concept and socio tendencies, we have provided other potential indicators of their construct validity (but with a sampling frame different from previous research).

This research may be extended in several ways. First, while these orientations and patterns have now been studied from the perspective of adolescents and mothers, their applicability to other family members, i.e., fathers, also should be investigated. Second, corroboration between multiple respondents within the same family unit would give additional insight into the true nature of communication within a household. This would help to answer a number of important questions. Do children confirm the type of communication about consumption that is reported by their parents? Do female and male heads of households note similar use of each communication orientation? If disagreement exists, how does it affect the consumer socialization process? Third, further refinement of these scales may be needed in order to address the within pattern multidimensionality issue. Additions, deletions and/or reexaminations of items may be necessary to obtain unidimensional constructs. Construct validation of these orientations might be enhanced with measure revisions.

Communication orientations and patterns are a rich area for additional conceptualization and research. The findings cited here are extensions to previous communication and socialization research. For example, our results suggest differences in mother's mediation, monitoring and control of children's media use may be a partial function of general communication differences. The orientations and framework investigated here and in other communication pattern studies should continue to provide new insights into the role of parents as socialization agents in children's consumer learning.

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Children's Influence In Purchase Decisions: A Review and Critique

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ABSTRACT

Based upon a review of the literature, children's influence in family purchase decisions was found to vary by product- and decision-related factors, as well as by parental, child and family characteristics. A number of problems associated with previous research were also identified, including problems with construct validity, over-reliance on the survey method, and lack of theoretical explanations for observed patterns of influence. Finally, some possible avenues for future research were also discussed.

The issue of children's influence in family purchase decisions is beginning to attract the attention of researchers of family buying processes. In the past, research on family decision-making tended to concentrate on examining variations in *spousal* influence; the role of the child was often overlooked (Davis 1976; Ferber 1973; McDonald 1980; Miller et al. 1982; Scanzoni 1980). However, there has recently been an increasing recognition of the child's importance in family purchase decisions. Specifically, a number of studies have found children to have at least some influence in decisions for a wide array of products. Therefore, it seems that if researchers wish to fully understand family decision-making, children should be included in studies of family consumer behavior.

The purposes of this paper are to review previous research on children's influence in purchase decisions, and to evaluate the existing state of knowledge in this domain. Our goal is to point out some of the attendant strengths and weaknesses that characterize this area of research, and to offer some possible avenues for future research. The paper will be organized into three sections. In the first section, we will provide a brief overview of the substantive findings of previous studies. The review will be confined to examining studies which treat children's influence (attempts) or parental yielding as a dependent measure. The second section will be devoted to a critique of the existing literature. Finally, in the third section, we will discuss some possible directions for future research.

OVERVIEW OF SUBSTANTIVE RESULTS

In reviewing past research on children's influence, the results indicate that influence varies by a number of different factors. In this section, we will attempt to synthesize previous findings to

discover the sources of variation in influence.¹

Product Type. One important source of variation in children's influence is product type. In general, children seem to have significant influence in product decisions for which they will be the primary consumer (Table 1). For example, children have been found to have substantial impact in decisions for breakfast cereals, snack foods, toys, children's clothes and school supplies. Children also influence decisions about family leisure time activities (such as vacations, movie attendance, eating out and cable TV subscriptions), although their influence is less in these decisions than in decisions for products for their own use. One factor that may partially explain these results is the level of the child's product involvement. Children are likely to view products for their own use as the most personally relevant. Leisure activities should also be child-involving, but to a lesser extent than products that the child uses frequently.

In contrast to the significant role played by children in the child-related product decisions, children have less influence for products that are used by the entire family. This is particularly true when the family products involve substantial financial outlays. For example, children have been found to have little influence in decisions for cars, furniture, televisions and life insurance. Due to the financial risk associated with these family products, it appears that parents prefer to make these decisions without permitting the child to influence them. It is also likely that children perceive products such as furniture as having low personal relevance; therefore, they may not be motivated to influence these decisions. Intuitively, it seems likely that children's influence for any one product will depend on an interaction between the child's product involvement and the financial risks associated with that product.

Decision Stage. Another factor affecting the degree of children's influence in purchase decisions is the stage of the decision process. With one exception (Moschis and Mitchell (1986)), all of the studies examining children's influence across decision stages have used a three-stage model of the decision process. The three stages include problem recognition, information search and choice (Moschis and Mitchell (1986) also included an alternative evaluation stage). In general, children's influence is greatest in the problem recognition stage and

¹In addition to the substantive areas reviewed in this paper, the author initially had intended to include discussions of mass and personal communication effects. However, due to space constraints, these sections were deleted from the paper prior to submission. The reader is referred to Table 1 for a summary of studies which included these variables.

TABLE I
RESEARCH ON CHILDREN'S INFLUENCE

SOURCE	PRODUCTS	DEPENDENT VARIABLE(S)	INDEPENDENT VARIABLE(S)
Atkin (1978)	cereal	parent/child interaction	child's age, child's sex, SES
Belch et al. (1985)	car, TV, cereal vacation, appliance furniture	family member influence agreement in influence perceptions	decision stage, product, subdecision, respondent
Berey & Pollay (1968)	cereal	purchase of child's favorite cereal	child's assertiveness, mother's child-centeredness, mother's brand recall
Brody et al. (1981)	candy bars, chips, chocolate drink, jelly	child's influence attempts, no. of advertised brands requested	exposure to TV ads
Darley & Lim (1986)	movie, family outing, participant sports	children's influence	family type, child's age, locus of control, subdecision
Foxman & Tansuhaj (1988)	child-records, PC, clothes, magazine, bike, toothpaste; family-PC, groceries, cable TV, furniture, toothpaste, car	family member influence agreement in influence perceptions	product, product importance, respondent
Foxman et al. (1989)	same as above	relative child's influence, general child's influence divergence in influence perceptions	product respondent, father's age, family size, mother's work hrs., concept-oriented
Jenkins (1979)	vacation, appliance, car, life insurance, furniture, savings, groceries	children's influence	product, subdecision, demographics
Mehrotra & Torges (1977)	cereal, restaurant, child's clothes & shoes, chips, soft drinks	parental yielding	product, AIO vars., media usage
Moschis & Mitchell (1986)	soft drinks, school supplies, car repair, appliance, child-clothes, records, grooming products	children's influence in decision stages	concept- & socio-oriented family commun., child's age, child's money, child's sex, SES, peer communication
Nelson (1978)	restaurant	child's involvement	decision stage, income, family size, child's age

TABLE I (CONT.)
RESEARCH ON CHILDREN'S INFLUENCE

SOURCE	PRODUCTS	DEPENDENT VARIABLE(S)	INDEPENDENT VARIABLE(S)
Roberts et al. (1981)	children/pet food; gum; clothing/cereal/cookies; snacks	child's influence	mothers' attitudes
Szybillo & Sosanie (1977)	restaurant, family trip	child's influence	decision stage, product, subdecision
Ward & Wackman (1972)	relevant foods, less relevant foods, child-durables, toiletries, other	children's influence attempts	restrictions on child's TV viewing, mothers' time spent w/TV, mothers' adv. attitudes, mothers' ad recall, child's age

SOURCE	RESULTS
Atkin (1978)	Parents refuse younger children's requests more than older children's requests.
Belch et al. (1985)	Children's influence is greatest for cereal & vacation. Children's influence is lowest in choice stage. Child's influence lowest for how much & where for car, how much for vacation, what type of furniture, where for cereal. For cars, husband & child disagreed over child's influence for all subdecisions. For vacations, husband & child disagreed over child's influence in where, how much time to spend & where to stay subdecisions. For cereal, husband & child disagreed over what size, where & when to purchase subdecisions. For problem recognition, husband & child disagreed over child's influence for TV & over father's influence for furniture. Children believe they have more influence than their fathers think they do; children believe fathers have more influence than fathers think they themselves have.
Berey & Pollay (1968)	The more child-centered the mother, the less she's likely to purchase child's favorite cereal. The higher mother's brand recall, the more likely she is to buy child's favorite cereal.
Brody et al. (1981)	Children exposed to ads made more influence attempts than those not exposed to ads. Children requested more advertised brands under coviewing conditions than child viewing alone or no ad conditions.
Darley & Lim (1986)	For movies, external LOC parents perceive more child's influence than internal LOC. Single parents perceived more child influence for where than dual-parents. Older children have more influence for when & specific info. than younger children. For outing, older children have more influence than younger. Older children have more influence for how much to spend than younger children. External LOC parents perceive more child influence for specific info. than internal LOC. For sports, older children have more influence in when, what type, how much, info. gathering, and specific info. than younger children. Internal LOC single parents perceive less influence for all subdecisions except where than internal dual parents.

TABLE I (CONT.)
RESEARCH ON CHILDREN'S INFLUENCE

SOURCE	RESULTS
Foxman & Tansuhaj (1988)	Children have more influence for child than family products. The more important child's toothpaste is to mothers, the less influence children have. The more important is cable TV, the more influence the child has. Mothers & children disagreed over influence for child's records, clothes, magazine, & bike, furniture, groceries & family toothpaste. Children rated their influence as greater relative to parents than did mothers.
Foxman et al. (1989)	Children had influence in suggesting products, paying attention to new products and learning best buy. Children did not get to suggest price range. Family members disagreed over child's influence for child's dress clothes & tooth-paste. Children perceive themselves as having more influence than do parents. The older the father & the more concept-oriented family communication, the less the divergence in influence perceptions. The larger the family & the more the mother works, the greater the perceptual divergences.
Jenkins (1979)	Children have little influence for all products except vacations. Children's influence is lowest for how much, where to stay and transportation mode.
Mehrotra & Torges (1977)	Yielding varies by product.
Moschis & Mitchell (1986)	The more socio-oriented the family communication, the less is children's influence in the stages of alternative evaluation and choice. The more child discusses product consumption with peers, the greater child's influence in all stages but choice. The older the child, the greater the influence in all stages. The more money earned by child, the greater the influence in choice. Females have more influence than males across all stages. The higher the SES, the greater the child's influence in problem recognition.
Nelson (1978)	Younger children have less involvement than older. Older children have less involvement than parents only for choice and how much to spend. The greater the income, the greater child's involvement in choosing type and brand of restaurant. The larger the family, the greater child's involvement in providing info., selecting particular type and brand. Child's influence is greatest for problem, recognition & search, and declines by choice stage.
Roberts et al. (1981)	Children have less influence the more concerned mothers are about nutrition and family financial matters. Children had less influence the more traditional & conservative were mothers.
Szybillo & Sosanie (1977)	Children had more influence in problem recognition & search and less in choice. Children had least influence on how much to spend.
Ward & Wackman (1972)	Parents yield more to older than younger children's requests. Parental yielding decreases as parents place more restrictions on TV viewing. Yielding increases as parents have more positive advertising attitudes and as they spend more time watching TV. Children's influence attempts increase as parents spend more time watching TV and as their brand recall increases. Children's influence is greatest for relevant foods and durables for child's use.

declines significantly by the choice stage (Belch et al. 1985; Nelson 1978; Szybillo and Sosanie 1977).

These results should be regarded with some skepticism, as the range of products over which this pattern has been examined is limited. Specifically, Nelson (1978) and Szybillo and Sosanie (1977) used family restaurants as products. Belch et al. (1985) used a wider variety of products; however, this study included a number of products for which children's influence was low overall (i.e., television, car, furniture and appliances). Additionally, the one other study employing decision stages did not specifically compare influence variations over stages (Moschis and Mitchell 1986).

Subdecisions. In addition to product type and decision stage, children's influence has also been found to vary according to product subdecisions. The subdecisions investigated are adaptations of Davis's (1970, 1971) specific, as opposed to global, index of purchase decisions. The pattern emerging from these studies is that children's influence is lowest in the subdecisions of where to purchase (Belch et al. 1985; Jenkins 1979), gathering information (Darley and Lim 1986) and how much to spend (Belch et al. 1985; Darley and Lim 1986; Jenkins 1979; Nelson 1978; Szybillo and Sosanie 1977). Similarly, Foxman et al. (1989) found that both parents and children perceived that children had low influence in selecting price ranges. Children are more involved in subdecisions regarding color, make/model, and brand choices (Belch et al. 1985; Darley and Lim 1986; Jenkins 1979; Nelson 1978; Szybillo and Sosanie 1977).

Given that parents are the primary socialization agents of children, it appears that they attempt to set bounds on children's influence through decreasing children's roles in the choice stage of the decision process, and in the subdecision of how much to spend. Limiting children's influence in these areas may be one way for the parent to teach the child responsibility and appropriate consumer behavior. It also seems that parents reserve more instrumental (i.e., allocation and scheduling) activities for themselves, and permit more child's influence in the more expressive subdecisions (i.e., color and model decisions). Children may lack the experience necessary to make informed decisions for instrumental activities.

Parental Characteristics. A few studies have investigated how various parental attitudes affect children's influence in decision-making. For example, Berey and Pollay (1968) found mothers' child-centeredness to be inversely related to purchasing the child's favorite cereal. One reason for this may be that child-centered mothers are more concerned with the child's nutrition than are other mothers (Berey and Pollay 1968). Concern over nutrition may reflect these mothers' role perceptions of "what a good mother should do". Along this vein, Roberts et al. (1981) found that children had less influence in decisions when mothers were more traditional and conservative. It appears that parental characteristics, particularly those related to child-

rearing attitudes, may provide high explanatory power in examining children's influence.

Child's Age. Another group of factors having an impact on a child's influence in purchase decisions are characteristics of the child. The most commonly investigated variable here is the child's age. Most studies have found that older children have significantly more influence than younger children (Atkin 1978; Darley and Lim 1986; Jenkins 1979; Moschis and Mitchell 1986; Nelson 1978; Ward and Wackman 1972). This result is due partly to older children's greater cognitive ability, as compared to younger children. Older children also have more experience with products and have learned more about consumer roles. These factors, in addition to developmental level, probably contribute to older children's greater influence in family decision-making.

Family Characteristics. A number of family demographic characteristics may also affect children's influence, although the results are more conflicting here. Some studies have found children's influence to be greater with increased family income (Jenkins 1979) or higher socio-economic status (Moschis and Mitchell 1986). However, Atkin (1978) and Ward and Wackman (1972) found no statistically significant effect for socio-economic status on children's influence attempts. It seems intuitive that children will have more influence in higher socio-economic status families, given that such families are likely to make more purchases than lower class families. However, the literature is not clear on this point.

Another demographic variable that seems likely to affect children's influence is family size. Results here are mixed as well. Jenkins (1979) found children's influence to increase with family size; however, Ward and Wackman (1972) found no significant effect for number of children on children's influence attempts. Speculatively, one might expect family size to have a negative effect on any one child's influence, but that children's influence overall would increase.

CONCEPTUAL AND METHODOLOGICAL CRITIQUE

Based upon a review of the literature, it appears that children's influence varies by product- and decision-related factors, as well as by parental, child and family characteristics. However, there are also a number of problems associated with research in this domain. In this section, we will outline some of the more salient conceptual and methodological limitations of previous research.

Lack of Theoretical Explanation. One of the most glaring oversights in studying children's influence is the failure to provide conceptual justification for the observed patterns of influence. Previous research has been descriptive/relational and a-theoretical. Consequently, we may know that children's influence varies with a number of factors, but, without adequate theoretical development, we cannot answer "why" these variations occur. If we

wish to understand family decision-making, the need for sound theorizing cannot be over-emphasized.

Construct Validity. In addition to a lack of theory, another problem characteristic of research on children's influence has been the lack of attention paid to construct validity. The most noteworthy example of this is the failure to adequately define 'influence'. As Rossiter (1978) notes, there are two aspects to influence, an active and a passive dimension. In this instance, passive influence is characterized by other family members taking the child into account when making a purchase decision, as opposed to the child directly influencing the decision itself.

In spite of Rossiter's clarification, most studies have not distinguished between active and passive influence. For example, Jenkins (1979) notes that "the definition of 'influence' varied from one [respondent] to another. Some perceived only the 'active' dimension ... while others perceived the word to encompass both the 'active' and 'passive' dimensions." The fact that respondents can attribute varying definitions to a term is due to inadequate conceptual definitions in the first place. If the researcher is unclear as to the meaning of a construct, it is no surprise that respondents are unclear as well. It is noteworthy that most studies reviewed here failed to define "influence" conceptually. The net result of this oversight is that respondents assign their own meanings to the concept. As a result, their definitions may or may not be congruent with the researcher's notion of what a term means. In any event, construct validity is a serious issue under these conditions. The failure of most studies to carry out reliability analyses also supports this conclusion (Table 2).

Measures. Another issue related to children's influence is the type of measures used to assess influence. Studies have employed a diversity of operationalizations for influence (Table 3). With one exception (Jenkins (1979) used a constant sum scale), studies have used 3, 5, 6 or 7 point Likert scales to measure influence. Some studies have asked respondents to rate influence separately for family members (Belch et al. 1985; Darley and Lim 1986; Jenkins 1979; Nelson 1978; Roberts et al. 1981), whereas others have included all family members on a single scale (Foxman and Tansuhaj 1988; Foxman et al. 1989; Moschis and Mitchell 1986; Szybillo and Sosanie 1977). In this latter approach, respondents are essentially asked to think about a purchase decision and aggregate the influence of all family members into one global level evaluation in order to respond to the scale. The former approach of having respondents rate influence separately for family members has the advantages of (1) simplifying the cognitive tasks of respondents and (2) collecting data at a more disaggregate level. It is likely that significant information about influence is lost when respondents are asked to make global level evaluations.

Variation by Respondent. Results on children's influence also vary according to who is

the respondent. Many studies have used only parents as respondents (Table 2); therefore, these studies can only provide information about parental perceptions of children's influence. These perceptions may or may not be accurate. Those studies that have included children, as well as parents, as respondents have generally found that children attribute more influence to themselves than their parents attribute to them (Table 1). Differences in perceptions of influence may be due to perceptual biases and/or social desirability effects. Additionally, perceptual divergences may also be a methodological artifact. Surveys, in this instance, may reflect more subjective assessments, whereas observational studies may be more objective (i.e., an observer who is removed from the process independently evaluates "influence"). Clearly, the issue revolves around the interests of the researcher, whether one wishes to focus on subjective perceptions or behavior. Whatever the focus of the study, however, children should be included as they are the relevant unit of analysis in most studies of children's influence.

Method of Data Collection. Another issue related to research on children's influence is the method of data collection. All studies have used mono-method approaches to studying children's influence (Table 2).² With few exceptions (Atkin 1978; Brody et al. 1981), the method of choice has been the survey. The use of a single method within a research domain is problematic in that the results found may be confounded by methodological artifacts (McGrath 1982). The rival explanation that results are due to research method cannot be discounted when only a single method is used. Thus, the associations found between children's influence and various factors may be due to the use of surveys rather than to any "true" association. The observational study by Atkin (1978) mitigates against this conclusion; however, more observational studies need to be done before we can have confidence in the findings.

The use of surveys has a number of advantages, such as time and cost reductions, and the potential for large sample sizes. However, there are also a number of problems associated with their use. As previously mentioned, surveys may be more inter-subjectively biased than are observational studies. In addition, the use of surveys assumes that respondents have adequate recall of phenomenon and can report this information (i.e., they are capable of performing the "mental algebra" necessary to respond to the instrument (Nisbett and Wilson 1977)). Finally, the use of surveys is problematic in dealing with young children who generally lack the cognitive ability to respond to test items. Although it is possible to circumvent this problem by using interviews, the usual approach has been to exclude children as respondents and use only

²Berey and Pollay (1968) used different methods to assess different variables; only one method was used per variable.

TABLE 2
CHILDREN'S INFLUENCE: RELIABILITY, VALIDITY AND SAMPLE CHARACTERISTICS

Source	Sample	Method of Data Collection	Reliability	Validity*
Atkin (1978)	516 parent-child dyads; nonrandom; children 3-12 years	observational, cross-sectional	not reported	very low
Belch et al. (1985)	260 husband, wife, child triads; nonrandom; child over 13 yrs. living at home	survey, cross-sectional	not reported	very low
Berey & Pollay (1968)	48 mothers & children; nonrandom; children 8-11 yrs.	interview, survey, observation; cross-sectional	chi-sq. analysis on mother response x interviewer; no diff. found	low
Brody et al. (1981)	57 mother-child dyads; nonrandom; children 3-5 yrs.	experimental	.83 inter-judge agreement	high
Darley & Lim (1986)	106 parents (66% mothers, 33% fathers); nonrandom; children 1-17 yrs.; middle class	survey, cross-sectional	not reported	low
Foxman & Tansuhaj (1988)	193 mother-child dyads; nonrandom; children 11-18 yrs.; middle class	survey, cross-sectional	not reported	very low
Foxman et al. (1989)	161 husband, wife, child triads; nonrandom; children 11-18 yrs.; middle class	survey, cross-sectional	not reported	low
Jenkins (1979)	105 married couples; nonrandom; children 1-19 yrs.; middle class; recruited by marketing research firm	survey, cross-sectional	not reported	very low
Mehrotra & Torges (1977)	1,671 mothers; nonrandom; Market Facts mail panel	survey, cross-sectional	not reported	very low
Moschis & Mitchell (1986)	161 mother-child dyads; nonrandom; children in junior & senior high school	survey, cross-sectional	Cronbach's alpha ranged from .51 to .76	moderate
Nelson (1978)	84 parents (1 parent responds per family); nonrandom; upper- to middle-class	survey, cross-sectional	not reported	very low
Roberts et al. (1981)	1,150 mothers; nonrandom; Needham, Harper & Steers mail panel	survey, cross-sectional	Cronbach's alpha ranged from .51 to .78	low
Szybillo & Sosanie (1977)	190 wives, nonrandom; child at least 5 yrs. old; upper- to middle-class	survey, cross-sectional	not reported	very low

TABLE 2 (CONT.)
CHILDREN'S INFLUENCE: RELIABILITY, VALIDITY AND SAMPLE CHARACTERISTICS

Source	Sample	Method of Data Collection	Reliability	Validity*
Ward & Wackman (1972)	109 mothers; nonrandom; children 5-12 yrs.; upper & middle class	survey, cross-sectional	not reported	low
*NOTE: Very Low - lack of reliability; inadequate or absent construct definitions; no controls				
Low - reliability tested; constructs poorly defined OR reliability untested; constructs defined				
Moderate - reliability tested; constructs adequately defined; no controls, covariates, or random assignment				
High - reliability tested; constructs well-defined; controls, random assignment used				

parents. Thus, in some situations, other techniques such as interviews or observation may be more appropriate.

Statistical Techniques. A final consideration in this domain of research is the method of data analysis. Most of the studies have used chi-square analysis, ANOVA or MANOVA to test various associations. One problem that may occur in using these techniques is violation of the nonindependence assumption. The techniques are especially sensitive to this violation. When multiple respondents from the same family are used, one would expect their responses to be correlated with each other, and therefore, nonindependent. Yet studies examining divergences in family member perceptions use analyses of variance on these nonindependent samples in order to assess differences. It is not surprising that these studies find highly divergent perceptions as the type 1 error rate is seriously inflated when the nonindependence assumption is violated. Additionally, many studies test numerous relationships within the context of a single sample and study, while failing to adjust the alpha level accordingly. When one fails to adjust alpha in response to numerous tests, significant results may be due partly to chance. Therefore, it is small wonder that five or seven results are significant when the researcher has tested thirty or more relationships, a common occurrence in research on children's influence.

Summary. In summary, there are a number of problems associated with research on children's influence in purchase decisions. Inadequate conceptual definitions and lack of reliability raise serious construct validity concerns. Children are often excluded from the analysis even though children's influence is the subject of study. The use of a single method, usually surveys, gives rise to the rival hypotheses that results are method related. Additionally, surveys have a number of limitations that are especially problematic in this domain, including the inability of young children to respond to test instruments and potential subjectivity biases. Finally, this research domain is hampered by inflated alpha levels; consequently, some

associations found may be due to chance. It appears that many of these problems stem from a lack of sound theorizing (i.e., problems with construct validity, reliability, and inflated alpha levels due to testing numerous relationships instead of a few theoretically relevant relations). Others are more methodological in orientation (i.e., exclusion of children, use of single methods and surveys, misuse of statistical techniques). In conclusion, research on children's influence needs to be improved on both theoretical and methodological grounds.

DIRECTIONS FOR FUTURE RESEARCH

Although there are a number of problems associated with previous research, there are also a number of possible means of addressing the issues raised. Our goal in this section is to highlight some possible directions for future research, in order to build on past work and to increase our understanding of children's influence.

One means of contributing to our knowledge of children's influence is to incorporate stronger theoretical explanations in our research. There are a number of potential candidates in this regard. Within marketing, Corfman and Lehmann (1987) developed a model of spousal decision-making that could be expanded to include children. There are also a number of sociological approaches to studying the family that may also prove fruitful in this respect. Role theory, particularly the age-graded approach of Parsons and Bales (1955) and the more dynamic role orientations of symbolic interactionists, seems especially promising. Social learning theory may also offer high explanatory power in some instances.

Another direction for future research is concerned with issues related to construct validity. Clearly, construct validity will continue to be problematic until we conceptually define "influence". Rossiter's (1978) distinction between passive versus active influence seems to be a particularly useful one. Researchers must decide what dimension of influence they wish to probe and make this distinction clear to respondents. It also seems

TABLE 3
CHILDREN'S INFLUENCE: MEASURES AND SCALES

Source	Dependent Variable(s)	Independent Variable(s)	Measures & Scales
Atkin (1978)	parent-child interaction	child's age child's sex SES	initiation, response 3-5, 6-8, 9-12 yrs. middle, working
Belch et al. (1985)	family member influence	product decision stage subdecisions	6 pt. Likert (1=no influence; 6=all the influence); rated for each member for each product in all stages and subdecisions problem recognition, search, choice where & when to purchase, how much to spend, style, make and model decisions
Berey & Pollay (1968)	purchase of child's favorite cereal	child assertive mother child-centered mother's brand recall	pantry check; summed index (5 pts. for child's first choice, 4 pts. for second, 3 pts. for third, 2 pts. for other, 1pt. subtracted if out-of-stock) 3 pt. Likert (1=rarely, 3=often) for 4 components of assertiveness (verbal, leadership, persists, initiates) 3 pt. likert(1=rarely, 3=often) for frequency of participation in child activities summed index (5 pts. for each of child's brands recalled)
Brody et al. (1981)	children's influence attempts no. of advertised items requested	exposure to ads	observed; child's independent request for advertised item 3 conditions (child alone viewed, dyad viewed, control-no ads)
Darley & Lim (1986)	child's influence	family type child's age factor locus of control (parents) subdecision	5 pt. Likert (1=never influential; 5=almost always influential) for all products and subdecisions single- vs. dual parents high, low Rotter's Internal-External LOC Scale; 23 yes-no items (0-11 internals, 12-23 externals) when & where to go, how much to spend, what type, gathering info., specific info., initial suggestion
Foxman & Tansuhaj (1988)	family member influence		5 pt. Likert (1=parents alone, 2=parents more than child, 3=equal say -parents & child, 4= child more than parents, 5=child alone) for all products

TABLE 3 (CONT.)
CHILDREN'S INFLUENCE: MEASURES AND SCALES

Source	Dependent Variable(s)	Independent Variable(s)	Measures & Scales
Foxman et al. (1989)	relative child's influence	product product importance	6 pt. Likert (1=really import.; 6=really unimport.)
	general child's influence		5 pt. Likert (same as in Foxman & Tansuhaj) for products 5 pt. Likert (1=strongly agree, 5=strongly disagree) that child has influence for 7 activities (suggesting prices, stores, brands & products, co-shopping, learning best buy, paying attention to new products)
Jenkins (1979)	children's influence	product children's influence	100 pt. constant sum scale (100 pts. allocated between husband, wife, child for each product and subdecision)
Mehrotra & Torges (1977)	parental yielding	product subdecision (vacation)	info. collection, whether to take child, how long to stay, when, how to get there, how much to spend, lodging, where
		product AIO variables media usage	Not Reported 37 items (1 item arbitrarily selected from each of 37 scales) what TV shows watched & magazines read
Moschis & Mitchell (1986)	children's influence in decision stages	family communication	3 pt. Likert (1=parents, 2=child, 3=both) summed over products 5 pt. Likert (1=never, 5=very often); summed over 6 items for each of 2 types of family communication
		peer communication	5 pt. Likert (1=never, 5=very often); 8 items summed
		demographics money child earns	child's age & sex, SES
Nelson (1978)	child's involvement	decision stage	4 pt. Likert (1=not involved, 4=very involved) for husband, wife, child for all products and decision stages problem recognition, search, choice, restaurant type & brand, how much to spend
		child's age	age of youngest child (under 5 yrs., over 6 yrs.)
		family income family size	
Roberts et al. (1981)	child's influence		4 pt. Likert (1=almost all the time, 4=never) for products

TABLE 3 (CONT.)
CHILDREN'S INFLUENCE: MEASURES AND SCALES

Source	Dependent Variable(s)	Independent Variable(s)	Measures & Scales
		mother's attitudes	6 pt. Likert (agree to disagree) for 10 attitude scales
Szybillo & Sosanie (1977)	family member influence		7 pt. Likert (1=husband(H), 2=wife(W), 3=H & W, 4=child(C), 5=H & C, 6=W & C, 7=H & W & C) for all products, stages
		product decision stage subdecisions	problem recognition, search, choice when, what type, what brand, how much to spend
Ward & Wackman (1972)	child's influence attempts parental yielding	parent-child interaction mother's mass communication behavior	4 pt. Likert (1=often, 4=never); frequency of attempts for products % yielding parent-child conflict, restrictions on child's TV viewing mother's time spent with TV, attitudes towards advertising and ad recall

likely that the type of influence characterizing a purchase decision will depend in part on product type. Specifically, one might expect children's influence to be active in child-related product decisions, and passive in the more risky family-related product decisions. Making the conceptual distinction between active and passive influence will allow us to test these, and similar, propositions.

Another promising avenue for research on children's influence is further investigation of the effects of parental and child characteristics on influence. Up to this point, these variables have been given only a cursory treatment in the literature. However, one would expect these factors to be of primary importance in studying children's influence. Past studies on parental characteristics point to the potential contribution of parental attitudes in explaining children's influence. It seems likely that parental attitudes related to child-rearing practices would be especially critical, particularly for younger children. These sorts of relationships should be further clarified and developed. Similarly, for child characteristics, there is a need to go beyond merely examining the child's age, and to include other theoretically relevant variables, such as the child's product involvement and his/her attitudes towards parents. The explanatory power of many of these variables has remained virtually untapped; clearly, more work needs to be done in these areas.

Given that most of the studies reviewed here used surveys to investigate children's influence, another means of improving our understanding of the phenomenon is to make greater use of observational studies. This is not to say that

surveys should be abandoned, rather that the limitations of this method can be compensated for by observation, and vice versa. Observational studies may reduce subjectivity biases, and offer additional insights into how families actually make decisions. In any event, multiple methods are desirable in and of themselves in that they permit increased confidence in findings that are consistent across methods.

An additional means for improving our understanding of children's influence is to make more appropriate use of statistical techniques. As previously noted, inflated alpha levels have been problematic in past research on children's influence. When testing numerous relationships, researchers should control the experiment-wise error rate to avoid capitalizing on chance. If family members' responses are expected to be positively correlated, multivariate analyses which treat each member's responses as repeated measures can be employed. If the researcher is interested in assessing divergences in family members' perceptions, it may be appropriate to test at a more stringent alpha level, as non-independence tends to result in more liberal tests in this situation (see Judd and Kenny (1981) for a more thorough discussion of independence issues).

Finally, past research on children's influence has tended to use the nuclear family as the normative criterion of study. Only one study (Darley and Lim 1986) has examined children's influence under different family forms. This is surprising given a recent study's estimate that 60% of today's children will live in a single-parent household sometime

during their childhood (Norton and Glick 1986). What implications do alternative family forms have for children's influence? By failing to consider different family structures, we have in essence confined our analyses to one subset of children, namely those from intact households.

CONCLUSION

In conclusion, previous research on children's influence has been a-theoretical and empirical. Based upon a review of the literature, children's influence was found to vary with a number of factors. However, due to the limitations associated with past studies, we cannot explain why these patterns of influence exist. It appears that research on children's influence needs to be improved on both theoretical and methodological grounds. Until this occurs, our understanding of the phenomenon will continue to be incomplete and fragmentary. It is hoped that the proposals offered here will serve to stimulate future research and debate in this area.

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Toward An Understanding of Social and World Systemic Processes in the Spread of Consumer Culture: An Anthropological Case Study

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ABSTRACT

Recent theoretical discussions and empirical presentations concerning the origin and spread of mass consumer culture have asserted widely differing geographical and temporal sites for these developments. This case study explores the usefulness of a diachronic world systemic approach constructed by Wallerstein for analysis of production, applied here to consumption behavior. Consumption of non-essential products appears in upper, middle and lower classes at different points in time. The data indicate that a full understanding of these social and economic processes can be obtained only when production, distribution, and consumption are analyzed together.

The world system of the last four centuries has witnessed the spread of industrial production and an emphasis on material consumption. Historically, the "consumer revolution" occurred in certain areas of Western Europe at different times. The diffusion process of global consumer culture is one which is not yet complete. The case study presented here provides empirical support in an exploration of the following theoretical assertions: (1) Production, distribution, and consumption go hand in hand and cannot be analyzed separately; (2) Material accumulation in consumption behavior penetrates the social fabric unevenly, affecting people in different social classes at different times; (3) The data support the use of world systems theory as an analytical tool.

THEORISTS AND THEORIES CONSIDERED

Numerous theorists have addressed issues about the origin and spread of consumer culture. Following Braudel's *tour de force* on European life from the 15th to 18th centuries (1981, 1982, 1984), a number of scholars have analyzed in depth the social and economic features of European life during the rise of capitalism. Of particular interest are works exploring the geographic and temporal beginnings of mass consumption behavior. While many of these theorists present important data relevant to the issues at hand, they often lack a systemic diachronic perspective which, when utilized, illuminates both historical and present-day patterns of the origin and diffusion of consumer culture.

In reviewing recent literature on the topic, certain authors stand out as examples of the theoretical and empirical research typical of this area of exploration. All theorists in question mark the notable association between the rise of capitalism and the consumer revolution. As such, their focus on Europe is not surprising. They vary, however, in their interpretation of the role of consumer ideology in capitalism and the specific time and place for the

rise of mass consumer culture. Mukerji (1983) suggests that consumption was a prime moving force in the development of capitalism and existed prior to the rise of the capitalist mode of production; her data are drawn from the 16th and 17th centuries in the Netherlands. Campbell (1987) and McKendrick, Brewer and Plumb (1982) believe 18th century England was the original site of consumer culture, but Campbell relies on an exegesis of the "romantic attitude" whereby a utilitarian version of consumption was replaced by an "hedonistic outlook" which spurred the development of the "spirit of modern consumerism." McKendrick, Brewer and Plumb, on the other hand, emphasize the "commercialization of fashion" as the primary 18th century innovation responsible for the birth of mass consumer culture. Williams (1981) sees the 19th century French as pioneers in advertising and retailing and describes the Paris expositions of 1899 and 1900 as triggers to the development of department stores and the evolution of mass consumption behavior.

Unlike the other scholars described, McCracken (1988) addresses more directly the systemic nature of the rise of consumer culture. He explores the analyses of Mukerji, Williams, and McKendrick, Brewer and Plumb as "crucial moments in the history of consumption" (1988:28). McCracken implicitly recognizes the way in which various regions of Europe are integrated through production and consumption patterns, but he does not deal explicitly with world systems theory. The analysis presented in this paper indicates the usefulness of Wallerstein's (1974, 1980, 1989) exploration of the world-economy as an underlying theoretical construct in the analysis of the origin and spread of consumer culture.

While Wallerstein is concerned with capitalism as a form of production, his findings have important implications for the study of capitalist forms of consumption as well. Briefly, Wallerstein has asserted that the international or world economic system as we now know it was formed in the "long sixteenth century," when capitalism spread across political boundaries, and an unequal, diversified international division of labor evolved. The European world congealed into core, semi-peripheral and peripheral regions with specific political and economic characteristics. This system perpetuates itself and has continued to exist in similar form, albeit with varying details, to the present time. Core regions are those parts of the world system which have strong state machineries and manufacture and market industrialized goods; peripheral areas are characterized by weak central governments, the consumption of goods manufactured elsewhere, and the export of human labor and raw goods. In the 20th century, peripheral areas often host factories from the "developed" or

core portions of the world, without realizing many material benefits of the industrialized production sites located in their country by foreign capital. Semi-peripheral areas are former core regions of the world system, de-industrializing as the core of the system shifts from one locus to another.

Central to the core/periphery/semi-periphery distinction is the systemic interaction of the sectors. The relationship between the core areas and the peripheral regions serves to maintain the economic status quo and the uneven politico-economic power structure. Cores benefit as capital and inexpensive human labor flow into their sector of the international economy from the periphery and semi-periphery.

Importantly, this relative position changes over time, so that historically the "core" of the world economy shifted from Spain to France, Belgium and the Netherlands and eventually to England over time. The expanding production and capital accumulation in the Pacific Rim today may signal the ascendancy of that region into the "core" of the world economy. Similarly, patterns of mass consumption arose at various times in Europe and reflected the shifting position of regions and the intimate systemic interaction of those regions to the extent that changes in one area precipitated changes in other areas. Utilizing this approach, it is not surprising that the theorists mentioned have come to the conclusion that various sites were important in the origin and/or spread of mass consumption. Like McCracken, however, we must reach the conclusion that the development of consumer culture is an ongoing process, the specific details of which vary over time and space. (See Belk 1988 for an excellent discussion of mass consumer culture developing in the Third World.)

As in production, we can observe differences in consumption which affect and are affected by the relative position of the nation or region in the world economy as core, periphery or semi-periphery. In the fully developed economy of the core region, broad consumer choice is markedly evident. A full range of goods and services is available, with notable variation in price and quality within each product category. This variation accommodates the needs and desires of all classes and professions in the fully fleshed-out and complex social structure of the core area. Locally manufactured items are abundant, while raw goods and food often come from outside the industrialized region. In contrast, consumption in the periphery is marked by fewer overall total goods and less variety in the full product range as well as within a product category. Because manufacturing is limited or non-existent, items of local origin are not available and/or are undervalued in comparison with foreign-produced goods. Finally, as with production, the consumption patterns of the semi-periphery are transitional between those of the core and those of the full periphery. The availability of goods declines and consumer choice becomes more and more restricted over time.

In addition to gaining insight into patterns of consumption through the use of the core/semi-periphery/periphery distinctions, the case study presented here provides information on two other important theoretical issues. First, it is clear that the concept of social class is necessary in order to fully understand the reported behavior historically. The emphasis on material accumulation and the ability to accumulate penetrated the social fabric unevenly, affecting the lower class of landless laborers, the rising middle class, and the nobility at different times. Furthermore, an analysis cognizant of the dimension of class and the utility of a world systems approach addresses another important theoretical issue: production, distribution, and consumption *must* be analyzed together. Wallerstein over-emphasizes production, for example, while McCracken stresses consumption to a near exclusion of production. The "revolution" was one of all aspects of the socio-economic system, involving production, distribution and consumption, but affecting different regions and different classes at varying times. While this understanding is implicit in the analyses of these theorists, it must be made explicit. Marx, on the other hand, clearly points to the dialectical interactions of production and consumption in the capitalist system (1930). The concise description of these behaviors as they evolved socially and temporally in the case study presented here illustrates the intimate connections between changing patterns of production and distribution and forms of consumption.

THE CASE: METHOD AND SETTING

Information for the following case study was collected during several weeks in the summers of 1978, 1986 and 1987 and during a year-long period from November 1979 to October 1980. The author participated in and observed the changing lifestyle of residents of the island of Cephalonia as they were affected by circulating migrants and Greek and foreign tourists during these times, with particular emphasis on the village of Sami. With the help of a local research assistant, a demographic and socio-economic survey of the village was conducted for both the winter population of 600 and the summer population of 3,000, swollen by returning migrant family members and tourists. Lengthy and numerous depth interviews were conducted with key informants throughout the several phases of research as well. Finally, archival research was undertaken at the Corgialenios Library and Archives in Argostoli, Cephalonia and at the Gennadeion Library in Athens. In the following pages, the origins and spread of a consumption ideology emphasizing material accumulation over time in the developing social classes is outlined. The paper concludes with an exploration of consumer culture and two of its agents--the migrant and the tourist--in modern Greece. (See Aschenbrenner 1986 for a discussion of similar processes in another Greek village; see also Hughes 1943, Srinivas 1976).

The island of Cephalonia lies to the west of the Peloponnesian Peninsula in Greece and is the

largest of the islands in the Ionian Sea. Irregularly shaped and ruggedly mountainous, the island is approximately 15 miles wide and 25 miles long. The soil is relatively infertile and rocky, with few areas of cultivable level land. From early times, Cephalonia was an important strategic landfall, control of which became increasingly desirable as political powers vied with one another for domination of the Mediterranean and trade with the Levant. Later, Cephalonia became an economic asset in its own right with the introduction of the currant crop and the extensive reliance on the currant as an important part of the import and export ventures of the Venetians and the British (Goodisson 1822).

For several centuries leading up to the end of the 19th century, the larger valleys were owned by aristocratic families, members of a nobility which became entrenched during the lengthy period of indirect and direct Venetian rule. The majority of the island's inhabitants were landless laborers and small landowners who depended on the large landholders and their magistrates to provide seed, purchase crops, and facilitate access to markets. While the population of Cephalonia has fluctuated throughout the several thousand years for which historic and prehistoric evidence exists, it is unlikely that the population ever rose above 100,000.

Since the middle of the twentieth century, Cephalonians have emigrated in large numbers, and the census of 1981 registered only 27,649 inhabitants. Depopulation in this century is a result of the continuing spread of an ideology of consumption, combined with the perceived need to migrate in order to obtain sufficient income to meet expanding consumer needs and wants.

Attitudes and beliefs conducive to the eventual evolution of a mass consumer culture are evident in early historical periods in Greece. Mercantile capitalism and urbanization in Classical and Roman Greece combined to create a demand for certain consumer goods, and prestige was awarded to those who were able to undertake particular lifestyles associated with material accumulation. As the Greek distribution network spread, commercial ports were established along the coasts throughout the Mediterranean. The trade goods were primarily luxury, "non-essential" products, ownership of which required a certain amount of wealth and, in turn, conveyed status. Trading with Egypt and the Levant, Greek and Roman merchants returned to their homes with lapis lazuli, ivory, and glass. Precious metals and gems were acquired in exchange for surpluses of olive oil, wine and grain produced locally. Costly Roman funeral incense is an excellent example of an expensive, rare product utilized by the wealthy as an indication of prestige (Johnson 1987).

The number of people able to engage in the accumulation of such desirable objects was small and confined primarily to the wealthy class. Furthermore, the wealthy appear to have exploited their economic and political power during times of

general governmental weakness to maintain and increase their material wealth and consumption of luxury products at the expense of the poor (see Bon 1951, Costa 1983). However, there are indications that peasants and laborers sought the same consumer goods but found it difficult to obtain them. While an ideology emphasizing a certain consumer behavior pattern may exist, it cannot be enacted without the productive means, and such means did not exist for the majority of Greek society.

Distribution in the form of merchant shipping expanded in the Mediterranean in the eleventh century under Byzantine influence and the escalating activities of Norman conquerors. Into the 12th and 13th centuries, periods of rampant piracy, Cephalonia was sought as a strategic landfall with calm ports suitable for both military and merchant activities (Cosmetatos 1976:103). Under the various Norman and Frank rulers, the position of Cephalonia evolved from one of independence, to indirect rule as leaders were forced to ally with Venice for protection, to one of direct rule by the Venetian power.

The small middle class continued to trade in preciousness, as well as agricultural products, wine, and oil during this period. Land was being concentrated in the hands of a few, and a rigid upper class with distinctive consumption behaviors was developing. In the 14th century, some Cephalonian women were weaving silk, and their husbands were exporting the cloth (Froissart 1397). Tax revenues from the island were high and were an indication of general prosperity (Kirkwall 1864; Pratt 1978).

As Venice consolidated her hold over Cephalonia, production and consumption patterns and class formation responded. The period of direct rule, 1502-1798, witnessed the crystallization of a feudal system whereby individuals were granted fiefs and the nobility became entrenched in the rural parts of the island. Peasants produced surplus for the aristocratic landholders, who used the products to support a consumption lifestyle that can only be termed "lavish" when compared to that of the typical Cephalonian. Importantly, it was during the Venetian period in Cephalonia that the international or world capitalist economy described by Wallerstein was evolving in Europe. Prior to that time, empires, rather than world economies, existed, and it is not possible to characterize Cephalonia or any other region of Europe as core, periphery, or semi-periphery, since the international division of labor discussed by Wallerstein had not yet come into being.

With the introduction of the currant crop in the early 1500's, a shift from subsistence agriculture to commercial production for the international market occurred. This alteration had important implications for the lifestyle and consumption patterns of the nobility and evolving middle class of merchants and shopowners dependent on the currant trade for their livelihood. Using accumulated proceeds from currant production, large landholders purchased and consumed luxury foreign goods, "woollen or silk fabrics with caviar, coffee, and

spices from the orient" (Pratt 1978:37), as well as sugar and rice. Clothing varied by class, and, as in other parts of Europe, the type of clothing worn was proscribed for certain individuals in order to maintain distinct class identities; "wigs were worn in society" (Cosmetatos 1976:25). Nobles wore clothing made from fine imported fabrics and lace; trousseau lists indicate a similar reliance on foreign-made materials and objects among the wealthy. In the 1600s, the wealthy began to use imported linen from France, muslin from Constantinople, and Belgian lace in their clothing. Imported knitted stockings appeared in Cephalonia at the same time. Even during periods of economic decline, nobility continued to purchase and wear fine clothes in order to maintain social status. By the late 1800's, rich families often had their daughters' trousseaux prepared abroad (Ibid: 65).

In the 16th and 17th centuries, aristocrats who aspired to Venetian government posts were obliged to own houses in the growing towns, in addition to their country estates. By the late 18th and early 19th centuries, these homes were large and boasted extensive gardens. For the first time in Cephalonian history, the interiors were heavily decorated (Cosmetatos 1976). Italian artists were brought to the island to paint ceilings and murals. "Carpets, rugs, curtains, furniture, monumental bedsteads from Birmingham, paraffin oil lamps and China in the ubiquitous willow pattern were imported to stuff every room to capacity" (Ibid.: 50). Furthermore, "each of the houses contained a modern pram, as much a status symbol as was a knowledge of French for young marriageable girls" (Ibid.).

The rising middle class owed its existence to trade and consisted primarily of merchants, owners of ships, and ship captains. Their consumption patterns over time reflected growing affluence and a dependence on commerce, and their trousseau lists show the use of imported cottons and the late 16th and 17th century apron, fashionable throughout Europe by this time. As they continued to travel abroad for purposes of income production, they added more foreign products to their dowries, including furniture for their homes. In this consumption behavior, as with those discussed above, they emulated the patterns of the local and foreign nobility, who began to consume these "luxury" goods at an earlier point in time.

While the nobility and middle classes used their income from commerce to support comparatively lavish lifestyles, however, the peasants produced and sold the currants merely to survive. Throughout the Venetian and British periods and into the mid-20th century, the lower classes of the island continued to produce and consume at a near-subsistence level. Living in small one-room houses with dirt floors and few pieces of furniture, peasants wore home-spun clothing and ate simple diets of bread, olive oil, cheese and gathered greens. Meat was consumed perhaps once or twice a year at Christmas and Easter and only when an animal was available for slaughter. The consumption of any type of "luxury"

good was out of the question and well beyond the means of the majority of Cephalonians.

The data indicate increasing integration of the local level with extra-local levels, as the aristocrats and the middle class exemplify changes in production, distribution, and consumption associated with contact with European society and Levantine trade. During the Venetian period, however, Cephalonia was directly attached to a part of the world economy--Venice--which Wallerstein refers to as "semi-peripheral," a de-industrializing, formerly powerful sector of the international politico-economic system (1974, 1980). The decline would continue and accelerate through the British period, 1815 to 1864, and into the modern phase of Cephalonian history. As it did, relative wealth and affluence characteristic among the upper echelons of society during the early Venetian period declined as well. By the end of the British era, numerous aristocrats and merchants had emigrated from the island (Costa 1983, 1988b; Markopoulou 1967). In the modern period, Cephalonia and the other Ionian islands became part of a "peripheral" sector of the world economy--Greece. Utilizing world systems theory as it applies to Greece today, the weak central political organization, and the role of Greece as exporter of raw goods and, importantly, human labor, as well as importer and consumer of foreign manufactured goods, place Greece in this "peripheral" category.

As the focus narrows specifically to Cephalonia, it is clear that the island is now a peripheral *region* of a peripheral *country*. Cephalonia has "exported" 75 percent of its human population in this century. As that population returns periodically in the circulating migration pattern, Cephalonians become exposed to foreign manufactured products and, in turn, acquire the desire to obtain these products themselves. Eventually, local storeowners import the goods from companies located in Athens or Patras who have themselves imported the items originally from foreign sources. Like migration, tourism exposes Cephalonians to similar processes of change in consumption, distribution and production.

Feudalism began to decline during British rule from 1815 to 1864; land reformations and redistributions under the modern Greek government secured the total demise of the feudal system, as large landholders lost most of their land and the control of peasants attached to the land. Agricultural production in Cephalonia today is primarily to supplement income earned in other ways. In 1980, full-time agriculturalists made up only thirteen percent of the heads of households in the main village under study. Typical non-agricultural economic activities include shopkeeping, wage labor in construction, fishing and herding, employment in the merchant marine, and work in hotels, restaurants or other service-oriented businesses. The latter have become increasingly profitable as Greek and foreign tourists visit the island more frequently and in greater numbers since 1975. Employment in the merchant

marine has been a common pursuit for Cephalonians for several centuries. With respect to the issue at hand, various forms of migration and increasing tourism in Cephalonia are important factors in the spread of a consumer ideology throughout the social fabric of this island. For the first time in history, the lower classes have the productive means to pursue mass consumer culture.

The patterns of migration have had a particularly important impact on the consumption behavior of Cephalonians. Beginning at the turn of the 20th century, lower class Cephalonians joined the thousands of other Greeks migrating to the United States to take advantage of economic opportunities at a time when the local economy was collapsing (Costa 1983, 1988b; Saloutos 1964). The numbers involved in emigration from Cephalonia were not large enough to markedly affect local life as yet, and return migration either on a temporary or permanent basis was rare in this early period. By the 1950's and 60's, however, migrants were beginning to retire to the island, bringing with them savings accumulated during their lifetime abroad, as well as tastes for goods and services to which they had become accustomed. They often brought with them prized possessions in the form of clothing and household objects to be displayed prominently to the community (see Costa 1989a, 1989b). Infrequently returning male migrants seeking a bride earlier in the century also wore expensive clothing and jewelry and brought lavish gifts, such as gold jewelry and fine clothing, to their families and prospective in-laws.

It was only in the 1960's and after, however, that migration was so extensive and of a particular type that remarkable changes began to occur in the consumption behavior of the majority of Cephalonians, and a local "mass consumer revolution" occurred. At this time, the migration point of destination changed to Athens and other cities of Greece, as well as to parts of Western Europe, particularly Germany. These sites were comparatively closer to the island, and, especially as transportation networks developed and became more efficient, migrants began to engage in seasonal circular migration. In this pattern, migrants return during the summer and at Christmas and Easter holidays, visiting their families and bringing with them consumer objects from the world outside Cephalonia.

As did the permanently returned migrants, the circulating migrants bring with them their newly acquired tastes for goods and services heretofore unavailable on the island. Their consumer needs and wants have spurred the development of local businesses to cater to them. Furthermore, migrants have become a particularly effective avenue for the transmission of a consumption ideology to those who have not yet left the island. This ideology favors the acquisition and use of goods produced outside the island and, most often, outside Greece altogether. Such products include major and small appliances, Western-style clothing, stereos, televisions, radios and cameras, furniture, household

decorative items, distinctive foods and beverages, modern bathroom and kitchen fixtures, Western music and forms of entertainment including bars, discotheques, and movie theaters, and European or American cars, trucks and motorcycles (see Costa 1988a, 1988b, 1989a, 1989b).

The close connections between consumption, distribution and production behaviors are obvious here. Individuals undertake new production behavior through migration, transmit new consumer tastes to their families and friends in Cephalonia, who then undertake the consumption behavior themselves, as well as new production in the form of opening businesses to cater to local and migrant needs. Distribution systems develop and expand to respond to the increasing traffic in goods and people. In addition, Cephalonians who have not migrated previously may do so after contact with returning migrants in order to obtain adequate income to support new consumption behavior. Production, distribution and consumption clearly operate in a feedback system.

In addition to migration, tourism has been an important factor in exposure to new forms of consumption. Both foreign tourists and elite Greek tourists from Athens and Thessaloniki have increased in numbers in the last several years, and their influence on local consumption behavior is evident. Foreign tourists, primarily from France, Italy, the Netherlands and Germany, bring with them new fashions and new technology from outside of Greece. Local Cephalonians often admire the products and take steps to acquire them. Again emphasizing the intimate association of productive efforts, distribution and consumption patterns, some Cephalonians open stores or increase their inventories to make these items available to island residents, circulating migrants and tourists. Production in services expands as well, as hotels, restaurants, and entertainment sites increase in number, and transportation and communication networks develop. Greek tourists from Athens and Thessaloniki, like circulating migrants, become an effective avenue for transmission of consumer ideology from the urban to rural areas of Greece. Bringing with them desirable goods and a demand for certain products, they influence local tastes and are accessible models for emulation.

Throughout the periods in question, the *content* of the culture of consumption itself has varied by class. The nobility and upper echelons of modern Greece have made and make consumption choices on the basis of peer influence. In the past, aristocratic families created and maintained ties throughout various parts of Europe and shared consumption patterns involving luxury, high-cost goods prevailed. The modern consumer of the Greek upper classes today continues to maintain international ties, and his/her consumption choices reflect that contact. Purchasing and owning expensive, durable items from abroad is commonplace and not often singled out for comment by consumers. Members of this class participate fully in the consumption of services as well.

On the other hand, it is quite clear that ownership of items from foreign countries is still somewhat exceptional among lower-class Greeks, although it is becoming increasingly common and is a mark of prestige. These goods are often acquired through the productive efforts of migrants or members of the merchant marine (Costa 1989a, 1989b). There is a greater willingness to accept less expensive alternative goods which break easily or wear out quickly, and services are rarely used. Thus, villagers learn about and acquire valued goods through members of their own family, neighbors whose migrating kin have returned from abroad, or tourists.

In the past, the developing middle class seemed to emulate the wealthy in their consumption choices. Since a significant portion of this class, however, was and is productively based on commercial trade abroad, they have been exposed to and seek to acquire foreign goods to which they themselves have been exposed personally. In many cases, the members of this class were once aspiring lower class laborers and peasants of Greece who have become the migrating kin responsible for the transmission of consumer ideology and goods from outside the island to Cephalonia itself.

CONCLUSIONS

This paper has attempted a preliminary exploration of the development and spread of a consumer ideology among various social sectors in Cephalonia, Greece. While an attitude favoring consumption of non-essential products is evident among the upper classes of Greek society from an early period in history, the ideology and behavior in the middle and lower classes required the development of the productive means to support such a consumption pattern in these social sectors. As such, the evolution of truly "mass" consumer behavior cannot be said to have existed in Cephalonia prior to the middle of the 20th century. Furthermore, the case indicates the necessity of understanding consumption, distribution and production as interrelated systems.

In addition, the data are illuminated when Wallerstein's core/periphery/ semi-periphery distinction is applied. It is beyond the scope and page limitation of this paper to explore fully the implications of applying this construct to the case study at hand. However, the preliminary investigation points to shifts in consumption coinciding with historical changes in Cephalonian attachment to various sectors of the world economy which can be identified clearly as core, semi-periphery, or periphery. In the Venetian period in Cephalonia, Venice was a power declining from a core to semi-peripheral area, with increasing attempts to hold on to wealth through trade. The wealth once amassed by the nobility and merchant classes was threatened with the demise of the Venetian power. As the islands passed briefly through the hands of the British, members of these classes began to leave the island in search of

production and consumption opportunities elsewhere.

Eventually, with the cession of Cephalonia and the other Ionian Islands to the modern nation of Greece in 1864, the island became attached to a nation which was to become, quite clearly, a peripheral part of the European-based world economy. Industrialized core areas preserve their wealth and power at least partially through the use of labor and raw goods provided by peripheral regions. In addition, peripheral areas are excellent markets for the goods manufactured in core sectors. Consumption in peripheral regions is marked by an emphasis on foreign goods and a marked lack of variety in consumer products as well as product availability on the basis of class. Cephalonians and many other Greeks become foreign labor, send foreign capital home to their families, and purchase goods produced in foreign countries. As such, the data presented here support the use of a world systems approach, à la Wallerstein, to explicate events and behaviors occurring both historically and at the present time in the region under study.

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An Empirical Update And Extension of Patronage Behaviors Across the Social Class Hierarchy

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ABSTRACT

This study provides an updated assessment of the extent to which social class differentiates patronage behaviors. After briefly reviewing literature concerning class and patronage, a study is described in which Coleman's (1983) objective measure of social class is used to differentiate patronage. In a second stage of analysis, this measure is embellished by encompassing class consciousness and relative class income within objective class levels. The results indicate that combining measures yields improvement in predicting department store patronage, and that significant differences in patronage occur within objective levels of class according to consumers' class identification and relative class income.

BACKGROUND

Social class refers to a group of people who share commonality in such social characteristics as prestige, education, occupation, social skills, status aspirations, community participation, family history, recreational habits, and physical appearance (Coleman 1983). Relations between such groups in terms of inferiority, equality, or superiority provide the basis for a social hierarchy. Coleman and Rainwater (1978) conceive of an American class structure which includes seven groups that can be described in descending order as "old family names" (Upper-upper class), "accepted new money" (Lower-upper), "collegiate credentials expected" (Upper-middle), "white-collar associations" (Middle), "blue-collar life style" (Working), "definitely below the mainstream" (Working poor), and "the welfare world" (Underclass). Marketers have found social class useful since it manifests a distinctiveness in life style (Myers and Gutman 1974) and, in turn, consumption (Sobel 1981). For example, social class is a natural variable for segmenting product-markets that satisfy needs related to such life style expressions as housing, travel, sports, and entertainment. Specific product categories in which consumption has been found to be distinctive across social classes include furniture, clothing, and housing (Laumann and House 1970; Schaninger 1981).

Differences in patronage behaviors across social classes were first empirically observed in proprietary studies conducted by Levy and Martineau. These and other researchers arrived at the general conclusion that social class is a salient dimension of store image and that patronage is the result of consumers seeking congruence between self-image and store image (Martineau 1958; Levy 1966). Studies have confirmed that department and specialty store patrons primarily are from upper social classes

(Rich and Jain 1968; Hirschman 1980), while discount stores tend to attract lower class consumers (Rich and Jain 1968). This pattern is more distinctive for purchases such as furniture or clothing (Schaninger 1981) which evoke higher social risk (Prasad 1975).

The goal of this study was to ascertain the extent to which an updated social class measure - Coleman's (1983) Computerized Status Index (CSI) - discriminates patronage in the current social milieu. An additional motivation of the study was to assess the degree to which relative income and class consciousness are factors which affect patronage within levels of objective social class. Scholars have found that relative occupational class income - income relative to the median within a class level - significantly differentiates consumption of automobiles (Peters 1970) and coffee (Klippel and Monoky 1974). While occupation and education strongly determine the commonality of values which typify social classes, variations in number of wage earners and age may produce disparate levels of income. A related phenomenon occurs when two individuals with the same approximate incomes are objectively measured as middle and working class, but spend their incomes quite differently. Relative class income, however, has not been investigated in the retailing literature. Overprivileged members of the working class may exhibit a higher level of patronage of mass merchandise stores (e.g., Sears, Montgomery Ward) than their underprivileged counterparts. Conversely, overprivileged members of the middle class may exhibit their emulation of the upper class by shopping at higher prestige specialty and department stores.

Class consciousness may also affect behaviors within levels of objective class. Though class consciousness tends to be a strong predictor of attitudes and behaviors related to political ideology (Centers 1949; Curtis and Jackson 1977), it may also help in better understanding patronage differences within objective levels of social class. The presence of factors such as prestige or status in a store's image may lead to patronage differences according to the saliency of these factors to consumers based on their class identification. Similarly, consumers who are objectively middle class but perceptually upper class may demonstrate patronage behaviors of a more upper class nature than individuals who are middle class both objectively and subjectively. In sum, patronage may differ between members of the same objective social class and consideration of class consciousness and relative income should yield an improved understanding of these differences.

STUDY DESCRIPTION

Sample

The population for this study was defined as adults residing in all private households (from single and multiple unit dwellings) in three metropolitan areas of the Pacific Northwest. The data were collected by trained interviewers through in-home, personal interviews. Eligible respondents were defined as the person renting, owning, or buying or otherwise residing in and responsible for the dwelling unit. In households where more than one adult met this criterion, interviews took place with the adult employed full-time. In the event that more than one adult was employed full time, the first adult contacted was the respondent. A multi-stage area probability sampling procedure was used to select the households. Up to three callbacks were employed to reach target households where adults were not at home. The households who refused to participate and who were not available after three callbacks were replaced in a random manner.

The final sample numbered 997 households.

The majority of respondents within these households were married (78.6%). Comparison with census data showed that the sample is not significantly different in terms of age, gender, or income, but is marginally higher in level of education ($p < .10$).

Measures

Given the results of previous studies, social class should be associated positively with patronage of higher status stores. Nine well-known stores were selected in the market area from which interviews took place, including 3 discount stores, 3 mass merchandise stores, 2 department stores, and 1 specialty store. Patronage was measured using a 4-point scale ranging from "frequently" to "never."

As noted above, the objective measure of social class used in the study was Coleman's (1983) Computerized Status Index (CSI). Based on measures of five household characteristics, the CSI provides an efficient and effective method for estimating social class in studies which involve large samples (see Coleman 1983, p. 267 for further explanation). Coleman (1983) claims that at least 75% of households are correctly classified by the CSI, where "correct" is defined as an expert's opinion after evaluating 10-times more information than is used in the CSI index. Overall, the CSI departs from early class measures in several respects. First, education's influence on household status is captured by including levels of education for both husband and wife. If the respondent is not married, education is doubled. Second, CSI reflects the strong impact of occupation on social class (cf., Snipp 1985; Giddens 1973) by doubling the weight of the head of household's occupation. Finally, the index includes total family income, rather than only husband's income. An interviewer's evaluation of residential area (i.e., "slum" area to "wealthy or society" area) is the final component of the index. The five items are then added and households are classified as Upper

American, Middle Class, Working Class, or Lower American (see Coleman 1983, p. 276).

Class consciousness is operationalized here as is common in the sociological literature and in a manner similar to that followed in studies of status crystallization; as one's self-designated social class (cf, Curtis and Jackson 1977). In order to facilitate comparability with Coleman's class structure, the question used here stated: "Which socioeconomic group or class would you say best describes you and your family?" Interviewers then read alternative responses including upper class, upper middle class, middle class, working class, and lower class. The top two categories were combined for data analysis in order to produce a structure comparable to Coleman's.

Comparison of the social structures produced from the CSI and self-report measures below shows that, though they are far from independent (Chi-square = 247.7, $p < .0001$), the two distributions

Social Class	CSI		Self-Report	
Upper American	109	10.9%	140	14.0%
Middle Class	367	36.8%	490	49.1%
Working Class	449	45.0%	298	29.9%
Lower American	30	3.0%	65	6.5%
Missing	<u>42</u>	<u>4.2%</u>	<u>4</u>	<u>4%</u>
Totals	997	100%	997	100%

share about 17% of common variance (Kendall's Tau B = .42, $P < .001$). This amount of shared variance is close to the correspondence Gilbert and Kahl (1982, p. 267) believe ought to exist between self-report and objective measures of class. Not surprisingly, a substantial number of objectively-assigned working class respondents appear to identify with the middle class as reflected by the self-report measure. This occurrence may be attributable to a myriad of factors including a resurgence of conservative, traditional and materialistic American values, a shift toward a greater percentage of white collar occupations, a negative stigma associated with lower than middle class identification, and a decline in the membership and power of working class unions.

RESULTS

The presentation of results examines differences in patronage, first across objective social class groups, and then through a combination of class consciousness and relative income within objective class. Analysis of variance showed that eight out of the nine stores produce statistically significant differences between social classes in frequency of shopping (see Table 1). Examining the mean scores shows that patronage differences between social classes tend to occur as predicted in the case of higher status specialty and department stores. The r-square values for these three stores are encouraging from a pragmatic standpoint and suggest that social class is a useful segmentation variable for higher end retailers. Post-hoc contrasts

TABLE 1
Frequency of Shopping by Objective Social Class

Frequency of Shopping in	Class Means (a)				F	R-sq.
	Upper Class	Middle Class	Working Class	Lower Class		
Specialty Stores						
Store 1	.68	.27	.10	.03	39.56b	.11
Department Stores						
Store 1	1.99	1.41	.74	.57	60.02b	.16
Store 2	2.26	1.76	1.15	1.00	47.69b	.13
Mass Merchandisers						
Store 1	1.59	1.73	1.50	1.27	5.31b	.02
Store 2	1.45	1.55	1.32	1.30	3.75c	.01
Store 3	.81	1.27	1.41	1.17	10.96b	.03
Discount Stores						
Store 1	.68	.79	.61	.30	4.62c	.01
Store 2	1.02	1.39	1.69	1.93	7.83b	.06
Store 3	1.30	1.59	1.55	1.43	2.51	.01

- a. 4-point scale where 1=never and 4=frequently
- b. p<.001
- c. p<.01

show that upper class respondents shop significantly more at the specialty store featured in the study than any of the remaining class groups (t=9.15, p<.001). Other significant contrasts indicate that upper and middle class respondents shop more frequently at both department stores 1 (t=9.43, p<.001) and 2 (t=8.29, p<.001) than working and lower class respondents. The absence of significant contrasts involving mass merchandise or discount stores suggests that social class is less effective in explaining patronage of these stores than in earlier studies (Rich and Jain 1968; Levy 1966). With one exception (mass merchandise store 3), no social class group differs substantively in patronage of mass merchandise stores. This result testifies to the expansive market to which mass merchandise stores appeal.

A crosstabulation between objective and self-report measures of class produced the ten class combinations seen in Table 2. The presence of differences in perceived social class versus objective class is apparent from the relatively high numbers in the non-matched categories. Not surprisingly, a high number of individuals feel they are middle class, though they are objectively categorized as working class. The tendency of some respondents to downgrade their class from a higher objective category may occur because of under-privileged income status (as shown below), or may indicate a problem with the objective class measure. Recall that the self-report "Upper Middle Class" group was previously combined with the "Upper Class" group. Without this collapsing the discrepancy between the

upper class self-report and objective categories would have been even greater.

Turning to patronage differences between the self-report/objective class groups, analysis was performed by first averaging frequency of shopping within each of the four store categories. The trend in means indicates that patronage in both specialty and department stores drops in a near linear fashion as both objective and perceptual social class declines. Mass merchandise patronage remains virtually flat across the ten class groups, while discount store patronage rises somewhat as class decreases from upper to middle class. Comparing Tables 1 and 2 shows that the expanded class model does explain approximately 8% more of the variation in department store patronage than the reduced class model. However, no differences in explained variation occur for the remaining three store categories.

The value of this analysis is perhaps best illustrated by examining patronage differences between class identification groups within levels of objective class. Within the objective upper class, patronage of department stores is significantly higher (F=6.17, p<.05) among those individuals identifying with the upper class than those identifying with the middle class. Several differences emerge within the objective middle class group as well. Both specialty store and department store patronage drop significantly (F=6.39, p<.001; F=11.85, p<.001, respectively) as class consciousness decreases within the objective middle class. Clearly, patronage within Coleman's middle class designation is quite heterogeneous and is better

TABLE 2
Frequency of Shopping Across an Expanded Class Consciousness - Objective Class Social Hierarchy

Class Match			Store Type			
Self-Report	Objective Class	n	Specialty	Department	Mass Merchandise	Discount
Upper	Upper	57	.77	2.30	1.21	.96
Middle	Upper	50	.56	1.93	1.39	1.06
	F		1.95	6.17(b)	2.07	.54
Upper	Middle	53	.49	2.10	1.36	1.33
Middle	Middle	228	.26	1.60	1.60	1.25
Working	Middle	68	.12	1.25	1.46	1.32
	F		6.39(a)	11.85(a)	2.48	.87
Middle	Working	184	.09	1.07	1.49	1.32
Working	Working	206	.11	.90	1.42	1.27
Lower	Working	40	.10	.58	.86	1.15
	F		.10	5.68(b)	14.12(a)	1.23
Working	Lower	13	.00	.62	1.03	1.31
Lower	Lower	6	.00	.17	1.72	1.39
	F		----	1.42	4.37(c)	.10
Overall F			14.98(a)	28.56(a)	5.71(a)	2.44(b)
R-Square			.11	.22	.01	.01

a. $p < .001$
b. $p < .01$
c. $p < .05$
All others nonsignificant

differentiated by considering individual's perceived social class. The effect of class identification is also apparent from the higher specialty and department store patronage by objective middle class respondents identifying with the upper class, than respondents who are objectively upper class but perceptually middle class. Further breakdown of the objective working class yields improvement in understanding patronage of department stores as well as mass merchandisers. Within the objective working class, patronage of department stores drops significantly ($F=5.68$, $p < .01$) as perceived class drops from middle to lower. Also, mass merchandise patronage is significantly lower ($F=14.12$, $p < .001$) among those respondents identifying with the lower class than those identifying with either the working or middle class.

Coleman's (1983, p. 274) suggestion for designation of relative income groups within social classes was used to develop an expansive relative income class structure. This structure (not shown) is highly correlated with the class consciousness structure just described (Kendall's Tau B=.80), which suggests that relative class income is a salient

determinant of how people form perceptions of their class positions. As judged by the primary reason for undertaking this analysis - explication of patronage across social classes - the relative income breakdown yields a very similar set of findings. These two analyses produce close to identical results for overall F and R-square values, and for the pattern of significant differences within objective class groups.

CONCLUSIONS

Although this study did benefit from a large, representative sample, several limitations are notable. First, patronage of a relatively small number of stores was measured, especially in the case of specialty stores, which may have biased the results. Some consumers form intense loyalty to certain smaller and unique boutique-type shops, and such patronage was not measured here. Second, patronage itself was measured using a "frequently" to "never" scale, which is less valid than an exact measure of dollars spent over a period of time. However, the findings do suggest several conclusions regarding social class in the 80s.

Clearly, frequency of shopping at specialty and department stores increases with one's social class position. However, objective social class by itself is unable to predict patronage of mass merchandise or discount stores. These findings reflect the multitude of strategies pursued by retailers during the 1980s. Many specialty and department stores have carefully engineered a clear and stable store image targeted at upscale consumers. On the other hand, many mass merchandisers have attempted to make strategic adjustments in pursuit of this same upscale market, and in doing so have blurred their image. This has been particularly true for some of the major retailers. At the same time, many discount stores have traded up and other types of institutions, such as off-price retailers offering nationally-known durable goods and fashion labels, have emerged and gained popularity with both the middle and upper echelons of society.

Comparing the current value of social class as a retail segmentation variable with its value in earlier studies, and comparing Coleman's updated measure against earlier measures, is nearly impossible due to the absence of reported effect sizes in earlier studies. For example, although Martineau (1958) and Levy (1966) found patronage patterns across social classes similar to those reported here, neither provided any indication of explained variance. Other studies have tested for class differences in patronage-related behaviors and attitudes, but have used different dependent variables and not reported effect sizes (Prasad 1975; Schaninger 1981; Rich and Jain 1968; Foxall 1975). While multivariate models using gravitational and store image measures are able to account for roughly 40% of the variation in actual store choice (Nevin and Houston 1980), the results here show that from 10% to 15% of the variation at higher prestige stores is explained by social class alone. Further, the present study did not consider situational or risk factors associated with purchase occasions. Based on previous research, the inclusion of these factors would undoubtedly increase the extent to which social class explains patronage above that found here.

The usefulness of social class as a predictive variable in retailing is limited by the size of middle America. Over 80% of respondents in this study were objectively classified as middle or working class, making differentiation of mass merchandise patronage based on class particularly difficult. However, the results here also show that relative income or perceived class identification - when considered with objective social classes - do produce differences in patronage. The close correspondence between the expanded hierarchies suggests that relative class income may affect class identification. The embellishment of the objective class hierarchy with either of these criteria improves prediction of overall department store patronage. Further, a number of differences in patronage were identified within objective social classes. While these results were most present in the department store category, both relative class income and class consciousness

differentiate patronage of mass merchandise stores within the working class. Given the difficulty of identifying distinct consumer segments that shop in mass merchandise stores, this result is encouraging. The expansive approach to the American class structure taken here may prove useful to specialty, department, or mass merchandise retailers.

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An Empirical Study of the Effects of Ethnicity on Consumption Patterns in a Bi-Cultural Environment

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ABSTRACT

This investigation focused on the relationship between English-French Canadian ethnicity and consumption patterns. The study employed a communication pattern based ethnic classification scheme which accounts for the varying degrees of acculturation toward either end of the English-French ethnicity continuum. Four groups of varying degrees of English-French ethnicity were identified and then examined in terms of consumption differences for food and personal product items. Results indicated between group consumption differences for several product classes. However, the assumption of monotonicity between acculturation and consumption patterns was largely unsupported.

That consumption is a thoroughly cultural phenomenon is well established in the literature on consumer behavior (Belk, Sherry & Wallendorf 1988; Hirschman 1981; Mick 1986; McCracken 1986.) Yet the research on ethnicity and subcultural differences in consumption has not really explored the meaning of consumption for members of these groups. The underlying premise of the research on ethnicity has been that subcultures, while sharing the values and norms of the dominant culture, express certain significant differences of their own which may warrant differential marketing efforts (Nicosia & Mayer 1976; Zaltman & Bagozzi 1976). In these earlier studies, ethnic groups were identified using objective measures such as place of residence, last name, or language spoken at home and then compared with those of the dominant culture with respect to significant marketing dimensions. Clearly the validity of these studies depends on the soundness of the ethnic classification scheme used (Bergier 1986).

More recent measures use emic or subjective measures of ethnicity (Hirschman 1981). Although the term "degree of ethnic identification" is not equivalent to acculturation, its measurement enables researchers to indirectly assess the degree of acculturation. The term "acculturation" refers to the degree that values and norms of an individual or group correspond to those of the dominant group (Gordon 1964; Yinger 1985). Most studies of ethnicity look at immigrant adaptations to the host society (otherwise known as the assimilation hypothesis) and not vice versa (Glazer & Moynihan 1965). However, as Padilla (1980) notes, this is

dependent on the relative bargaining power of the groups in question and is determined within the context of relevant historical and political forces. More recent research in consumer behavior reflects this complexity in conceptualizing the myriad faces of culture (Deshpande, Hoyer & Donthu 1986; Guinn & Faber 1985; Valencia 1985; Wallendorf & Reilly 1983).

ACCULTURATION

Some support for the assimilationist hypothesis has been provided by Valencia (1985) and Schaninger, Bourgeois and Buss (1985), who found a monotonic relationship between acculturation and several consumption dimensions. On the other hand, the pattern of findings by Wallendorf and Reilly (1983) indicate that immigrant adaptation is neither like the culture of origin nor of the culture of residence but lies somewhere between the two.

One approach that has recently gained renewed attention is the importance of communication processes in general and the use of language in particular (Shibutani & Kwan 1965). In the study of consumer behavior, O'Guinn & Faber (1985) develop a measure based on communication patterns. The underlying rationale for this measurement approach is that communication is the most fundamental means by which individuals develop their understanding of a new culture (Kim 1985). Communication involves interaction with the environment. As strangers interact with people in the host environment, they learn and acquire the acculturative capacities in their cognitive, affective, and behavioral processes (Kapoor & Williams 1979; Pedone 1980; Shibutani & Kwan 1965; Tzu 1984; Wen 1976).

Of particular relevance to this study are two forms of communication - interpersonal and mass communication. A person's interpersonal communication can be observed through the degree of his/her participation in interpersonal relationships with members of the host society (Kim 1985), whereas individuals participate in mass communication processes through such media as radio, television, newspapers, magazines, movies, theatre, museums, lectures and posters (Tzu 1984).

RESEARCH OBJECTIVES

The focus of this research is on the relationship between English-French Canadian ethnicity and consumption patterns. While much of Canada is rooted in the English culture, French and English cultures co-exist as the two dominant forces in Quebec, exerting influences on each other. Conscious political efforts by the Government of

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Quebec to preserve and expand the influence of French culture imposes an assimilation force on the English perhaps to a similar extent to which the English impose on the French. In recognition of this two-way process, English-French Canadian ethnicity in this study is viewed as a continuous concept with the two polar extremes corresponding to "strong English Canadian identity" and "strong French Canadian identity." The middle portion of this continuum would then represent various degrees of acculturation either French Canadians or English Canadians have experienced toward the other side.

French-English Canadian Consumption Differences

While there is a large volume of research investigating English-French Canadian consumption and lifestyle differences (Schaninger, Bourgeois & Buss 1985; Saint-Jacques and Mallen 1981; Tigert 1973; Vickers & Benson 1972), nearly all these studies use a dichotomous classification scheme based on a single indicator and, furthermore, many of them are post hoc in design.

Most of these studies indicate that the French are more oriented toward cooking and baking, less reliant on instant or convenience food, prefer soft drinks, sweet beverages, and consume larger quantities of alcoholic beverages (Barnes & Bourgeois 1977; Clifford 1979; Mallen 1973; Saint-Jacques 1981) than English Canadians do. In terms of life-style profiles, French Canadians seem more concerned with personal appearance and fashion, and are more oriented towards their home and cleanliness and are more likely to own washers, dryers, and other home appliances than their English counterparts are.

METHODOLOGY

Data

Data used in this study come from a survey of residents in various districts of the Greater Montreal Area performed in 1986. A quasi-probability sampling procedure was chosen for the reasons of cost and speed. Fourteen census tracts with a high concentration of population of English and French ethnic origin were included in the first sampling stage. Within each census tract, streets were chosen randomly. Interviewers knocked at the door and asked for the lady or the man of the house. Then, after the introduction, a filter question screened those respondents who did not overtly identify themselves as either French Canadians or English Canadians.

Qualified respondents were asked their preference of a French or English questionnaire. The self-administered questionnaire was left with the consenting respondents to be picked up at a later time. In total, 600 completed responses were obtained, of which 200 were English and 400 were French. The non-respondents did not differ significantly from the respondents in terms of demographic characteristics.

Measurement

In the beginning of the questionnaire, respondents were asked to indicate the degree of preference for the language of the questionnaire on a scale ranging from 1="I always prefer French questionnaires" to 9="I always prefer English questionnaires". This particular question is also considered as a communication variable, and will be used in conjunction with others in the ethnic classification scheme. Measurement of communication patterns in interpersonal and mass media use situations required the subjects to estimate the percentages of the times they use French, English, and other languages (adding up to 100) in the following contexts: 1. with spouse; 2. with children; 3. with relatives; 4. at work; 5. when watching television; 6. when listening to radio; 7. when reading newspapers; 8. when reading magazines or books; 9. when shopping; 10. with close friends; 11. when in school.

The next section of the questionnaire contained questions for consumption frequencies of 35 personal and food items. Also included in the questionnaire were various life style questions using 10-point likert scales as well as those requesting the respondent's demographic information.

Analysis

Methodologically, this study employs a cluster analysis based taxonomic procedure which allows for the detection of groupings with varying degrees of acculturation toward one end or the other on the English-French ethnicity continuum. In contrast to the a priori classification scheme used in the past studies (Deshpande, Hoyer, and Donthu 1986; Valencia 1985; Wallendorf and Reilly 1983; Schaninger, Bourgeois, and Buss 1985), the cluster based approach does not assume in advance any particular number or descriptions of groups.

Since the focus of this study is on English-French Canadian ethnicity, the analysis included only those respondents who reported the use of only French and/or English for all of the eleven communication contexts mentioned in the prior section.

The first step in the analysis plan involved cluster analyzing the subjects with the twelve communication variables (including the 9-point scale question on the language preference for the questionnaire). For each of the eleven communication contexts, the percentage of times English used was subtracted from the percentage of times French used, and inputted into the analysis. Responses on the 9-point scale question of questionnaire language preference was transformed to match the ranges of the eleven communication variables (i.e., 1="I always prefer French questionnaires" was recoded to +100, 9="I always prefer English questionnaires" was recoded to -100, and middle scale points accordingly).

Clustering of the respondents was performed with the BMDPKM program (Dixon et al. 1983). Cluster solutions of two to six group partitioning were examined in terms of the average F-ratio

(average between group variance divided by average within group variance for the twelve variables). This average F-ratio is an indication of the degree of homogeneity among the subjects within each group in a cluster solution. In all of the five cluster solutions, the average F-ratios were very high - 12776, 932, 701, 585, 492 for two to six cluster solutions respectively. An examination of the successive drops in F-ratio (an elbow test) apparently indicated that higher number cluster solutions may still contain quite heterogeneous groups with respect to the twelve input variables. At this point, it was decided that, the four group solution containing two rather unacculturated groups, one French Canadian and one English Canadian, and two groups in-between on the acculturation continuum will be examined for reasons of parsimony in terms of the consumption patterns for the product items mentioned in the previous section.

The next phase of the analysis dealt with the validation of this cluster based ethnic identification with discriminant analysis. With the membership information of the four cluster solution, discriminant functions using the twelve communication variables as independent variables are estimated from a randomly selected half of the total sample (i.e., analysis sample) and are subsequently tested for their accuracy in predicting membership in the remaining half (i.e., validation sample). This process is followed by testing the predictive power of each of the twelve communication variables. This was also accomplished with split sample discriminant analyses incorporating one communication variable at a time as the independent variable and the classification membership as the dependent variable.

The final stage of the analysis involved comparisons among the four clusters with respect to the consumption frequencies for the selected items. The comparisons will utilize analysis of variance and multivariate analysis of variance incorporating several demographic and life style variables as covariates.

RESULTS

The Cluster Based Four Group Taxonomy

Profiles of the four clusters based on their mean values of the twelve communication variables are presented in Figure 1. First, the profile shown on the far left of the figure corresponds to the group which can be labeled as "strong English". They have been educated in English, and English is the predominant language for communications in family, social, and for media use. However, not all of them seem unilingual. On average, members in this group reported a fair amount of use of French at work and when shopping. It appears that some members in this group have acquired some level of competency in French language to facilitate their communication at work as well as in shopping situations.

The next profile to the right pertains to the "moderate English" group. While English appears to be the primary language for these people, the use of French at work, while speaking to relatives and

while shopping is considerably more frequent than the strong English group. It is likely that the moderate English group uses French with relatives primarily because of higher incidence of inter-marriage. Insofar as the communication patterns reflect the degree of acculturation, these respondents appear to have undergone a substantial extent of acculturation toward the French Canadian culture.

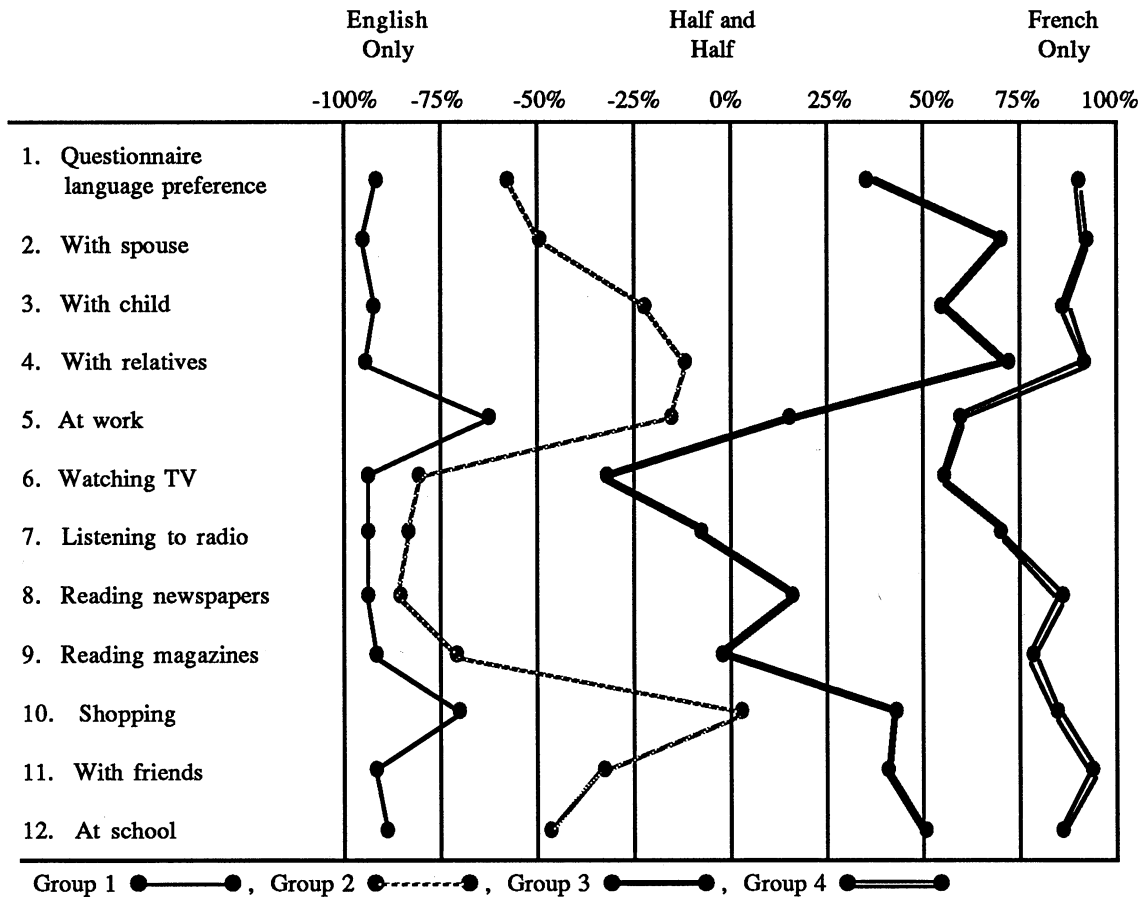
To the right of the moderate English group is the "moderate French" cluster. These respondents communicate mostly in French in the family, work, and social settings. On the other hand, they tend to watch English TV programs, listen to English radio channels, read English magazines more often than those of the French language, and read French newspapers slightly more frequently than English newspapers. Their profile is apparently quite distinct from that of the moderate English group in many aspects. This casts some doubt in the homogeneity of the "bilinguals" category employed by Schaninger, Bourgeois, and Buss (1985). Finally, the profile of the "strong French" group is presented at the far right of Figure 1. Similarly as the strong English group, French is the dominant language of communication at home, with friends, and for their formal schooling. However, they reported a sizeable extent of English media usage. In particular, nearly one fourth of their TV viewing is for English programs. Also noticeable is their fair amount of use of English in work places.

In the subsequent step, using the discriminant analysis, a split-half validation of the four group taxonomy was performed. Results showed that the classification functions developed from the analysis sample predicted the membership of the cases in the validation sample with a 93.2 percent accuracy. With respect to the predictive power of each of the communication variables, results of the twelve split-half discriminant analyses using one variable at a time as the independent variable are summarized in Table 1. Discriminating power of the individual variables, measured in the percentage of the correct assignments made in the validation sample, ranges from 62.5 percent for the language used at work to 80.4 percent for the language of the newspaper. Apparently, no single item matches closely the cluster procedure in its classification results. These findings indicate that the often used single language items (e.g., mother tongue or language most often spoken at home) in the French and English Canadian cross-cultural studies are likely of questionable validity as ethnic classification variables.

Between Group Differences: Food and Personal Product Consumption

The investigation of the between group differences in consumption patterns for food and personal items controlled for the influences of several covariates. As has been noted, there may be differences in various life styles between English and French Canadians which could lead to different consumption behaviors. Five life style dimensions were included in MANCOVA as covariates: traditionalism, financial conservatism, extravagance,

FIGURE 1
FOUR GROUP CLUSTER SOLUTION



CLUSTER MEANS*

Group	1	2	3	4	5	6	7	8
1 (N=88)	-91.0	-96.9	-90.8	-92.8	-63.5	-94.3	-94.3	-96.2
2 (N=57)	-63.0	-49.5	-23.5	-13.3	-18.0	-82.9	-84.1	-84.5
3 (N=75)	36.2	69.4	54.5	73.6	15.6	-30.5	- 9.8	19.1
4 (N=263)	90.3	93.8	86.0	94.3	60.9	53.4	70.6	88.3
Group	9	10	11	12				
1	-92.6	-70.9	-92.6	-89.1				
2	-73.7	2.4	-35.7	-48.8				
3	- 1.1	44.5	43.4	50.5				
4	78.0	85.6	92.3	87.4				

*Between-group differences were significant (p=.000) for all 12 variables.

TABLE 1
PREDICTIVE ACCURACY OF EACH COMMUNICATION VARIABLE

<u>Item</u>	<u>% of Correct Assignment</u>
1. Questionnaire language preference	78.63%
2. With spouse	72.92%
3. With child	73.75%
4. With relatives	75.83%
5. At work	62.50%
6. Watching TV	71.25%
7. Listening to radio	71.25%
8. Reading newspapers	80.42%
9. Reading magazines	75.00%
10. Shopping	71.25%
11. With friends	79.17%
12. At school	65.83%

home orientation, and health consciousness. Also included as covariates were a group of demographic variables: age, household income, household size, working status, education, and sex of the respondent.

Results of MANCOVA on 35 personal and food items after removing the effects of the life style and demographic covariates are contained in Table 2. As shown at the bottom, multivariate tests of difference among the four groups produced a significant result ($p < .001$). A further examination of the univariate analysis results revealed ten items for which a significant between-group difference existed. Among these significant items, the strong English groups showed a highest consumption frequency for four (canned baked beans, popping corn, frozen vegetables, and headache/pain relievers), the moderate English group in two (lamb and paper plates), the moderate French group in one (pasta), and the strong French group in three (maple syrup, frozen pies/cake, and electric shaver).

Partially supported by these results is the French Canadian's liking for sweets. The most frequent consumption of maple syrup and frozen pies/cakes reported by the strong French group confirms the past findings. However, the group showing the second highest average consumption frequency for both of these two items was the moderate English group, closely followed by the moderate French, and then by the strong English. The data in this study does not show a monotonic consumption trend among the four groups in this instance. For the other sweet items included in the analysis, chocolate/candy bars and cola, no significant difference was found in the consumption frequencies of the four groups.

The results also provide some clues to detecting differences among the groups in convenience food consumption. On the basis of the existing knowledge, the strong English are expected to be most convenience oriented in food consumption. The results, again, provides only a limited support for this expectation. The strong

English reported the highest incidence of consuming frozen vegetables and canned baked beans, but no significant between-group differences were found for other convenience food items such as frozen TV dinners, canned soups, and ready-mix cakes. Frequency patterns among the four groups for frozen vegetable and canned baked bean consumption do show increasing consumption trends from the strong French to the strong English.

Another finding of interest is the strong English group's highest consumption frequency for headache/pain relievers, followed by the moderate English, and then by the two French groups. This is contrary to the earlier finding by an industry study by J. Walter Thompson Co. Ltd. (1969). However, the study is 20 years old, and some consumption patterns of both English and French Canadians may easily have changed. What may be reflected in the present finding is the stronger emphasis by French Canadians on *Joie de vivre*. The relatively more pleasure oriented and relaxed life style of French Canadians may be associated with a less need for these remedies.

SUMMARY AND CONCLUSION

Several outcomes of this paper are worth noting. In particular, the cluster analysis based procedure using interpersonal and mass media communication variables proved to be effective in identifying four groups of varying degrees of English-French ethnicity (or acculturation). It provided a basis for a more rigorous examination of the effects of varying levels of acculturation on consumption behavior in the bicultural Quebec environment. It was also shown that no single communication variable was capable of producing classification results comparable to those obtained from the twelve item cluster procedure.

The ethnic classification scheme employed in this study incorporated a realistic assumption that acculturation is a two-way, reciprocal process affecting both cultures in consideration. A look at the profiles of the classified groups revealed that

TABLE 2
MANCOVA ON FOOD AND PERSONAL PRODUCT CONSUMPTION FREQUENCY*

Items	Strong English (N=67)	Moderate English (N=33)	Moderate French (N=56)	Strong French (N=183)	F**
Cold cereal	2.66	2.55	2.77	2.52	1.09
Hot cereal	1.33	1.03	.86	1.18	.60
Maple syrup	1.25	1.33	1.30	1.61	3.23 ^b
Peanut butter	2.49	2.15	2.54	2.85	2.08
Cheddar cheese	3.07	3.15	3.18	3.42	1.67
Imported cheese	1.78	1.97	2.23	2.01	.27
Lamb	.63	.88	.86	.60	2.39 ^c
Frozen fish	1.60	1.36	1.52	1.56	.19
Frozen TV dinners	.39	.33	.46	.42	.18
Canned baked beans	1.04	.73	.71	.71	2.10 ^c
Canned soups	2.01	1.82	1.86	1.75	.42
Frozen pies/cakes	.60	.91	.88	.92	2.62 ^c
Homemade cakes	1.78	1.73	1.48	1.79	.22
Ready-mix cakes	1.09	1.30	1.30	1.19	1.44
Tomato ketchup	2.82	2.64	2.36	2.61	.67
Potato chips	2.06	1.94	1.88	1.94	.64
Popping corn	1.25	1.24	1.14	.90	2.32 ^c
Chocolate/candy bars	1.46	1.85	1.57	1.66	1.09
Cola	2.19	2.21	2.39	1.87	.93
Frozen orange juice	3.40	3.27	3.27	3.14	.69
Sugarless gum	1.01	1.30	1.29	1.23	.16
Pasta	2.54	2.61	2.98	2.82	3.43 ^b
Frozen vegetables	1.94	1.55	1.34	1.21	4.30 ^a
Cologne	2.58	3.39	3.34	2.87	1.35
Electric shaver	1.28	.94	1.30	1.91	3.98 ^b
Disposable razor	1.74	2.30	2.20	1.62	1.11
Regular shampoo	3.13	3.33	3.18	3.21	.39
Dandruff shampoo	1.58	1.24	1.50	1.36	.58
Fluoride toothpaste	4.60	4.97	4.89	4.70	1.16
Mouthwash	1.48	2.64	1.98	1.84	1.93
Headache/pain relievers	1.61	1.45	.96	.96	4.51 ^a
Indigestion aids	.67	.61	.45	.49	1.08
Anti-itch preparation	.19	.03	.34	.27	1.38
Air fresheners-sprey	1.48	1.64	1.55	1.57	.61
Paper plates	.51	.91	.19	.44	6.71 ^a
<i>Multivariate Tests</i>					
Pillais	.52 ^a				
Hotellings	.65 ^a				
Wilks	.56 ^a				

*The sample size is smaller due to exclusion of respondents who had a missing value on any of the dependent variables.

**F value after removing the effects of life style and demographic variables.

^ap<.01, ^bp<.05, ^cp<.10

English Canadians were acquiring French communication skills perhaps nearly as much as French Canadians were acquiring English communication skills.

Substantively, the analysis on the consumption differences among the four groups of different English-French ethnicity indicated significant multivariate results for food and personal product items. First, without the strong and moderate categorization of each group, results produced some supporting evidence for the French Canadian's liking for sweets, highly limited support for the English Canadian's stronger convenience orientation in food consumption. Results also showed a higher dependency on headache and pain relievers by English Canadians. The tests of between group differences made in this study controlled for several demographic and life style variables, thus, are more rigorous than those made in the past.

With regard to the monotonicity in the consumption differences among the four groups on the significant consumption variables, the overall patterns of findings provide weak support. For almost two thirds of the significant items (9 out of 14), mean levels of the moderate ethnicity groups either fell outside the range defined by those of their strong ethnicity counterparts or when in the middle range, did not show the monotonicity between themselves. Thus, these observations are more congruent with those of Wallendorf and Reilly's study (1983) on Mexican Americans' consumption behavior, which did not corroborate the linearity assumption between acculturation and consumption patterns. Yet, while Wallendorf and Reilly observed the Mexican Americans' consumption of several food items exceeding both the Anglo Americans' and Mexicans in Mexico, this was not a noticeable pattern in this study. Also to be noted here is that the test of monotonicity using 4 groups is more stringent than the 3 group classification used by Schaninger, Bourgeois and Buss (1985).

In conclusion, this study has demonstrated that the traditional approach to ethnic identification, especially in the study of English and French Canadian consumption differences, is too simplistic, and that within group differences in each major subcultural group resulting from varying degrees of acculturation are strong and warrant a closer examination.

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Cultural Interpenetration: A Critical Consumer Research Issue for the 1990s

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ABSTRACT

This paper introduces the concept of "cultural interpenetration" and suggests that it is a rapidly growing societal phenomenon that ought to occupy the attention of consumer behavior researchers concerned with macro issues. Several central research issues are proposed.

INTRODUCTION

Consumer behavior researchers are typically concerned with micro and "somewhat macro" processes of consumption behavior. At the micro level, we study how individuals seek information, evaluate alternatives, develop affective responses, plan actions and then decide, act and evaluate. At the "somewhat macro" level, we attempt to understand group behavior of households, neighborhoods or lifestyle segments. For the most part, our methodologies develop explanations of phenomena that cover either one point in time, as in cross-section studies, or relatively short periods, as in studies of scanner-recorded purchase patterns over one or two years.

Focus on these narrower approaches restricts the field's potential to contribute to our understanding of broad, sweeping trends that characterize our modern society or have characterized it in the past. In his 1986 Association for Consumer Research Presidential address, Russell Belk admonished the field that: "Our mission as consumer researchers should in fact be . . . to examine the relationship between consumer behavior and the rest of life." (Belk 1986, 1). Among other things, Belk was urging that we not get so close to our models and our data that we do see the "broader picture." We need consumer behavior studies at the macro level of the entire society and studies that look at formative processes that may take decades to work themselves out. Such studies can focus on either the past or the present and should frequently attempt to understand evolutionary phenomena that will have major impact on our collective futures.

Cultural Interpenetration as a Macro Issue

Three papers at this conference touch upon a macro consumer behavior issue that has received little attention in the field, yet that is going to have a dramatic effect on both local and international social relations over the next fifty years. I refer to what I have termed "cultural interpenetration." By cultural interpenetration I mean the exposure of members of one culture (or subculture) to another through direct experience and/or indirectly through the media or the experiences of others. This, of course, is not a new phenomenon. Over many centuries, a major impact of wars, conquests of new continents, political alliances, religious crusades, and many and diverse trade developments has been to provide opportunities for particular populations

to be exposed to -- sometimes in extremely unpleasant ways -- the influences of other peoples and cultures.

In a very specific example, Costas (1989) describes how the little Greek island of Cephalonia over the years came under the dominance of a number of Western European cultures, most prominently the Venician and Greek cultures. These experiences have had lasting effects on the social structures, values and consumer behavior of residents of the island today. Costas also points to examples of other kinds of cultural interpenetration that have been taking place in the last several decades. For one, Cephalonians have been exposed to Western European cultures when they or members of their families or villages have gone abroad to serve as migrant workers. More recently, they have had contact with mainland Greeks, Europeans and some North Americans who have come to their island as tourists. And, finally, although Costas does not focus on it, there has been the growing exposure of island natives to such exotica as Hollywoodian and British culture through radio, television, magazines and newspapers.

While Costas focuses on geographic interpenetration, Dawson, Stern and Gillpatrick (1989) have studied relationships among social classes within a specific geographic area in terms of their consumption behavior. These authors investigated social class norms and the extent to which the availability of income to acquire the consumption norms of a class affects store choice. Obviously, one important determinant of this process is whether specific consumers identify with others at their own social class level or aspire to be like their "betters." It is certainly a hallmark of the late 1980s that members of all classes are now increasingly able to penetrate vicariously the inner workings of higher social class cultures through television programs like "Dallas", "Dynasty" and "Lifestyles of the Rich and Famous" and through upscale magazines such as *Town and Country* and *Architectural Digest* (see also, Hirschman 1989).

Kim, Laroche and Joy (1989) focus on a third kind of intercultural penetration, namely the horizontal interpenetration of two cultures in a relatively small geographical area that differ primarily in language. Their paper explicitly looks at the extent to which French and English cultures in Quebec Province are involved in the culture of their opposites, at least in terms of speaking in the other culture's language and reading their newspapers. These authors found newspaper readership to be a strong indicator of a person's language grouping, confirming that cultural interpenetration has both direct and indirect causes and consequences.

A Growing Phenomenon

Intranational and international cultural interpenetration is a phenomenon that has heretofore been little explored in consumer behavior research. It is also a phenomenon that is destined to grow significantly in the next quarter century. Two sweeping changes, one under way, one in the offing, make it essential that consumer behavior researchers pay it particular attention. The first change is the accelerating rate of in-migration of new immigrant groups into the United States. In the last two decades, the U.S. has had a major shift in the inflows of other nationalities into the culture. In the first half of the century, the principal immigrant groups were from cultures not greatly different from that already here. These include the Irish and Italians in the 19th and early 20th centuries and the Central Europeans in the late 1930s and 1940s. However, since the late 1960s, the United States has experienced a major shift in the source of its immigrants. The new immigrants are heavily concentrated in six major Asian cultures that are dramatically different from that with which most Americans are familiar.

In the 1960s, families and individuals from Western Europe comprised 37 percent of all immigrants to the U.S. and Asians 13 percent. However, in the period from 1981 to 1986, 11 percent of immigrants were from Western Europe and 47 percent were Asian (*Statistical Abstract of the United States* 1988).

The United States is also being impacted by the growth internally of another, very different culture, the Hispanic. Between 1980 and 1985, the Hispanic population grew at five times the pace of the population as a whole. Hispanics now comprise one in every fourteen Americans, a ratio that is expected to continue to grow until they become the dominant racial and ethnic minority in the country. It is estimated that Blacks and Hispanics will together make up 37 percent of the population in 2080. (What Lies Ahead, n.d.)

The aforementioned statistics understate the impact of the cultural penetration of the Asian and Hispanic cultures since they are not spread evenly throughout the country but, rather, are heavily concentrated in specific areas. Seventy-five percent of Asians now live in five states, California, Hawaii, New York, Illinois and Washington. Hispanics are even more concentrated: 60 percent live in just three states, California, New York and Texas.

The second major broad social change that will dramatically affect future world cultural interpenetration is the removal of economic and social barriers between the European Common Market countries in 1992 and potentially within the Eastern bloc beginning in 1989. Levels of permanent and temporary migration may be expected to increase dramatically, as presumably will short-term culture sampling through intra-European vacationing and exposure to other European media.

Implications for Consumer Researchers

If cultural interpenetration is to be one of the most striking characteristics of the United States and Europe in the next decade, consumer researchers owe it to both their discipline and to the society as a whole to attempt to describe and explain both the nature of this interpenetration and, perhaps most importantly, its consequences for both the cultural groups doing the "penetrating" and the cultural groups being "penetrated." Not only is it important from the society's standpoint that we study cultural interpenetration, it is also important for the advancement of our knowledge at the micro and "somewhat macro" levels. For example, I have argued elsewhere (Andreasen forthcoming) that the opportunity to study aspects of consumer behavior that are *extremely involving*, such as occurs, for example, when a peasant flees from Cambodia to Los Angeles, can put into stark relief basic consumer behavior processes that are difficult to see in the slower moving, less dramatic evolution of our typical middle class "native" subjects.

Among the topics that merit attention are the following:

1. Just to what extent is a cross-section of a given population exposed to other cultures, directly or vicariously, on a long-term or short-term basis? How many different cultures does this involve and what is the "depth of exposure"?
2. Just how do we measure "depth of exposure"? What are the relevant dimensions? How does one calibrate them? Are some dimensions more lasting than others?
3. Is the effect of going to a culture (even by TV or a movie) different from having it come to you (i.e. having a Cambodian move in next door or join your business or religious group)?
4. What differences are there across individuals in the extent of intercultural penetration? Are these related to personality traits, economic circumstances, chance?
5. For those who chose to enter another culture on a reasonably long term basis, what is the *process* by which acculturation takes place? What aspects of the new culture (e.g. products and services) are adopted rapidly, which ones slowly? What aspects of the former culture remain? What "blending" of former and new cultures takes place (and how do we describe it)? (An issue of particular interest to social marketers would be the impact of the nonsmoking U.S. culture on immigrant Asian teenagers and adults. The latter are notoriously heavy smokers; anything we might learn that could accelerate their adoption of healthier lifestyles would produce major social benefits.)

6. Do migrants enter the new culture at the same social class level as they held in the former culture? Do people from poorer countries (e.g. Thailand or Costa Rica) enter the new culture at a lower level and move up? Do those moving to a poorer culture move up in social status?
7. If cultural interpenetrators move to a different social class in the new culture, do they really have to learn *two* cultures (i.e. how to be a Mexican resident and how to be a relatively affluent businessperson in the Mexican culture)? If they do have to learn a new class (up or down), do they adopt the class norms (e.g. in consumption) from their old culture or from the new?
8. How does vicarious and first-hand experience differ in the way it is processed or in the memory traces and structures it leaves? Fazio and Zanna (1978), for example, suggest that direct experience has a greater effect on attitude and eventually behavior. Does this explain, for example, individual differences in willingness to visit or work in a particular country or region or to seek to interact with members of a particular culture?

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Consumption Styles of the Rich and Famous: The Semiology of Saul Steinberg and Malcom Forbes

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"Maybe it's a little understated."
(Corporate raider Saul Steinberg, on his birthday party which featured a tent full of exotic birds, tapestry tablecloths and nude models posed as Flemish paintings.)

INTRODUCTION

An aspect of consumer behavior receiving increased attention in recent years is acts of an *obsessive* or *compulsive* nature (cf, Faber and O'Guinn 1988; O'Guinn and Faber 1989; Rook 1987; Holbrook 1987; Lehmann 1987; Pollay 1987a). The consumer may go on shopping, gambling, eating, or drinking binges, often with destructive consequences to self and family. Often the consumers who engage in these activities do not have the financial (or emotional or mental) resources to fund their behaviors, and the results are seriously dysfunctional from both a societal and personal perspective (Faber, O'Guinn, and Krych 1987; Moschis, Cox, and Kellaris 1987).

The present study examines obsessive and compulsive consumption from a different vantage point by detailing the behavior of two of the world's wealthiest and most prodigious consumers -- Saul Steinberg and Malcolm Forbes. Steinberg is 50 years old, is worth over 400 million dollars and is currently ranked in the top ten on the *Forbes'* list of affluent Americans (*Forbes*, October 24, 1988, p. 219). Forbes is 70 years old, is worth approximately 400 million dollars and also is currently ranked in the top ten on the *Forbes'* list (*Forbes*, October 24, 1988, p. 219). In addition to achieving celebrity status for their many accomplishments in business, both have also become popularized through their notable acts of consumption.

The present study proposes that through examining the consumption styles of highly affluent consumers, we may better come to understand some of the rationales underlying obsessive or compulsive consumption. It will be argued that in Steinberg's case such consumption acts are purposeful attempts to attain upward social mobility. It will be proposed that in Forbes' case, his seemingly random acquisition of objects may indicate a deep-seated desire for public recognition and environmental mastery, especially of a technological-mechanical nature.

METHOD

The study focused upon two recent articles featuring Steinberg and Forbes, respectively, in media directed to the affluent. The Steinberg article, "Barony on Park Avenue," appeared in the November, 1985 issue of *Town and Country* (Moonan 1985). The Forbes article appeared in the March 1988 issue of *Architectural Digest* and was titled "Malcolm Forbes at Timberfield" (Buckley

1988). These articles were chosen as illustrative of their subject's consumption style and values in that both Forbes and Steinberg had to invite the journalists to their homes, agree to be interviewed, and pose for several photographs of themselves and their possessions. Their willingness to permit themselves to be thus subjected to public scrutiny (and their presentation of self-identity and possessions while under such scrutiny) reveals much about their ideology, both as consumers and people. In essence, they are "showing off" themselves and their possessions with the intent of accomplishing some social identity goal. By examining what and how they attempt to "show off," much can be learned about them.

The present author had recently conducted a large-scale study of the ideology of the affluent (Hirschman 1989), which surfaced some of the general themes and images common to this group of consumers. The present effort, by focusing more tightly on two specific, affluent consumers, is intended to provide a more detailed glimpse into how the ideology of affluence may be manifested in individual lives.

A hermeneutical approach based on the philosophies of Barthes (1964), Baudrillard (1981), and Dilthey (1976) was used to interpret both the text and visual imagery in the two magazine articles. Extensive excerpted material and photographs from each article are included to permit the reader to assess directly the quality of the interpretation rendered.

SAUL STEINBERG

The headline to the first article reads "Barony on Park Avenue," creating a metaphorical allusion between the Steinberg residence and royalty and nobility, as well as linking the locale of the residence to a well-known Upper-class street, i.e., Park Avenue in New York City. The subheading states, "Saul P. Steinberg and his wife Gayfryd have transformed a triplex once owned by John D. Rockefeller, Jr., into a baronial home boasting one of the country's best collections of old masters [paintings] (Moonan 1985, p. 235)." This brief introduction provides several semiotic clues as to the consumption identity of the Steinbergs and initiates some themes which are carried throughout the article.

First, the Steinbergs are associated (through their residence) with legendary industrialist and philanthropist, John D. Rockefeller. By acquiring the apartment once owned by Rockefeller's son, the Steinbergs are signalling their desire to follow in Rockefeller's social footsteps and thereby gain entry to the Upper class. (Steinberg grew up in a middle-class Brooklyn family.) The primary route by which the Steinbergs plan to make their ascent is also identified in the text: they possess "one of the

country's best collections of old masters." Thus, the Steinbergs intend to use the tried-and-true route of aesthetic bequests and collecting to achieve upward social mobility.

The introductory passage also alludes subtly to the Steinbergs' somewhat ostentatious and overstated manner of publicizing their intentions -- their 'baronial' home 'boasts' the collection of prominent paintings. Thus, we are told by the writer-observer, the Steinbergs are still perhaps too much in the *nouveau* stage of their monetary life cycle. They have not yet settled into a comfortable familiarity with their wealth.

The first print image presented in the article largely reiterates the textual message. It depicts a portion of the Steinberg living room centered around a large Titian painting in a heavy gilt frame. On either side of the Titian are several smaller old masters paintings; the room setting also includes tables inlaid with elaborate marquetry, gold encrusted candlesticks, a pair of gold sconces mounted with white porcelain birds, crimson-colored brocade wallpaper, and a crimson couch. The caption reads, "Walls covered in crimson Fortuny [fabric], chairs in silk, and gilded French appliques are the opulent setting for paintings like the ravishing Titian in the Steinberg living room." The imagery of both the photograph and caption suggest the lavish display of wealth centered around important works of art.

The article's text moves on to provide some insights in Steinberg's motivations for acquiring art. "... [Steinberg] moves into a description of his last visit to the Tate [gallery] in London, where his *Triptych* by Francis Bacon was recently shown to rave notices... 'It was a great thrill to own the centerpiece of the exhibition,' Steinberg notes (Moonan 1985, p. 238)." This excerpt portrays Steinberg's search for international social acceptance vis a vis his remarkable art possessions. Still, his personal insecurity in the role of art patron is evident in his "thrill" of owning (and *being*) the center of so much aesthetic acclaim.

As the text continues, it outlines in greater detail the role of *novice aesthetic scholar* which Steinberg (and his wife Gayfryd) play. They are eager to seek information on artistic and intellectual subjects as a way of furthering themselves socially and also are anxious to display their new-found sophistication. For example, the text notes, "[Steinberg] eagerly asks about French architects who might renovate the Grand Hotel in Cap Ferrat, a new acquisition (p. 237)." He later comments, "I thought about becoming an architect once" and then describes in detail his "contemporary and starkly elegant Charles Gwathmey-designed corporate headquarters on Park Avenue (p.237)." The text suggests that Steinberg is anxious 'to do the right thing' aesthetically. Lacking confidence in his own inherent taste, he seeks out references to others who can make the socially correct design decisions for him.

Steinberg also appears anxious to exhibit the intellectual knowledge he has acquired -- to portray himself as a capable and enthusiastic student of the

Upper-class ideology. The text notes, "... He launches into a five minute monologue on Winston Churchill, what a great statesman he was; what an outstanding leader, ... [Steinberg] is now collecting first editions of Churchill's books (p. 238)." This form of collecting permits him to associate himself with an eminent political figure, while also demonstrating the appropriate intellectual appreciation for Churchill's talents.

Steinberg's goals in collecting art and scholarly possessions are vividly embedded in a second photograph taken from the article. It is captioned, "In the great English country homes, they live with extraordinary art and make a house a home," says Gayfryd Steinberg (p. 240)." The photograph depicts Saul and Gayfryd in formal evening attire in the front right-center of their living room. A seated Gayfryd wears a gold silk Scaasi dress and diamond jewelry. Saul, in evening formal wear, stands behind her; hands in his pockets. They both gaze at the camera. Behind them is an antique harp and music stand; to the left is an ebony Steinway grand piano, its keyboard open and sheet music laying on the bench. The crimson silk walls of the room are hung with several large gilt-framed masterpieces. Crystal and porcelain figures trimmed in gold leaf rest atop virtually every vertical space. Recessed lighting highlights the most significant possessions. The Steinbergs are effectively ensconced in their art. Their home is their social showplace; an exhibition of acquired 'good taste' *in extremis*.

Following the hallowed route to Upper-class acceptance through philanthropy (Aldrich 1988), Steinberg has donated both funds and art works to the Metropolitan Museum of Art in New York City. "[His] contributions to the Met -- the Fortuny on the gallery walls, the Frank Lloyd Wright room, the reinstallation of the Greek and Roman treasury, several educational programs, and even the half-million dollars necessary for the museum to do a catalog of its own collection... have totalled millions of dollars (p. 241)," notes the text.

These activities have endeared Steinberg greatly to the director of the Metropolitan Museum, who is shown with the Steinbergs in one photograph in the article. The caption to this photo states, "In the magnificent library, Saul discusses paintings with friend Phillippe de Montebello, the director of the Metropolitan Museum of Art, Saul's favorite 'charity.' Gayfryd sits under Joachim Wtewal's *Annunciation of the Shepherd*, 1606, the first old master Saul bought (p. 242)." There are several notable aspects of this photograph. First, the fact that the museum director was willing to drop by the Steinbergs' house while photos for the magazine article were being shot signifies that Saul's patronage of the arts has also bought him the services of significant art personnel. Perhaps more significant, however, is the positioning of the three figures in the photo. Both Saul and Gayfryd are seated upon the library couch attentively looking upward toward Mr. Montebello,

who stands, gesturing, in front of them. The image is very much one of a student-teacher relationship.

The library, itself, does not appear to be heavily furnished with books -- much of the available shelf space is given over to porcelain figurines and photographs. Two incongruous furnishings in the library are the enormous red draperies, which accent an enormous red couch, and blue, hi-tech track lighting mounted on the ceiling. These elements seem to be out-of-proportion-to and out-of-synch-with, respectively, the rest of the room and reinforce the inconsistent success with which the Steinbergs have communicated their social class goals through their choice of possessions.

A final photograph, also intended to demonstrate the Steinberg's commitment to Upper-class ideology, communicates once again their missteps, as well. This is a picture of the dining room and is captioned "Jacob Jordaen's *The King Drinks* over the sideboard sets a joyous mood for formal dinners (p. 245)." The dining room is dominated by a long, dark wood table set very formally for ten diners. Each place setting is marked with an ornate silver card holder naming the guest to be seated. The head setting of the table is designated "Saul." The other dominant image in the photograph is the long, dark painting, *The King Drinks*, whose central figure is a fat, jovial man with crowned head and full mouth -- an unwitting metaphor for the present host; (Steinberg is a large, heavy-set man).

It is evident that much effort has gone into the presentational qualities of the room. The chandelier chain and dining chairs have been wrapped in brocade cloth, as is the current fashion; fresh-cut flowers have been placed as a centerpiece; each setting has three cut-crystal goblets; a large oriental rug bedecks the floor, and an elaborate oriental lacquered screen stands nearby. There are lit candles in the candelabrum, and a pepper mill and salt bowl are used instead of shakers. In the photograph Gayfryd carefully instructs a servant, who holds a silver tray, in the correct placement of each goblet.

Into this concerted attempt at refined tastefulness, however, creep two notes of inauthenticity. Above Gayfryd's head glitters a constellation of hi-tech, industrial-style track lights, brightly beaming down to provide more sparkle to the opulence below. Their incongruity with the otherwise traditional setting is jarring. And below Gayfryd's carefully posed hand lies the other etiquette faux pas -- beside each dinner plate is a lavishly embroidered dinner napkin colorfully emblazoned with the initials S.P.S., announcing too boldly their owner's name.

In closing, some additional comments are appropriate. The above analysis was not intended to either laud or demean Saul Steinberg and his consumption patterns, but rather to demonstrate how consumers reveal their obsessions through their consumption. What Saul Steinberg wants -- as evidenced by his behavior as a consumer -- is to achieve social acceptance into the Upper-class. He

is an avid collector both of art and knowledge in his quest for this goal. He is an avid philanthropist for the same reason. And there would seem to be no fault or shame in pursuing this obsession; many of us do the same, with markedly less success than Steinberg has achieved.

In fact, it is somewhat ironic that it is Steinberg's chronic *overachievement* (he was a graduate of Wharton at 19; a multimillionaire at 29) that most often gives away his implicit intentions and goals. Typically, he *overacts* his commitment to art, culture, and scholarship by too eagerly trying to impress others with his paintings, his crimson wallpaper, his knowledge of architecture and Winston Churchill, and his monogrammed table napkins. Quick and capable learner that he is, however, Steinberg will likely soon learn that subtlety, modesty, and the art of understatement are the values he now needs to acquire to reach his goals (cf, Aldrich 1988).

MALCOLM FORBES

The article is titled, "Malcolm Forbes at Timberfield: The Publisher's New Jersey Estate" signalling at once the celebrity prominence of the featured consumer and the socially significant nature of his house: an estate named Timberfield. The article opens with a description of a social event hosted by Forbes which encodes several cues as to his consumption style and obsessions:

"When he threw a party for twelve hundred of his closest friends last May..., Forbes had to hire a free-lance air traffic controller to keep order among the thirty-three helicopters. *People* magazine concentrated on Forbes' two escorts for the evening, Elizabeth Taylor and Jerry Hall; the *New York Times*, sensing that a new status symbol had been born, focused on the air traffic controller (Buckley 1988, p. 95)."

The opening phrase "twelve hundred of his closest friends" suggests the central irony in Forbes' behavior as a consumer: he is a consummate collector -- of friends, houses, automobiles, toy soldiers, motorcycles, and sensory experiences (e.g., hot air ballooning) -- but appears to establish few enduring, intimate relationships either to people or possessions.

The helicopters used to ferry guests to his party signify a second aspect of Forbes' obsessions in consumption -- a fascination for things technical-mechanical in nature. (This will become more evident in subsequent textual excerpts and visual images taken from the article.) Finally, Forbes is obsessed with media attention. Reporters from several magazines and newspapers were invited to document the party cited above; and all of his various residences, as well as his yacht, the *Highlander V*, have been featured in articles in *Town and Country* and *Architectural Digest*. It is as if he desires not only to consume copiously, but to have

that consumption acknowledged and documented publicly.

The article continues to reinforce these themes by cataloging Forbes' achievements as a consumer: "[He] owns a [French] chateau, a [Moroccan] palace, a house in London, a quarter-million acre ranch in Colorado, a mountain house in Montana, and an island in Fiji. But Timberfield... is the place he [goes] most weekends, assuming he is not ballooning across the Peoples' Republic of China or motorcycling across Germany... Forbes is to art, bric-a-brac, toys, and anything collectible what a magnet is to iron filings (p. 95)."

Thus Forbes' obsession with collecting is extremely diverse and eclectic. Unlike Steinberg, whose collecting is focused almost exclusively on high quality, high-visibility art works, Forbes at times seems to acquire objects almost randomly, simply because 'they are there.' The text notes, for instance, the presence of a plate of plastic shrimp salad and noodles carefully stashed atop leather volumes in his library.

A prominent aspect of Forbes' consumption style is his fascination with motors, technology, and machinery. The opening visual image in the article provides a signifying cue for this; its caption reads, "A spectacular 1932 Packard dual-cowl phaeton [automobile] is parked in front of the garages and group of guest cottages at Timberfield, Malcolm Forbes forty-acre estate in the verdant New Jersey hunt country (p. 92)." A smaller photo of Forbes, himself, crisply dressed in a navy blazer, white shirt, and white pants is inset into the right hand corner of the larger image. The predominance of the elegant-but-jaunty, British-green Packard automobile (an old but still very potent machine) in the front left of the photograph forms a visual metaphor for Forbes, the man, also advanced in years but still (the image and text suggest) very virile in spirit.

Mechanical imagery is also carried over very distinctly to the text's discussion of Forbes' recently re-designed bedroom: "[Forbes] gave the commission to noted yacht designer, Jon Bannenberg, who had previously designed Forbes' Boeing 727 and his motor yacht... [The bedroom] has leather-upholstered ceilings, flamed and polished Italian granite, bird's eye marble panelling, raw linen, spot lighting, mirrors, and enough chrome to plate a '57 Caddie... Hot water flows continuously through the oversized bathtub rails, the shower nozzle might have been designed by McDonnell-Douglas, the bed rotates 360 degrees, Roman shades lower electronically, and the lighting comes in four moods (p. 97)."

The photograph accompanying the text description of the bedroom provides additional evidence of Forbes' affection for the mechanical. The predominant colors of the room are machine-colors: blue, gray, gray-green, and beige. The room is lit by industrial-style ceiling lights; in the room's center is an enormous stacked collection of media equipment (VCR's, television, radio receiver, c.d. player). The gray granite walls and pillars

evoke a corporate building. One glass wall is imprinted with blueprint designs and technical renderings. And above the granite fireplace is a portrait of Forbes, by Salvador Dali, astride a motorcycle. The prevailing semiotic image is one of man-and-machine, or perhaps even more aptly, man-as-machine.

Like Saul Steinberg, Forbes has enhanced the social presentation value of his house by utilizing the services of well-known, elite designers and by acquiring and displaying objects which he feels will effectively communicate his sense of self. The article's text states, "In the living room, [designer] Mario Buatta has brightened the general mood with chintz and a carpet the size of the Nimitz's flight deck... [A painting over the fireplace] is an early Toulouse-Lautrec work, formerly in the collections of Somerset Maugham and Huntington Hartford... The stag over the window bears a little plaque attesting to its having been shot within sight of Windsor Castle by Lord Talfer Smollet in November 1832 (p. 97)."

The objects displayed by Forbes are more eclectic than those collected by Steinberg, perhaps indicating Forbes' greater diversity of interests and desire for a sense of adventure. But, like Steinberg, they are also intended to demonstrate to visitors his association through acquisition with celebrity achievers (e.g., Huntington Hartford) and prominent artists (Toulouse Lautrec).

A photograph of the living room is captioned "'Sunken living rooms were an [architect] Musgrave Hyde signature,' says Forbes. The painting over the mantel is *Wedding Feast* attributed to David Vinckboons. In the rear bookcase are models of four of the five Highlander yachts that Forbes has owned since 1957 (p. 97)..."

There are some marked differences between the Forbes' living room and that of the Steinbergs. The decor in the present instance is much more muted and subtle, with predominantly pastel shades. There is a large collection of bound leather volumes exhibited in built-in book shelves, signifying Forbes' attention to intellectual pursuits; (recall that fine art, not literature, were present in the Steinberg living room, which also was much more vivid in hue). The photograph also shows a large, unordered collection of family photographs atop an ebony grand piano. This signifies the importance of lineage and kin to Forbes and also suggests that the piano is there for display purposes only, as playing it would require removal of the entire photo collection. Art books also are placed on the coffee table, as in the Steinberg library, to signify arts patronage; although the relative paucity of Forbes' art collection -- as compared to that of the Steinbergs -- suggests that art is not his social strong suit. As in the Steinberg house, Forbes' living room displays fresh-cut flower bouquets to indicate his appreciation for beauty and nature.

The photograph of the dining room also encodes several cues as to Forbes' particular values and obsessions as a consumer. It is captioned, "The Regency dining table is set with a circa 1810

Chinese Export service. The painting is *The Forbes Family at Easter Lunch, 1983*, by Julian Barrow (p. 98)." The caption includes three significant semiotic elements. First, it denotes Forbes' acquisition of expensive antique furniture (i.e., the Regency table), his fascination with collecting foreign exotica (the 1810 Chinese Export table service), and his apparent reverence for familial ties. This latter cue is expanded by visual inspection of the family painting hung in the dining room. The portrait depicts three generations of the Forbes family gathered in the dining room around the Regency table. Forbes is the predominant, central figure (recall the "fat king" depicted in the Steinberg dining room painting), and is clearly signified as the patriarch of this large, assembled clan. His wife is a distant figure at the back of the painting's perspective. Her 'distance' from Forbes was apparently emotional, as well, as they divorced only a few years after the painting was made.

The present photograph of the dining room (in which the painting is hung) shows some markedly revealing changes since the painting was made. The *current* place settings at the dinner table show that a place card titled Elizabeth Taylor has now been set in his wife's former place; next to that is a place setting designated for Walter Annenberg. Significantly (both semiotically and socially speaking), it seems that Forbes' wife and family have been replaced in recent years by celebrity lovers and prominent business associates.

The table setting also suggests some interesting contrasts with that of the Steinberg dining room. The room is lit by two candelabra on the dining tables and candles on the sideboard. Track lighting is notably absent. Dining room chairs are not 'wrapped' in fashionable fabric; and the napkins are unembossed plain white linen. The one ostentatious note on this otherwise consistently understated table setting is the gold-filigree-rimmed crystal goblets.

Thus, Forbes' 'obsession with possession' appears to be more diversified and less overtly aimed toward social climbing than Steinberg's, although Forbes seems more bent on achieving notoriety among the general public. He displays his possessions more publicly (e.g., the invitation of press coverage to his 'private' parties) and seems intent on achieving visibility with his choice of escorts -- the article notes his recent liaison with Elizabeth Taylor three times: as his party companion, as his dinner guest, and finally by observing in the text: "[There is] a cashmere blanket over [his] bed embroidered 'Malcolm, my sweet, With my love, Elizabeth,' a gift from Miss Taylor, whose purple Harley-Davidson is parked in the garage, along with Forbes' thirty motorcycles (p. 98)." That statement seems to sum up well the essence of Forbes' consumption obsessions: celebrity, machinery, and quantity -- not necessarily in that order.

DISCUSSION

Most studies which examine obsessive consumption have focused upon consumers whose personal resources were overwhelmed by their obsessions, and who subsequently suffered negative consequences -- as did their families (cf, O'Guinn and Faber 1989; Faber and O'Guinn 1988; Faber, O'Guinn, and Krych 1987). This form of obsessive consumption is easily categorized as normatively dysfunctional both for the individual and society, because its consequences are clearly destructive.

When we encounter consumers such as Saul Steinberg and Malcolm Forbes, however, the traditional framework for dealing with obsessive consumption is not so helpful. Clearly, Steinberg and Forbes are classifiable as 'obsessive' consumers. One (Steinberg) has turned virtually his entire residence into a museum; valuable paintings and sculptures are found in every room of his triplex apartment. He expends millions more on donations to the Metropolitan Museum of Art -- philanthropy which, these, days, does not even provide him with a substantial tax write-off.

And yet, there is clearly method to his madness. Steinberg's fascination with fine art is likely driven by two not-irrational motives. First, as the text makes clear, he does *enjoy* his paintings; they have aesthetic value to him. Clearly also, he recognizes that a refined aesthetic sensibility is a prerequisite to social acceptability among the upper reaches of the Upper class. To be truly accepted requires not only vast quantities of money (which Steinberg has), but also evidence of 'refined' taste, which he is avidly pursuing (Aldrich 1988).

Malcolm Forbes' motivations for his obsessive pursuit of celebrity, machinery, and apparently just about everything else *in quantity* are different from those of Steinberg and more difficult to identify. Perhaps they are expressions of an extraordinary level of sensation seeking (cf, Zuckerman 1979). Perhaps they are the strenuous efforts of one man to accumulate a material sense of self identity, as in *Citizen Kane* (cf, Hirschman 1990).

Regardless of their psychic origin, however, the consumption obsessions of Forbes -- like those of Steinberg -- create a challenge to current theorization on obsessive behavior, because they are not clearly categorizable as destructive to the consumer or to society. They may even have some psychic and social benefits. Just as Steinberg derives both pleasure and social mobility through his art collection, Forbes appears to enjoy his hot air balloon excursions, his motorcycle rallies, his parties for 1,200 people, and his dates with Elizabeth Taylor. Is it possible that obsessive consumption can be both functional and fun? Could those consumers who have adequate resources to pursue their obsessions actually enjoy and benefit from them?

It is possible that the answer may be 'yes.' Recent works by Holbrook (1987), a self-confessed jazz fanatic, Lehmann (1987), a self-confessed body-building fanatic, and Pollay (1987b), a self-

confessed obsessive advertising collector (and, we presume, all thoroughly sane and rational consumer researchers) each report several benefits they have derived from their obsessions. Like Steinberg and Forbes, they seem to have found ways of *controlling* their obsessions and guiding them in personally productive ways, rather than being *devoured* by them financially and emotionally, as so many other consumers have been.

The point of all this is simply that consumer obsessions, in-and-of-themselves, may not necessarily be dysfunctional; indeed they may serve some beneficial social and personal functions; (visitors to the Metropolitan Museum, for example, have certainly benefited from Steinberg's bequests). Thus, a fruitful avenue for future research would appear to be examining consumers who have gained positively from their obsessive behavior. By doing so, we may learn their methods for controlling the potential for obsessive destruction and instead extracting the potential for obsessive good.

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A Relational Model for Category Extensions of Brands

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ABSTRACT

This paper introduces a relational model for studying the effects of brand-category, category-brand, and category-category associations on the potential success of extending a brand to a new category. The paper describes the managerial significance of category extensions, considers methods for measuring the different associations, and discusses the implications of recent research on category extensions.

BACKGROUND

Many firms capitalize on brand names that are well-known in one category by extending them to products in other categories that are new to the firm. For example, Tauber (1981) cites Jello Pudding Pops, Bic Disposable Lighters, Woolite Rug Cleaner, and Clairol Hair Blow-Dryer as successful extensions of familiar brands to new categories.

Farquhar (1989) describes two types of "brand extensions". A "line extension" applies an existing brand name to a product in one of the firm's existing categories. On the other hand, a "category extension" applies an existing brand name to a category that is new for the firm (Tauber, 1981). Our interest here is the study of category extensions of brands.

Potential benefits of category extensions include immediate name recognition and the transference of benefits associated with a familiar brand. For example, Chipman-Union's introduction of branded deodorizing athletic socks in 1980 was helped by licensing the "Odor-Eater's" name used originally by Combe, Inc. for its successful line of deodorizing foot-pads.

Moreover, category extensions eliminate the high costs of establishing a new brand and often reduce the costs of gaining distribution (e.g., Morein, 1975; Kesler, 1987). Such advantages have even led some companies to resurrect "has-been" brands; Pfizer revived the Barbasol brand and extended it first to a new line of aerosol-foam shaving creams (Saporito, 1986) and then to shaving gels and anti-perspirants.

A well-known brand name does not guarantee a successful extension. Abrams (1981) points to Arm & Hammer anti-perspirant, Life Savers gum, and Welch's prune juice as extensions that failed. Indeed, an extension can weaken the parent brand in the original category (Tauber, 1981).

Therefore, leveraging a brand's equity through extensions to new categories carries both opportunities and risks. The opportunities are represented by the firm's growth potential in the new category. Risk comes not only from a new product failure, as noted above, but also from the success of a category extension. Success carries the risk that the entire brand franchise can be diluted.

Ries and Trout (1986) describe many of the dangers of over-extending a brand name, and generally advise against category extensions.

THE RELATIONAL MODEL

Farquhar (1989) defines *brand equity* as the "added value" that a brand endows a product; this added value can be viewed from the perspective of the firm, the trade, or the consumer. Brand equity from a consumer perspective is reflected by the increase in the strength of associations an individual has for a product using the brand.

This paper specifies more precisely the structure of these associations and seeks to identify the processes which mediate consumers' judgments of a category extension of a brand. Herr, Farquhar, and Fazio (1989) implement the relational model by measuring (a) the strength of associations between brands and product categories, (b) the relatedness of different product categories, and (c) the transferability of features between a parent brand and a new item in a different product category. Some of their key findings are summarized here.

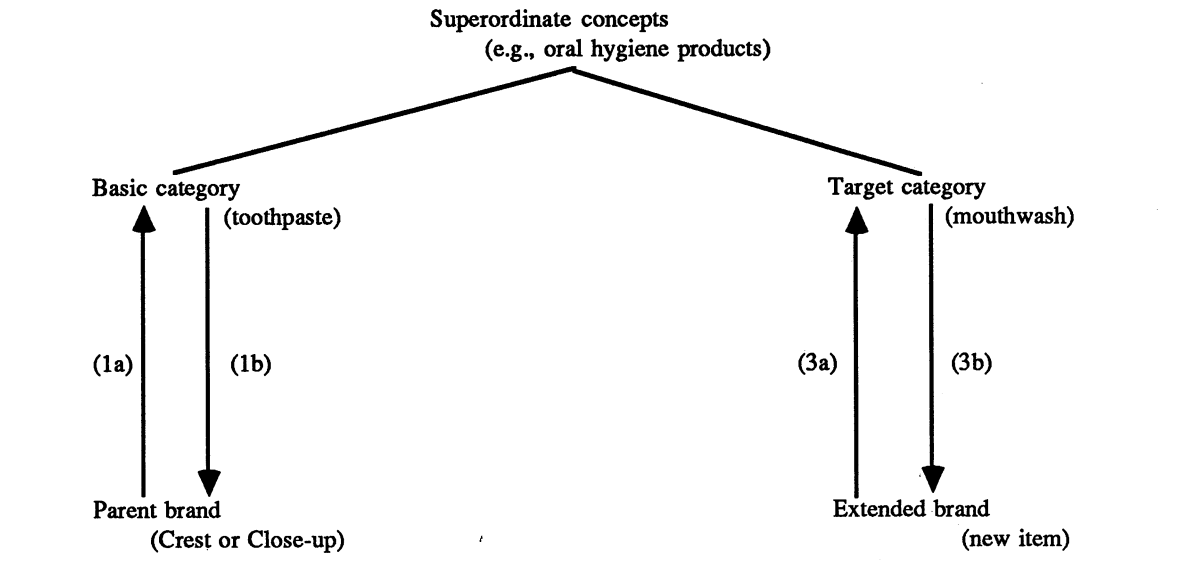
Figure 1 describes the *relational model* for investigating product categorization and brand extensions. The "parent brand" is presumably associated with only one product category, called the "parent category". Thus the basic model considers neither "family brands" used across several categories, such as IBM or Kraft, nor "ambiguous brands" that evoke multiple, unrelated categories, such as Cadillac (automobiles and pet food) or United (airlines and gasoline). The relational model can be modified later to accommodate these generalizations if necessary.

The *brand-to-category association* in (1a) measures the likelihood that observation of the parent brand activates various features that characterize the basic category. For example, Crest is strongly associated with the features of toothpaste, while for many consumers Close-up is weakly associated with the toothpaste category. We refer to the "brand-to-category associative strength" as *typicality* (Smith and Medin, 1981). Barsalou (1985) discusses possible determinants of typicality, while Loken and Ward (1987), Ward and Loken (1988), and others describe recent consumer studies of typicality.

One measure of brand-category associative strength or typicality is the time subjects take to respond correctly to the query, "Is a product with brand X sold in category Y?" By comparing response latencies within a given product category, we can establish the relative typicality of a given pair of brands.

On the other hand, the *category-to-brand association* in (1b) considers the ease with which the brand will be retrieved from memory given

FIGURE 1
The Relational Model of Brand Extensions



exposure to the category (Shiffrin and Dumais, 1981; Fazio, 1989). We refer to the category-to-brand associative strength as *cognitive dominance*. Thus, a "heavier" or "more dominant" brand is more likely to be recalled in a category than a "lighter" brand.

Fazio (1987) compared different measures of cognitive dominance for various brands in 25 product categories and found high convergent validity among the measures. One method measures response latencies to correctly identify a brand as belonging to a product category. The query is, "In category Y is a product sold with brand X?" Faster correct responses indicate stronger category-brand associations.

One distinguishing characteristic of the relational model is the directional nature of associations between a brand and a category. A strong brand-to-category association (e.g., the "Ferrari" brand with the category "automobiles") does not necessarily imply a strong category-to-brand association (e.g., the "automobile" category does not usually activate "Ferrari"). Thus a "typical" brand, in the sense defined, need not be a "dominant" brand in a given product category. Conversely, a "dominant" brand in a category need not be a "typical" brand (e.g., "Haagen-Daz" is a super-premium ice cream). The asymmetric relationship between a category and a member is discussed further in Tversky and Gati (1978) and Smith and Medin (1981). An analogous pair of relationships exists for (3a) and (3b).

The *category-category relatedness* in the relational model in (2) depends upon the strength and accessibility of superordinate concepts linking the two categories. For example, Aaker and Keller (1990) discuss three factors that contribute to

relatedness from a longer list of factors given by Albion (1985): *complementarity* (e.g., a common usage situation - tennis racquets and tennis balls), *substitutability* (e.g., a common function - wine and beer), and *similarity* (e.g., common features - automobile and motorcycle). There are obviously other factors that relate two product categories from a consumer's perspective.

RESEARCH WITH THE RELATIONAL MODEL

The likelihood of activating a memorial representation of the product category and its defining features when encountering a brand name presumably increases with the typicality of the brand. We hypothesize that typical brands in a product category are more easily extended (in the sense of learning new associations) to closely related target categories than to distant target categories. Furthermore, we conjecture that dominant brands will be difficult to extend to unrelated target categories, because of the exemplary nature of such brands in their original product categories.

Fazio's (1987) investigation of cognitive dominance provides a standard set of stimulus materials that are well calibrated on category-brand associative strength. For each of 25 different product categories, Fazio identified brands that vary in the strength of their association with the product category.

Herr, Farquhar, and Fazio (1989) used a subset of these brands and categories as stimulus materials in testing various aspects of the relational model. One study measured typicality by examining subjects' latencies to respond correctly to queries about a given brand belonging to a parent category.

Comparisons with Fazio's (1987) category-brand queries for dominance confirmed the hypothesized asymmetric relation between typicality and dominance.

Another study tested the hypothesis that relatedness influences the time subjects need to identify a product category as *not* being sold by a particular brand. The results provide overwhelming support that the less related the target category and the parent category, the faster subjects could identify the target category as not being associated with the brand.

Herr, Farquhar, and Fazio (1989) further demonstrated that the learning of new brand to target category associations depends upon the effects of the brand's cognitive dominance and the parent to target category relatedness. For example, subjects memorized one of several lists of brand-category pairs. Subjects were then given a cued-recall test where a brand was presented and they were required to retrieve the target category with which it had been paired in the list. Subjects were able to retrieve significantly more target category terms when those categories were closely related to the parent category than when the target categories were distantly related.

Tauber (1981) notes that feature transfer from the parent brand to the category extension is a critical element in the success of a newly introduced item. Herr, Farquhar, and Fazio (1989) also addressed this issue using the relational model. The focus, however, shifts from the typicality and dominance in (1a) and (1b) to the analogous relations in (3a) and (3b). Nedungadi and Hutchinson (1985), Ward and Loken (1988), and others have conducted preliminary studies showing positive correlations between typicality and preference for a brand, but did not identify the underlying processes for transferability of attitudes from the parent brand to an extension.

Herr, Farquhar, and Fazio (1989) found that subjects expressed greater liking for brands extended to closely related rather than distantly related categories. Moreover, dominant brand extensions were liked significantly more than their weak counterparts when extensions were to closely related categories. Similar results were found with "intention to buy" as the dependent measure. Thus, "evaluative" associations of the brand were transferred to the category extension as well. Recent research by Fazio (1986, 1989), Herr (1989), and Herr and Fazio (1989) describes the cognitive processes involved in such feature transfers.

Additional studies have investigated the relationship between basic components of the relational model and market level variables, such as market share. Preliminary analysis of the Fazio (1987) brands reveals a very strong correlation between the strength of category-brand association and the market share held by a brand. For these product categories, "cognitive dominance" is indeed reflected by "market dominance". Data were also collected on levels of advertising expenditures per brand as a function of cognitive dominance. In

every case, the "strong" category-brand associate spent more on advertising than did the "weak" category-brand associate.

RELATED RESEARCH ON CATEGORY EXTENSIONS

Several researchers are developing somewhat different frameworks that focus on consumer knowledge, memory, and inference in category extensions of brands. These approaches share a common theme that emphasizes the importance of memory content and structure in evaluating brand extension outcomes.

Aaker and Keller (1990) hypothesize that consumers may hold four types of *associations* in long-term memory that bear on category extensions. These associations occur between a brand and (1) the attributes of that brand, (2) consumer attitudes toward that brand, (3) the attributes of the product category, and (4) consumer attitudes toward the product category. Aaker and Keller suggest that the presence and strength of these associations affect consumer judgments of the "degree of fit" between the existing brand and its potential extension to a new category. These intervening judgments are important in predicting success of a given brand extension.

Park, Lawson, and Milberg (1988) propose that the success of a brand extension is mediated by a consumer's *categorization* of the new item. They suggest that categorization is driven primarily by similarity judgments that depend on the memory structure for the specific brand in question. Park et al. identify three distinct structures for memory of brands and draw managerial implications for each type of structure.

Bridges (1989) suggests that a *brand schema* ("the bundle of associations, beliefs, and expectations that consumers have for a brand", p. 7) affects consumers' evaluations of brand extensions. She conjectures that the outcome of judgments of "fit" depends upon the brand schema, the relationship between the existing and the extended products, and additional information about the extension.

Given the recent attention on brand equity by the Marketing Science Institute and other research organizations (Leuthesser, 1988), the number of related approaches is likely to grow.

DISCUSSION

The relational model for category extensions of brands includes three types of associations: (i) brand to category, (ii) category to brand, and (iii) category to category. The strengths of these associations are called *typicality*, *dominance*, and *relatedness*, respectively. The possible asymmetry in the relationship between typicality and dominance is a distinguishing characteristic of the model.

Early research provides support for the relational model. In particular, typical brands in a product category are more easily extended (in the sense of learning new associations) to closely

related target categories than to distant target categories. Furthermore, dominant brands are not easily extended to distant target categories, because of the exemplary nature of such brands in their original product categories. Herr, Farquhar, and Fazio (1989) provide further details.

The relationship between typicality and dominance is of further practical interest for exploring the *limitations* of brand extensions. When the same brand has been extended to a wide variety of target categories, we do not expect the parent brand's dominance in the original category to diminish, but we would expect a dilution of typicality. The strength of association from the parent brand to the basic category should diminish as a direct function of the success, number, and variety of brand extensions. Thus, the relational model offers one way of measuring the potential for "brand confusion" from over-extension (see Ries and Trout, 1986).

The distinction between typicality and dominance in the relational model addresses another issue in brand extensions. Some brands are so typical of a particular target category that consumers mistakenly believe that the brand extension exists when it does not. For example, many respondents in aided awareness tests said they had heard of McDonald's onion rings and Wang pocket calculators. One firm reportedly found that a proposed brand extension was already thought to exist by about half of the customers surveyed (Goydon, 1984).

"Spurious awareness" of non-existent brand extensions is both a blessing and a curse for marketers (see Farquhar and Pratkanis, 1987). To the extent that a strong association already exists, a firm might well consider a brand extension to that target category. Less effort would be needed for creating awareness, and more could be spent on other activities. On the other hand, "spurious awareness" can lead to misinterpreting advertising effectiveness measures and mismanaging the introduction of the brand into a new category.

The relational model appears to be a useful conceptualization of the associations between brands and categories that influence the success of extensions from a consumer perspective. Continuing research will refine the basic model through further consumer experiments, field studies, and market analyses.

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The Cognitive Representation of Services Varying in Concreteness and Specificity

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Researchers and practitioners have suggested that the inherent intangibility of services should be taken into account when designing marketing communications for services, but there is little agreement as to how this should be done. A reconciliation of the issue requires more detailed knowledge about how consumers cognitively represent services. We conceptually and empirically divide the concept of "intangibility" into the separate, but related, dimensions of concreteness and specificity. We then demonstrate that services differing on the former (but not the latter) dimension reliably call to mind salient attributes differing on both dimensions of concreteness and specificity. The results are a first step in understanding how different levels of concreteness and specificity should be used in marketing communications for services.

The elements or attributes composing services are typically more abstract and intangible than those of consumer goods (Fuchs, 1985). In fact, services have been described as "doubly intangible": not only do most services lack material substrates, but they are also difficult to grasp mentally, because consumers may be unsure what exactly they are purchasing when they receive a service (Bateson, 1979). Consequently, researchers and practitioners have suggested that marketing communications for services should take into account the inherent intangibility of services (George and Berry, 1981; Shostack, 1977).

However, researchers do not agree about how this should be done. In fact one can find two radically different views about communication strategies for services. Some researchers have argued that because services are intangible, they may be represented in the consumer's mind relatively abstractly and therefore should be advertised relatively abstractly (Rothschild, 1987). Others have argued that service advertisements should be made concrete and visual in order to overcome the inherent disadvantage of services' intangibility (George and Berry, 1981; Shostack, 1977). A reconciliation of the issue may require more detailed knowledge about how consumers cognitively represent services. Moreover, in generating the above propositions, researchers may have focused too much on contrasting consumer goods with services and may have overlooked the enormous variability that exists among services. Although services are generally more intangible than consumer goods, services differ widely among themselves on the dimension of intangibility. Some services, such as life insurance or college, are relatively "abstract" and typically associated with intangible attributes (e.g., security or knowledge).

Other services, such as health services and auto repair, are more "concrete" and invoke sensory experiences. Therefore, rather than proposing one communication approach for all services, different communication strategies may be needed for services that vary in degree of intangibility.

Further complicating matters, the concept of intangibility itself is not clearly defined when it comes to services. For both services and their attributes, the concept of intangibility has been frequently related to the dimension of abstractness/concreteness. But the concept of abstractness/concreteness itself is unclear, and researchers have investigated at least two different notions of it (for a review see Paivio, 1965). One definition -- which from now on we will call *concreteness*-- relates to accessibility to the senses (Paivio, Yulle, and Madigan, 1968). The other view -- which we will call *specificity*-- refers to subordination, the specificity of a word being inversely related to the number of subordinate words it embraces (Spreeen and Schulz, 1966). Because the two notions of intangibility are perhaps independent (Paivio, 1965; Kammann and Streeter, 1971), an intangible attribute such as a piece of legal advice, may be at the same time both specific and abstract. Research in marketing, in focusing on cognitive representations of durable and non-durable goods at the level of the specific brand and of the generic product category (e.g., Johnson, 1984; Johnson and Fornell, 1987), has thus far exclusively addressed the *specificity* view of the abstractness/concreteness concept. Yet the question of a possible effect of different levels of the *concreteness* of representations defined in terms of accessibility to the senses should also be addressed as it may be equally relevant for both goods and services.

In this research, we study how both dimensions (concreteness and specificity) affect the cognitive representation of services. Johnson and Fornell (1987) have already shown that the specificity of a product representation can affect the level of specificity of attributes that consumers have represented in conjunction with the product. For three superordinate category types (home entertainment, domestic appliance and transportation), they investigated the level of specificity of attributes generated under three levels of product abstraction (superordinate category, product category, and brand). In a free elicitation task, they found a significant difference between the level of specificity of attributes generated at the superordinate level compared to the ones generated at the product type and brand levels, which did not differ significantly. Given Johnson and Fornell's findings that specific product attributes are linked to brands while generic attributes are linked to product

categories, two research objectives arise: (i) to investigate whether cognitive representations of services have similar structures, and (ii) to extend Johnson and Fornell's research on the dimension of *specificity* to include the dimension of *concreteness*.

METHOD

Pretests

The stimuli for the experiment were selected on the basis of two extensive pretests. The purpose of pretest 1 was to generate a list of attributes for a number of services provided by the experimenter. In a free elicitation task, 42 graduate students in marketing were asked to write the first five attributes that come to mind when they think about the services. Attributes were aggregated across subjects, and the 18 most frequently mentioned for each service were retained for further study. In pretest 2, 18 psychology students rated the concreteness (1=very abstract, 7=very concrete) and specificity (1=very generic, 7=very specific) of 12 services and, in addition, the concreteness (i.e., the degree to which they can be experienced with the senses) and the specificity (i.e., to how many instances they refer) of the list of attributes that subjects had generated for these services in pretest 1. Subjects read the following explanations for the two dimensions:

Concreteness ratings: The degree to which we can experience services with our senses varies. A very concrete service is one whose features or outcomes can be seen, felt, smelled or tasted. A very abstract service is one that cannot be experienced by the senses as such. For example, "cleaning services" are very concrete; "airlines" deliver slightly less concrete services, and the services provided by "Place, Life Insurance Co." are the most abstract, i.e., they cannot be seen, felt, smelled or tasted.

Specificity ratings: One may refer to services in a highly specific or in a less specific way. The more specific a service is, the more words used to describe it are restricted to only one or two actual instances of the given type of services. For example, a highly specific word refers to a very particular instance, i.e., it can be applied usually only to one specific member of a class. The less specific a word, the more it becomes applicable to a larger number of services in that class, i.e., it is more generic. You should note that "cleaning services" is presented in a very generic form since there may be all kinds of cleaning services; that airlines is slightly more specific, and "Place, Life Insurance Co." is most specific, referring to a firm selling a particular type of insurance.

The following explanations of the concepts of concreteness and specificity for attributes were provided:

Concreteness ratings: Attributes are very *concrete* if they represent features or outcomes of a service that can be seen, felt, smelled or tasted. Attributes are very *abstract* if they refer to features or outcomes not experienced by the senses as such.

Specificity ratings: Attributes are very *specific* if they refer precisely to identifiable features or outcomes of a service. Attributes are very *generic* if they refer to more general aspects of features or outcomes of a service, or to general aspects of the service itself.

Based on the results of the pretests, eight services were selected as stimuli for the experiment: two abstract/generic services (college education and legal services), two abstract/specific services (*Morton College of Arts and Sciences and Thompson & Associates Divorce Specialist*), two concrete/generic services (healthcare and auto repair), two concrete/specific services (*Max Krauss, Doctor of Dentistry and Fix-it, Muffler / Brake Shop*). Thus services were selected according to a 2 (concreteness) X 2 (specificity) factorial design with one replication.

Procedure

Thirty-four graduate students in marketing (14 females and 20 males) participated in the experiment. The average age of the participants was 28.

To confirm that we had selected through the pretests services that indeed varied along the dimensions of concreteness and specificity, subjects who actually participated in the experiment were asked to rate again all eight services in terms of concreteness and specificity. In addition, for four services, subjects were asked to check (from a list of 18 attributes that had been generated in the pretest) those five attributes which first came to mind when they thought about the particular service. The four services were selected on the basis of a replication of a Latin square design, and four different sets of four services were constructed in order to eliminate the possible confounding effects of certain stimulus combinations. Finally, subjects were asked to rate on seven-point scales the complete list of attributes for each of the four services in terms of concreteness and specificity.

RESULTS

Preliminary analysis

Were the concepts of concreteness and specificity of services successfully operationalised as two independent dimensions? First, two 2 (concreteness of the service) x 2 (specificity of the service) ANOVAs conducted on the concreteness and specificity ratings of services, revealed a strong main effect of manipulated *concreteness* on the concreteness ratings and a strong main effect of manipulated *specificity* on the specificity ratings of services (both $p < .0001$). In addition, there was a

TABLE 1
Mean ratings of concreteness and specificity* of most salient attributes as a function of services' concreteness and specificity.

	Generic Services		Specific Services		Overall	
	Attributes Concreteness	Attributes Specificity	Attributes Concreteness	Attributes Specificity	Attributes Concreteness	Attributes Specificity
Abstract Services	3.42	3.88	3.47	4.00	3.44 _a	3.94 _a
Concrete Services	4.35	4.82	4.22	4.57	4.28 _b	4.70 _b
Overall	3.88 _a	4.35 _b	3.85 _a	4.30 _b		

* 1- 7 scale with 7 being most concrete and most specific.

Means with different subscripts are significantly different at $p < .05$. The comparisons were done row wise and column wise.

significant, but weaker ($p < .05$) main effect of *specificity* on the concreteness ratings. More specific services tended to be rated as more concrete. Thus, while concreteness ratings were strongly affected by the concreteness manipulation, and to a lesser extent by the specificity manipulation, specificity ratings were uniquely and strongly affected by the specificity manipulation. Second, the average correlation between the two scales was assessed by backtransformed average Z score; it was modest ($r = .26$) and marginally significant ($.05 < p < .10$). Thus, although the two dimensions of concreteness and specificity of services were intercorrelated to some extent, the intercorrelation seemed to be low enough to justify the investigation of both variables separately. Finally, the interrelation between the two dimensions was assessed for the service attributes. The average correlation between the two scales of concreteness and specificity for attributes was .41 ($p < .01$), a magnitude consistent with previous findings (Spreen and Schulz, 1966; Kammann and Streeter, 1971).

Consistency of cognitive representations

To test the hypothesis that there is consistency between the representation of services and their attributes on both the dimensions of concreteness and specificity, a multivariate analysis of variance (MANOVA) was conducted on the concreteness and specificity ratings of each subject's five salient attributes. The results revealed a main effect of manipulated service concreteness on ratings of both attribute concreteness and specificity ($F[2, 70] = 14.50, p < .001$). The main effect of specificity of services and the interaction were not significant (means are presented in table 1). Thus when subjects think about abstract services such as education and legal services, the attributes that first come to their mind are both more abstract and generic than when the same subjects think about

concrete services, such as health care and auto repair. On the other hand, when they think about generic services, such as healthcare services, the salient attributes are neither more generic nor more abstract than when they think of a specific instance of the service, such as *Dr. Max Krauss*, Doctor of Dentistry.

Because the list of attributes differed between abstract and concrete services, but not between generic and specific levels of a service, this result could simply reflect the fact that the pool of attributes from which salient attributes were extracted was, as a whole, more abstract and generic for abstract services, and more concrete and specific for concrete ones. In this case, attributes randomly selected from this pool will show the same bias. To rule out this rather plausible alternative explanation, we conducted an idiographic analysis comparing, for each service, the concreteness and specificity ratings that a subject assigned to salient and non-salient attributes. An individual difference score was computed by subtracting, for each subject, the average rating of the five salient attributes from the average rating of the thirteen non-salient attributes. These difference scores indicated whether the two clusters of attributes were rated differently, e.g., as more or less concrete or specific. Nine subjects had provided concreteness and specificity ratings only for the five salient attributes. Their data were excluded from this idiographic analysis.

Average difference scores across all subjects are shown in Table 2 along with significance levels for relevant t tests. The results show that the effect of service concreteness on the ratings of salient attributes is not artifactual and may indeed indicate how subjects cognitively represent services. The idiographic analysis showed that, compared with concrete services, the salient attributes of abstract services were both less concrete and less specific (both $p < .05$). The idiographic analysis also

TABLE 2
Mean individual differences between the mean ratings of concreteness and specificity of salient and non salient attributes as a function of services' concreteness and specificity*.

	Generic Services		Specific Services		Overall	
	Attributes Concreteness	Attributes Specificity	Attributes Concreteness	Attributes Specificity	Attributes Concreteness	Attributes Specificity
Abstract Services	-.6078 Δ	.0347	-.3223 Δ	.1755	-.4680 $_a\Delta$	.1036 $_a$
Concrete Services	.2012	.4424 Δ	-.024	.2590	.0886 $_b$	.3508 $_b\Delta$
Overall	-.2033 $_a$	.2385 $_b$	-.1701 $_a$	.2182 $_b$		

* A positive score indicates that salient attributes are more concrete or more specific than the non salient ones.

Δ Mean individual difference significantly different from 0 at $p < .05$.

a b Means with different subscripts are significantly different at $p < .05$. The comparisons were done rowwise and columnwise.

confirmed the null effect of the specificity manipulation: no significant differences were found between salient and nonsalient attributes of specific and generic services. A closer analysis of this idiographic score shows that in absolute terms, at least for the list of services we presented to our subjects, *abstract* services call to mind salient attributes that are reliably more *abstract* than nonsalient ones, whereas *concrete* services call to mind salient attributes that are reliably more *specific* than nonsalient ones. Whether these results mean that in general one should highlight abstract attributes when communicating about abstract services, and specific attributes when trying to sell a concrete service, is a question we are currently studying.

DISCUSSION

The results of the experiment indicate that attributes that spontaneously come to consumers' minds when they think about services differ, depending on certain properties of the services. Abstract (as opposed to concrete) services, whether they are generic or specific, bring to mind both more abstract and more generic attributes. When individuals think about college education in general, or about a specific college, knowledge is more likely to come to mind than the comfort provided by a classroom or the location of the campus. The challenge faced by the advertiser of such a service is to preserve the "abstract" essence of this service--the reason why people use it--and then to communicate effectively its characteristics and benefits to the consumer.

Contrary to what we predicted on the basis of Johnson and Fornell's (1987) findings, the level of specificity of services did not affect either the level of specificity or the level of concreteness of salient

attributes. Can methodological artifacts explain the failure of the specificity manipulation to affect attribute salience? Perhaps subjects could not possibly be familiar with the artificially constructed names of the service providers. Therefore, the name may not have provided any diagnostic information so that subjects may have relied solely on the category attributes. A more psychologically interesting cause of the null effect of the specificity manipulation may be intrinsically linked to the "doubly intangible" nature of services. As we said previously, most services -- and the most abstract ones in particular -- lack material substrates and are difficult to grasp mentally. As a result, consumers may be unable to perceive and to describe services in highly specific terms, even when they consider individual brands or service providers. The idiographic comparison of the concreteness and the specificity ratings of salient and nonsalient attributes seems to converge in that direction: for abstract services, salient attributes are significantly more abstract -- and not more generic-- than nonsalient attributes whereas for concrete services, salient attributes are significantly more specific but not more concrete than non salient ones. Thus, consumers may cognitively represent concrete services in a way very similar to physical goods. What seems to matter for concrete services and physical goods is the specificity of the attributes rather than their degree of concreteness. On the contrary, more abstract services are cognitively represented by abstract, but not necessarily less specific attributes.

The ultimate goal of our research is to understand how different levels of concreteness and specificity should be used in marketing communications for services, and we believe that an important first step is clarifying how services and

their attributes are cognitively represented. The present study has concentrated on mental representations of services and has shown that abstract and concrete services are cognitively represented differently. One possible strategy may be to strive for a match between the specificity and concreteness of the mental representations of services and the content of marketing communications. A test of this proposition requires comparison of the effect of a match and of a mismatch between specificity and concreteness of services and attributes or benefits featured in their advertisement (or other communications), using measures of persuasiveness, recall, and recognition as dependent variables. A study on marketing communications for services that vary along the abstractness/concreteness and genericity/specificity continuum is currently in progress, using a variety of judgement and memory tasks.

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Testing a Theory of Crowding in the Service Environment

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ABSTRACT

Perceived crowding is important to the managers of retail service settings. With a fixed area of space (the physical capacity), service managers need to know the maximum customer density level their customers will tolerate (the effective or physical capacity). This paper presents an empirical test of the control theory of crowding which suggests that perceived control is an important intervening variable between physical density and perceived crowding. The results confirm the theory and show that perceived choice is associated with perceived control and hence can modulate the effect of density.

INTRODUCTION

Retail services can be thought of as services that are produced through interactions between customers and the contact personnel, environment and physical support provided by service firms (Eiglier and Langeard, 1977; Langeard, Bateson, Lovelock, and Eiglier 1981). For example, to deposit \$10 into a bank account, a customer has to go to a branch of his/her bank (the physical environment), fill in a slip (the physical support) and give the money and the slip to a teller (the contact personnel). Obviously, in order to produce a service, customers must be present in a milieu, usually the retail outlet of a service firm so that these interactions can occur.

One important characteristic of retail services is that they are produced and consumed simultaneously and hence cannot be inventoried (Eiglier and Langeard 1977). Meanwhile, the demand of any retail services is rarely smooth over time. Since stocks cannot be used as a tool to buffer the fluctuation in demand, crowds are unavoidable for retail services. One of the major determinants of the capacity of a service firm is the total area of that part of the premises accessible to the customers. When the demand level approaches or exceeds the service firm's capacity limit, there will be a high density of customers, being served or waiting to be served, in its premises. A huge crowd of people or long queues in banks, subways, supermarkets and other common service organizations is no longer a strange feature to consumers in the 1980's. The pervasiveness of crowding in retail services makes it an issue which deserves research attention from consumer researchers.

Stokols (1972) has contended that there is a need to distinguish between two terms "density" and "crowding". Density is defined by Stokols as "the physical condition, in terms of spatial parameter" while crowding is a psychological experience characterized by stress. This paper draws upon the latest theoretical developments in environmental psychology which suggest the importance of perceived control as an intervening variable between

density and crowding. The procedures and findings of an experimental study conducted to test the control theory of crowding in the context of service delivery are presented.

THEORETICAL DEVELOPMENT ON HUMAN CROWDING

Findings from both laboratory settings (see, for example, Paulus, Annis, Seta, Schkade, and Matthews 1976) and real-life settings (see, for example, Mackintosh, West, and Saegart 1975) have indicated that crowding does have deleterious effects on human response such as interpersonal behavior and task performance. However, a number of other experimental studies have obtained the opposite findings. They have shown that crowding can have no, or even positive, effects on human behavior (see, for example, Freedman 1975). For a review, please refer to Sundstrom (1978).

The equivocal experimental evidence have forced theorists to revise their conceptualization of human crowding. Stokols (1972) is one of the pioneers who has tried to clarify the conceptual confusions in the study of human crowding. As noted earlier, he suggests that "density" and "crowding" are two different concepts. Density is a function of the area and the number of people in a setting. By contrast, crowding refers to the stress experienced by the occupants of a setting when there is an "excessive" number of people there. The term "excessive" needs to be elaborated. At least three different theoretical models have been developed to specify the crucial antecedents of crowding and explain why a certain number of people are considered as excessive or not excessive in a setting. The three models are commonly known as the overload model, the behavioral constraint model, and the ecological model.

The Overload Model

The main argument of the overload model is that crowding results when one's mental ability is unable to deal with all the impinging environmental stimuli. Altman (1975) has argued that crowding is an outcome of one's failure to maintain a desired level of social interactions through means like personal space and territoriality.

The Behavioral Constraint Model

The development of the behavioral constraint model draws heavily from Brehm's (1966) reactance theory which states that there is a basic desire among human beings to maintain their behavioral freedom. According to the model, a certain amount of people will be evaluated as excessive (and hence result in the perception of crowding) for a setting when one's desired actions are restricted or made impossible because of the presence of other people. It is conceivable that pressure and norms imposed

by other people can restrain one from performing some kinds of actions. The constraint can be physical and instrumental as well.

The Ecological Model

Manning theory has also been used to explain human crowding. According to the theory, an individual's behavior is determined by the supply and demand of social roles existing in a setting. An individual will perceive more crowding when a setting is "overmanned" (when the number of occupants of the setting exceeds that required for the normal functioning of the setting) than when it is "undermanned". Similar arguments have been proposed by a number of authors that the perception of crowding is a function of the supply and demand of resources available in a setting (Stockdale and Schopler 1976). Empirical support for the ecological model, however, is far sparser than for the other two models.

PERCEIVED CONTROL AS AN INTERVENING VARIABLE BETWEEN DENSITY AND PERCEIVED CROWDING

According to a number of authors (Baron and Rodin 1978; Schmidt and Keating 1979), however, all the three conceptual models of crowding (overload, behavioral constraint, and ecological) can be subsumed under the concept of control. A review of the concept of control is deemed necessary before its relationship with crowding is explored.

Three Types of Control

Control has been operationalized in various distinctive ways which have been grouped by Averill (1973) into three different categories: behavioral control, cognitive control, and decisional control. In Averill's own terms, behavioral control refers to the "availability of a response which may directly influence or modify the objective characteristics of an event" (p. 286). Cognitive control is "the processing of potentially threatening information in such a manner as to reduce the net long-term stress" (p. 293). Cognitive control does not require behavioral control, rather it refers to a sense of "feeling in control". This has been broken down into predictability and evaluation in the literature. Finally, decisional control is regarded as the extent of "choice in the selection of outcomes or goal" (p. 289).

Crowding and Control

Constraints on or interruption of behavior obviously reduce one's ability to deal effectively with the environment in the way one desires (behavioral control, as in Averill's terms). Moreover, the more the constraints, the smaller will be the number of options available to an individual in the selection of (a) situational goals, and (b) means to attain the goals (decisional control, as in Averill's terms).

When an individual's mental capacity is impaired by excessive stimulus, he/she is less likely

to collect and evaluate useful environmental information. As a result, environmental events will look less predictable and effective cognitive or behavioral coping (behavioral and cognitive control, as in Averill's terms) will become less likely.

In an overmanned setting, any marginal occupants are likely to be ignored by the majority and hence there is less chance for them to affect the social and physical characteristics of setting (behavioral control). On the other hand, any existing member is important to an undermanned setting and there is greater opportunity for an individual to claim the setting's resources and manipulate the setting in the way he/she desires.

It is conceivable therefore that all the harmful effects caused by behavioral constraints, information overload, or overmanning can be explained by Averill's three types of control as Baron and Rodin (1978) have noted:

"It appears that when density variation have no direct implications for control as in certain of the studies involving manipulations of room size ..., variations in density do not produce differential stress effects. Thus there is a preliminary indication that the density-control may not only be a sufficient condition for stress instigation but a necessary condition." (p. 181).

In other words, perceived control is suggested to be a crucial intervening variable between density and perceived crowding.

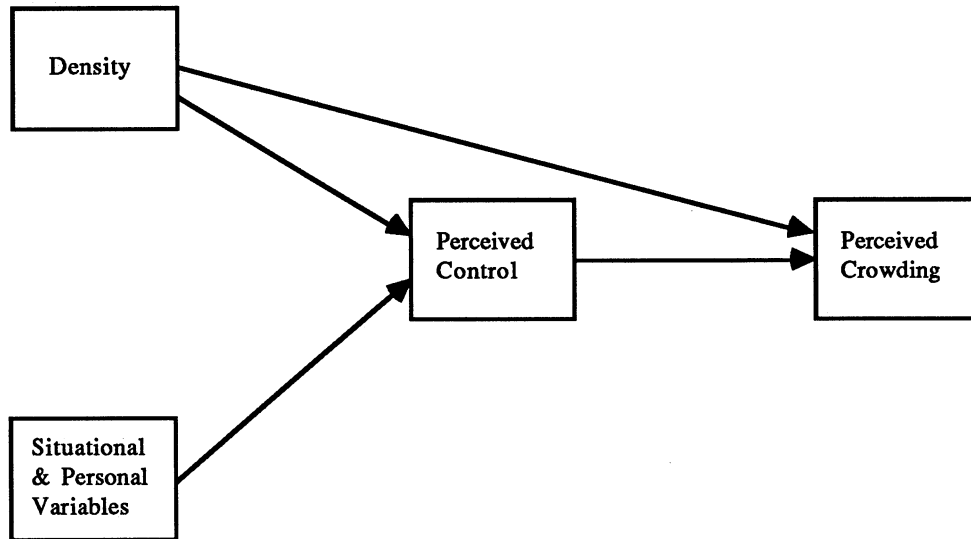
SITUATIONAL AND PERSONAL DETERMINANTS OF PERCEIVED CROWDING

Besides density, however, it has been shown that a large number of physical, social, and personal factors can also modify an individual's perceived control without any variation in environmental density. A logical conclusion from the argument is that for a fixed density level, perceived crowding can vary between situations and persons.

For example, architectural design of university dormitories has been found to be a key determinant of the residents' perception of crowding (Baum and Valins 1977). Other design variables such as partitioning (Desor 1972), signage (Wener and Kaminoff 1983), and even the shape (Desor 1972), colour (Baum and Davis 1976), and light level (Baum and Davis 1976) of a setting have also been demonstrated to affect human crowding.

From a social-situational perspective, empirical evidence has revealed that crowding is affected by the nature of activities within a setting - recreational versus work, interactive versus coactive, cooperative versus competitive (Cohen, Sladen, and Bennett 1973; Stokols, Rall, Pinner, and Schopler 1973). Moreover, acquaintance, group membership, and some basic social structure

FIGURE 1
The Control Theory of Crowding



developed within a group can also alleviate one's perception of crowding (Baum and Koman 1976).

Finally, demographic and personal variables like sex (Baum and Koman 1976), locus-of-control (Schopler and Walton 1974), and desire for control (Burger, Oakman, and Bullard 1983) have also been shown to affect an individual's perception of crowding.

It is difficult, if not impossible, to give an exhaustive list of mediating variables for crowding. However, a review of those variables which have been shown to affect crowding suggests that most of the variables actually affect one's perception of control. For instance, social structure has been shown to reduce perceived crowding (Baum and Koman 1976). The finding can be interpreted by suggesting that social activities will become more organized and hence more predictable when a simple social structure or hierarchy is developed within a group of individuals. Therefore, the first hypothesis is formulated as follow:

[Hypothesis 1] At a certain density level, perceived crowding is a function of all the environmental, situational, and personal variables which influence an individual's perceived control in a setting.

THE CONTROL THEORY OF CROWDING

As noted earlier, perceived control is suggested to be a crucial intervening variable between density and perceived crowding. Nonetheless, within a setting, manipulation of physical density has been found to exert a significant main effect on perceived crowding (see for example, Langer and Saegart 1977).

Alternatively, other things being equal, higher density is expected to lead to higher perception of crowding. As a result, the second hypothesis is formulated as follow:

[Hypothesis 2] Density is hypothesized to affect perceived crowding both directly and indirectly through perceived control.

Hypotheses 1 and 2 together can be represented by Figure 1 which is labelled hereafter as the "control theory of crowding". In the remaining parts of this paper, the methodological procedures and findings of a study conducted to test the theory are described.

AN EXPERIMENTAL STUDY

An experimental study was conducted to examine the validity of the control theory of crowding within the service setting: In essence, a 3 (high, medium and low density) x 2 (choice, no choice) x 2 (slide, video) factorial design was employed. The extent of choice available to an individual has been argued by Averill (1973) as a major situational determinant of perceived control. Moreover, customer choice has been suggested to be a crucial concept related to the strategic issue of service customization (Surprenant and Solomon 1987). Hence customer choice was selected as the situational variable (see Figure 1) to be manipulated in the study.

Customer Density Manipulation

Customer density was operationalized by slides and video tapes portraying three different numbers of customers in the ticket office of a major railway station in London, England. The

employment of two different representative media (slide and video) to simulate the same service setting allowed the researchers to detect any response bias caused by either media. The slides and video were taken at the station on two weekdays. On the first day, a photo camera, with a 24 mm lens, was fixed at one corner of the ticket office. On average, one picture was taken every 4 to 5 minutes and a total of 35 slides were obtained. Since the slides were shot by the same camera from the same location, the only difference between the slides is the number of customers present in the ticket office. On the second day, twenty-five 90-second video sequences were taken by a video camera, fixed at the identical spot where the photo camera was located.

The number of customers shown in each slide and video sequence was then counted. The slides which had the highest and lowest number of customers were selected to simulate the high and the low customer density environments. One more slide with a number of customers equal to the mid-point between the two extremes was selected to represent the medium density environment. Three video sequences which showed approximately the same numbers of customers as the three selected slides were also retained for the study.

The Choice Manipulation

Choice was operationalized through two different written scenarios, both of which described the service situation in the station:

[High choice]

It is ten o'clock on Saturday morning and Mr. Y is going by train to visit his friend. Tickets are sold in the railway station at both the ticket office and through an automatic ticket machine located next to the office. Mr. Y decides to buy the ticket from the ticket office. Of course, he can always change his mind and go for the machine. However, he sticks to his original decision throughout the process. The slide we are going to show you depicts the setting of the ticket office while Mr. Y is there.

[Low choice]

... However, the machine only sells normal fare tickets. Since Mr. Y wants a cheap day-return ticket, he can only buy it from the ticket office. The slide ... there.

The two situations described by the written scenarios can be regarded as the service analogues of the two treatment conditions employed in a series of studies conducted by Glass and Singer (1972). In the studies, a stressful stimulus (e.g. electric shock) was administered to the subjects. Half of the subjects, however, were given an option to avoid or escape from the stimulus but they were asked not to exercise the choice as long as they felt the stimulus was tolerable. As a result, no subject selected the escape or avoid option and hence all the subjects

went through the same stressful experience. Nonetheless, the choice subjects did feel and behave better than the no-choice subjects.

A similar approach was adopted in the design of the two written scenarios. In the high choice situation, Mr. Y can avoid the potentially stressful setting (when there are a lot of people there) by using the ticket machine but he does not take the available option. However, unlike the manipulations employed by Glass and Singer (1972), there is no guarantee in terms of the present manipulations that the alternative option (ticket machine) is a better one. Nonetheless, the mere existence of a similar option has been shown to increase an individual's perceived choice (Harvey and Johnston 1973) and hence is expected to elevate his/her perceived control as well.

Finally, Havlena and Holbrook (1986) have suggested that there are two advantages of using a hypothetical figure (Mr. Y) in a written scenario:

"... (a) to provide a projective task and thereby to discourage social desirability effects, and (b) to avoid problems involving individual differences in reactions to specific types of activities" (Havlena and Holbrook, 1986, p. 396.)

One hundred and twenty-three individuals, age between 17 and 57 were recruited from the streets of a coastal city in the south of England to participate as the subjects of this study. The subjects were divided into 24 groups of four to six people. Each group of subjects watched 1 slide or 1 video sequence, randomly assigned to each session. The slide was kept projecting on a screen while the video sequence was continuously displayed on a 21-inch monitor throughout the whole session. Before the subjects watched the slide or video sequence, they were asked to read one of the two the written scenarios. Half of the subjects within a session were given the high-choice scenario while the other half were given the low-choice scenario. The subjects then filled out an environmental rating form. They were asked to describe Mr. Y's feelings on the following scales:

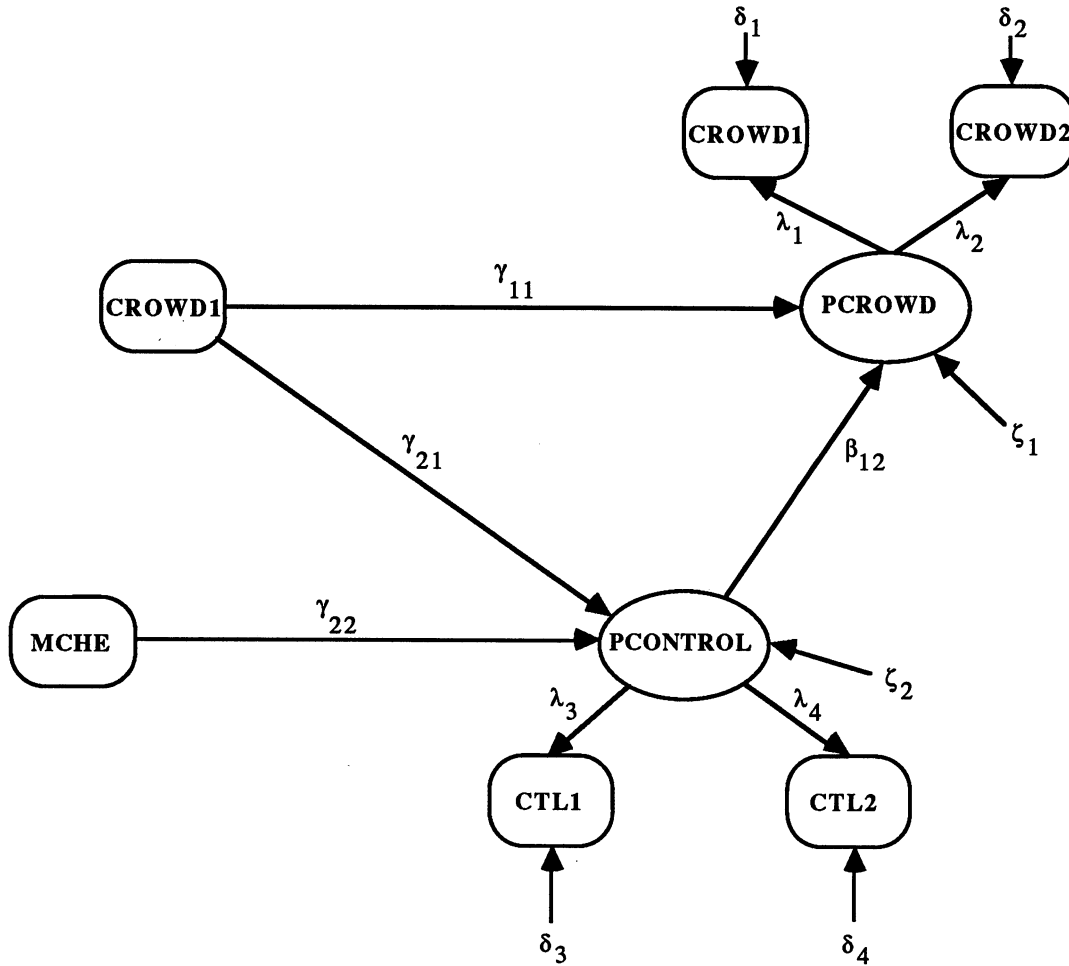
(1) CTL1:

A 9-item semantic differential scale, developed from a combination the Mehrabian and Russell's (1974) Scale of Dominance and Glass and Singer's (1972) Scale of Helplessness. Both scales have been suggested to be actually measuring perceived control (Bateson and Hui 1987).

(2) CTL2:

A 4-item Likert-type scale adapted from the studies conducted by Newcomb and Harlow (1986) and Fleming, Baum and Weiss (1987), was used as a second measure of perceived control.

FIGURE 2
The Hypothesized Structural Equation Model



DEN = Customer density (1-3)
 MCHE = Customer choice (0,1)
 PCROWD = Perceived crowding
 PCONTROL = Perceived control

CROWD1 = Semantic differential scale of perceived crowding
 CROWD2 = Likert-type scale of perceived crowding
 CTL1 = Semantic differential scale of perceived control
 CTL2 = Likert-type scale of perceived control

(3) CROWD1:

A 5-item semantic differential scale of crowding which is developed from the crowding literature. The items were: stuffy/not stuffy; cramped/uncramped; crowded/uncrowded; free to move/restricted and spacious/confined.

(4) CROWD2:

A Likert-type scale of crowding which includes three different items: (a) He would not feel crowded (negatively formulated); (b)

He would feel that there is almost no space for him; and (c) He would feel that there are too many people in the setting.

To avoid response bias, the direction of half of the items was reversed for the two semantic differential scales. The items of the two scales were then mixed together and put in one section of the environmental rating form. Similarly, half of the items of the two Likert-type scales were formulated negatively. The items of the two scales were also

TABLE 1
Structural Equation Model Estimates^a

Parameters	Estimates	t-values
λ_1	.839	0.00 ^b
λ_2	.857	8.27
λ_3	.981	0.00 ^b
λ_4	.727	7.25
β_{12}	-.594	-5.96
γ_{11}	.377	4.97
γ_{21}	-.259	-2.98
γ_{22}	.290	3.34
ϕ_{11}	1.000	0.00 ^b
ϕ_{12}	.042	0.00 ^b
ϕ_{22}	1.000	0.00 ^b
ψ_{11}	.395	4.20
ψ_{22}	.855	5.50

^a Standardized estimates

^b Parameters constrained in the LISREL model

Chi-square (d.f.=29) = 22.47, $p=.80$ for the multi-sample analysis.

Goodness of fit index = .95 for the slide sample.

Goodness of fit index = .94 for the video sample.

mixed together and put in a separate section of the environmental rating form.

Findings

The 123 subjects produced 119 (60 for the slides and 59 for the video sequences) useful cases for analysis. Each subject's item scores were reversed when necessary. The scores were then summed to provide indices of perceived control and perceived crowding. The slide and video subjects were considered as two independent samples and the two sets of data were submitted to a multi-sample LISREL analysis (Joreskog and Sorbom 1984, Chapter 5) to test the model shown in Figure 2. Assuming both the slides and video sequences are valid simulations of the service setting, one will expect (a) the data obtained from either sample to support the structural equation model (Figure 2); and (b) the two sets of

data will produce identical estimates for the parameters of the model. Accordingly, in the multi-sample LISREL analysis, the parameters were specified in a way to test the model as shown in Figure 2. Moreover, all the measurement and structural matrices were also specified as invariant between the two samples.

A negative variance was obtained for the error term of the semantic scale of perceived control (CTL1) indicated the finding that there is a need to respecify the model (Bagozzi and Yi 1988). One possible explanation for the unexpected finding is that the error terms of CTL1 and CROWD1 were correlated because both scales consist of semantic differential items and were contained in the same section of the environmental rating form used in the study. Hence the covariance between the two error terms was set free in another multi-sample LISREL

analysis. The respecified model produced a chi-square of 22.47 with 29 degrees of freedom. The probability level ($p=.80$) of the chi-square value indicated an excellent fit. Moreover, the t-values also indicated that all the causal path coefficients were significantly different from zero (Table 1).

In short, the findings strongly support the control theory of crowding (Figure 1). Both density and choice affect perceived control which in turn shows a strong effect on perceived crowding. The direct causal link between density and perceived crowding is also consistent with the existing findings in the crowding literature.

IMPLICATIONS

The relationship between perceived crowding and psychological stress is a reasonably well supported relationship. In the context of a retail service firm such a relationship is important since it suggests that capacity will be constrained by consumers' perception of crowding. What this study has shown is the importance of perceived control as an intervening variable between density and perceived crowding. This raises important managerial implications since the finding shows that the impact of density on control may be moderated by the presence of other environmental and situational factors, for instance, the extent of choice available to an individual. This implies that when such factors can be manipulated by management, customers' perceived control and perceived crowding will remain at an acceptable level even when customer density is high. In other words, effective capacity (i.e. the maximum customer density level one would tolerate) may be extended without an increase in physical capacity (e.g. the area of the service setting). For instance, at the Disneyland, information (an important component of cognitive control) is posted at various points of a line so that people know how long they have to wait. With the given information, visitors are expected to feel better despite the length of the line is unchanged.

Methodologically, the present findings also provide evidence to support the ecological validity of slide and video as environmental simulations (McKechnie 1977). Since both sets of data (slide and video) support the same causal model and produce the same estimates for all the parameters, it can be tentatively concluded that the findings are not due to the artifacts of the two employed media. In other words, both media (slide and video) can adequately represent the service setting and the findings are expected to be generalizable to real life settings.

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The Effect of Positioning on the Purchase Probability of Financial Services Among Women with Varying Sex-Role Identities

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ABSTRACT

This research investigates the advertising effectiveness for different positionings of financial services aimed at the women's market. Using an experimental design, it determines the impact of modern versus traditional positionings on the purchase probabilities of financial services among women with different sex-role identities. Analysis indicates that there is a significant two-way interaction effect between positioning and sex-role identity on the purchase probability of financial services. Women who score higher on masculinity have a higher purchase probability for the modern positioning compared to the traditional positioning, in comparison to women who score lower on masculinity who show no difference for the modern or traditional positioning.

INTRODUCTION

Deregulation in the financial service industry has intensified competition and forced financial service institutions to become more astute strategic marketers. Many marketers believe that financial service institutions will have to find market segments or niches with underserved needs and provide them with superior services, in order to survive the intense competitive climate that exists today (Donnelly, Berry, and Thompson 1985). While the financial service industry typically focuses its attention on upscale markets, some institutions will benefit from focusing on profitable segments with underserved financial needs in less competitively congested arenas such as the women's market.

In 1984 the Investment Company Institute, a national association of the mutual fund industry, conducted a comprehensive survey among a representative sample of 2,158 women to determine their financial attitudes. The major findings of the survey were:

- 1) Women are becoming more active in their personal financial management because it gives them a feeling of independence and achievement.
- 2) Women are developing more favorable attitudes toward those products that offer higher returns for higher risks, and are cooling off toward lower-yielding saving vehicles.
- 3) Many more women are working today and therefore have increased their ability to save. Forty-six percent of the respondents indicated saving regularly, with thirty-one percent saving as much as eight percent of their income.

In summary, deregulation has increased competition in the financial services industry

forcing companies to attract profitable new market niches. Women represent a viable segment due to their increased interest in investment decisions, their increasingly favorable attitudes toward higher risk/reward investment products and their greater ability to save. This research focuses on how to position financial services to attract the women's market. Specifically, it will determine that the optimal positioning varies as a function of a woman's sex-role identity. This paper extends our knowledge of sex-roles and consumer behavior in two ways: it explores the impact of sex-role identity on high involvement purchase behavior, and it separately measures the two components of sex-role identity, masculinity and femininity, allowing us to assess the unique contributions of each.

LITERATURE REVIEW

Women and Advertising

Women's sex-role identity has undergone enormous changes. Understanding these changes has tremendous implications for promotional and positioning strategies aimed at capturing the women's market (Debevec and Iyer 1986). Early research criticized advertisers for depicting women in well-worn stereotypes that many women found objectionable (Belkaoui and Belkaoui 1976; Courtney and Lockeretz 1971; Courtney and Whipple 1974; Lundstrom and Sciglimpaglia 1977).

Recently the focus has shifted to measuring the advertising effectiveness of modern versus traditional female roles. In 1982 the Equal Opportunity Commission supported an independent study by The Sherman Group and found that a modern positioning enhanced the advertising effectiveness in all tested product categories, among all segments of women. My view is that a modern positioning will enhance advertising effectiveness for financial services because investing is more likely associated with a modern women.

H1: The main effect of positioning will be statistically significant. Averaging across all other variables, the modern positioning will engender a higher purchase probability than the traditional positioning.

Two other studies examined the interaction effect of sex-role orientation and positioning (modern versus traditional) on the advertising effectiveness of ads for low involvement products (Jaffe and Berger 1988; Leigh, Rethans, and Whitney 1987). Both studies indicated that there is a strong two-way interaction effect between a women's sex-role orientation and positioning on advertising effectiveness.

Jaffe and Berger (1988) found that women who scored high on masculine personality traits (e.g., assertive, dominant) have a higher purchase intent for modern positionings than for traditional positionings, in comparison to women who score high on feminine personality traits (e.g., warm, tender) who favor the traditional over the modern positionings. Leigh et al. (1987) segmented women into groups of modern versus traditional based on a life-styles inventory which measured sex-role orientation. These researchers found positive association between the women's own sex-role orientation and the role she favored in the advertisements (e.g., women classified as modern in terms of their own sex-role orientation had a higher purchase intent when the ad portrayed a modern woman).

H2: The two-way interaction effect between masculinity and positioning will be statistically significant. Women who score higher on masculinity will have a higher purchase probability for the modern positioning than for the traditional positioning, while women who score lower on masculinity will not differentiate as strongly between the two positionings.

H3: The two-way interaction effect between femininity and positioning will be significant. Women who score *lower* on femininity will have a higher purchase probability for the modern positioning than for the traditional positioning; this differential (modern minus traditional) will be smaller for women who score higher on femininity.

Sex Roles and Behavior

If there are psychological differences between females and males (whether biologically or environmentally determined) sex-roles are inevitable (Vetterling-Braggin 1982). Sex-role is defined as "a role that is performed primarily by a person of a particular sex and that societal factors tend to encourage this correlation." Examples of this conditioning may be evident in the way parents guide children to behave in sex appropriate roles, or in the way schools direct students into occupations according to sex.

Masculinity is typically associated with instrumental traits, a cognitive focus on getting the job done, while femininity is typically associated with expressive traits, ones that show concern for the welfare of others (Bem 1974). Specific attempts have been made to empirically link these traits to behavior using sex-role inventories (Bem 1974; Spence, Helmreich, and Stapp 1974).

In this research, sex-role identity is measured by the Bem Sex-Role Inventory, a scale that exhibits not only a high degree of reliability, but also exhibits convergent and discriminate validity (Bem 1982; Lubinski, Tellegen, and Butcher 1983). In the Bem Sex-Role Inventory, respondents indicate

on a seven-point scale how well each of the masculine and feminine traits describes them. Typical masculine traits on the inventory are "aggressive" and "leadership ability;" typical feminine traits include "gentle" and "yielding." The inventory also has neutral items in order to disguise its exact intent.

In their seminal article, Lubinski et al. (1983) conclude that sex-role identity is best measured as two distinct constructs, masculinity and femininity. This allows researchers to assess the main effect of each of these constructs in addition to the incremental contribution of their two-way interaction (Hall and Taylor 1985). This methodology has been adopted for this research.

METHODOLOGY

This study consisted of a survey with built-in experiment undertaken in the real world among adult women. Each respondent was exposed to different stimuli (i.e., advertisements) based on an experimental design.

After a respondent agreed to participate, the interviewer read the respondent a product description and answered any questions about the product. Next, the interviewer handed the respondent a set of ads and asked her to study them carefully. The subjects indicated their purchase intent and their perceptions of the ads, and filled out the sex-role inventory. Finally, the data from the questionnaires was analyzed using hierarchical regression.

Development of the Stimuli

A portfolio of ads containing 10 purportedly modern and 10 purportedly traditional female role portrayals (i.e., visuals) was developed from a larger portfolio of hundreds of ads. Twenty women, marketing professionals and nonprofessionals, rated the ads on their ability to capture modern and traditional female portrayals, and the final portrayals were chosen for this study based on their ratings. In general, the modern portrayals show a career-oriented woman involved in making a decision, while the traditional portrayals show a woman in a more nurturing role, centering her attention on her family.

Next, headlines and body copy were developed and combined with the portrayals to form positionings that emphasized the modern/traditional dichotomy. Examples of the modern and traditional body copy respectively are:

"Behind every great woman, there should be a great company. Married or single, parent or single parent, the modern woman needs financial security."

"When a mother thinks of giving the best to her family, she needs a company she can depend on. We can help you plan for your family's financial security."

Sampling and Data Collection

The sample consisted of 200 women between the ages of 25 and 49. The procedure used was quota

sampling consisting of a systematic approach in which every fourth person who passed the interviewer (who was located at a specific point at the selected sites) was asked to participate. To ensure a heterogeneous and projectable sample, interviewers screened for different occupations, marital status and age.

The data was collected at four different locations, two in New York City (Manhattan and Queens), and two in the Boston vicinity (Chestnut Hill and Natick). One site in each city is perceived as a middle class location (or about average in terms of class) and one in each city is perceived as an upper-middle class location (or above average in terms of class). This scheme allows the obtaining of a variety of women with different incomes, occupations, etc. All site locations were malls. Naturally, days of the week and times of the day were varied, and interviews were conducted on both weekdays and weekends, starting at 10 a.m., 1 p.m., and 6 p.m., at each of the four selected sites.

Experimental Design and Analysis

The experimental design is a six factor complete factorial with a blocking scheme and partially repeated measures; the six factors are comprised of four within-subject factors (positioning, product category, institution and execution) and two between-subject factors (masculinity and femininity). Each subject viewed several ads, each with a different combination of the within-subject variables. Since she "repeats" a purchase probability assessment for each of the within-subject factors combinations, we have a repeated measures design. As is well known, a repeated measures design has several advantages: it not only reduces the sample size and costs by using the same subjects across treatments, but also reduces the overall variability by using this common pool of subjects (Howell 1982; Winer 1971).

As previously suggested, there are a possible 16 treatment combinations (i.e., 16 different ads) that each respondent could view (as a result of varying the two levels of positioning, product, institution and execution). Since each respondent would respond to 16 different treatment combinations there was a good possibility she could become tired, even resentful, and end up rushing her answers just to finish in a reasonable time frame, making the estimates of the effects of the factors less reliable. Also, experimental error might increase due to the sequence in which the treatment combinations are viewed (i.e., later treatments may be given less thought due to respondent fatigue).

An alternative solution was devised to negate this problem. By replacing the one large block of 16 treatments with four smaller blocks (each block containing four treatments [i.e., four ads]), each respondent viewed only four treatment combinations. This enabled respondents to complete the experiment in a more reasonable time frame and, hopefully, increased the reliability of the estimates. Consequently, 50 women were randomly

assigned to each of the four blocks and viewed the four advertisements comprising that block. Note that there is no reduction in the number of treatment combinations in the experiment; all 16 treatments are run (though now each treatment combination is seen by 50 women instead of 200 women).

The data was analyzed using hierarchical regression, a procedure routinely used with repeated measures designs (Baker, Ravichandran, and Randall 1989; Cohen and Cohen 1975; Pedhazur 1982). Additionally, hierarchical regression can handle the added complexity of this design's blocking scheme.

Dependent Variable

Intent to purchase was operationalized using an 11-point purchase probability scale. This scale has the advantage of inducing critical thinking and discrimination because it combines verbal definitions with purchase probabilities (Gruber 1970). To obtain an assessment of purchase probability, subjects were asked to respond to the following question: "Taking everything into account, what are the chances that you would buy this product?" The scale is anchored by the phrases, "certain (99 chances in 100)" and, "no chance (0 chance)."

Independent Variables

Positioning. The modern positionings exhibited a career woman in a leadership role, while the traditional positionings showed women focusing their attention on their families.

Product Category. The two product categories selected were Certificates of Deposits and Money Market Funds. They were selected because they use extensive print advertising, have reasonably high penetration rates among women and are relatively easy to understand. Moreover, they represent an interesting trade-off between liquidity and interest rates. Two product categories, as opposed to only one, allow us to generalize to other financial products.

Institution. Two financial services institutions were selected based on their similarity with respect to the following criteria: number of retail outlets, dollars spent on advertising and types of services offered. The two chosen were Merrill Lynch and Prudential-Bache Securities. It was important to choose financial services institutions that were fairly similar so as not to allow the factor "institution" to overpower the key factors of this study (i.e, positioning and sex-role identity). If one institution were considerably more well known, then respondents might choose it regardless of the positioning. Using two institutions instead of one makes the experiment more realistic.

Execution. There were two executions, with each execution containing one modern and one traditional positioning.

Sex-role Identity. Sex-role identity was measured with the Short Bem Sex-Role Inventory. This inventory contains (10) masculine traits and

TABLE 1
Anova Results for Purchase Probability

Source of Variance	Degrees of Freedom	Sum of Squares	Mean Squares	F	R-Sq.
Between Subjects	199				
Masculinity (M)	1	30.73	30.73	6.69*	.01
Femininity (F)	1	72.18	72.18	15.73*	.01
M x F	1	1.58	1.58	.34	.00
Error	196	898.76	4.59		
Within Subjects	600				
Positioning	1	524.75	524.75	82.64*	.09
Positioning x M	1	780.10	780.10	122.85*	.13
Positioning x F	1	165.18	165.18	26.01*	.03
Positioning x M x F	1	9.46	9.46	1.49	.00
Error	196	1245.37	6.35		
Institution	1	10.23	10.23	1.87	.00
Positioning x Execution ¹	1	2.24	2.24	.41	.00
Error	198	1080.13	5.46		
Product	1	12.77	12.77	2.59	.00
Execution ¹	1	7.67	7.67	1.56	.00
Error	198	978.00	4.94		
Total	799	5819.15			

*P < .01

¹In each case [(Institution and Positioning x Execution) and (Product Category and Execution)] both effects correspond with the same respective error term due to the confounding scheme inherent in the blocking process.

(10) feminine traits, allowing one to assess the individual contributions of masculinity and femininity.

RESULTS

After manipulation checks indicated that respondents clearly perceived the positionings, each of the hypotheses was tested for significance (see Table 1). Although masculinity and femininity are continuous variables, in order to enhance clarity these variables were classified into "high" and "low" based on dichotomized frequency distributions (See Tables 2 and 3).

There is strong support for Hypothesis 1, which states that, averaging over all other variables, a modern positioning will engender a higher purchase probability than a traditional one. The main effect of positioning is significant at $p < .01$, and accounts for 9% of the variance in purchase probability (Table 1).

Further examination of the means shows that the modern positioning has a mean purchase probability of 5.45, while the traditional has a mean of only 3.84 (see row means in Table 2). This modern minus traditional positioning differential is 1.61, ($5.45 - 3.84 = 1.61$). *I will refer to this*

modern minus traditional positioning differential as the "modern positioning advantage."

There is strong support for Hypothesis 2; the two-way interaction effect between positioning and masculinity is significant at $p < .01$, and accounts for 13% of the variance (Table 1). Furthermore, the "modern positioning advantage" is indeed larger at high masculinity than at low masculinity. Table 2 shows that at high masculinity, the "modern positioning advantage" is 3.46 ($6.14 - 2.68 = 3.46$), while at low masculinity it is -.24 ($4.75 - 4.99 = -.24$). Evidently, a modern positioning appears crucial to attract women with high masculine sex-role identities; positioning does not seem to be significant for low masculine women.

There is also considerable support for Hypothesis 3. The two-way interaction effect between positioning and femininity is significant at $p < .01$ and accounts for 3% of the variance in purchase probability (see Table 1). Table 3 shows the mean purchase probability for the positioning x femininity combinations. Note, that when averaging over both levels of femininity, the modern positioning has a higher purchase probability of 5.45 compared to the traditional positioning of only 3.84 (See row means in Table 3). This is consistent with the findings of

TABLE 2
Mean Purchase Probability by Positioning by Masculinity

Positioning	<u>Masculinity</u>		Row Means
	High	Low	
Modern	6.14	4.75	5.45
Traditional	2.68	4.99	3.84

TABLE 3
Mean Purchase Probability by Positioning by Femininity

Positioning	<u>Femininity</u>		Row Means
	High	Low	
Modern	5.32	5.57	5.45
Traditional	4.36	3.29	3.84

Hypothesis 1. However, when we look at the "modern positioning advantage," we see that at high femininity this differential is .96 ($5.32 - 4.36 = .96$), whereas at low femininity it is 2.28 ($5.57 - 3.29 = 2.28$).

DISCUSSION AND IMPLICATIONS

For some time researchers have been suggesting that showing women in traditionally stereotyped roles no longer reflects the roles of many North American women and, consequently, is increasingly becoming less effective as an advertising tool (Courtney and Whipple 1983). Moreover, in addition to this study, a growing body of empirically based research about advertising to women has begun to appear in the marketing literature which shows that, in certain product categories, modern positionings will increase purchase intent.

This study found that, when averaging over all sex-role segments of women, a modern positioning enhances the purchase probability for financial services. In-depth interviews, that were conducted with 20 women after they had completed the experiment, provide insights into this finding. The consensus among these women was that when it came to financial decisions they would trust a modern woman to make a better choice than a traditional woman. They therefore related to the modern positionings more than the traditional positionings. These women expressed this opinion despite their feelings that the traditional positionings are indeed thoughtful and express a problem they face, that of providing financial

security to their families. This finding suggests that financial service institutions should use a modern positioning when implementing a mass advertising strategy to capture the women's market.

The second major finding of this research indicates that the impact of positioning on purchase probability varies for women with different intensities of masculinity and femininity. Recall, for example, that women who score higher on masculinity have the largest "modern positioning advantage," strongly preferring (in terms of purchase probability) the modern over the traditional positioning; women with lower masculinity scores show no significant difference between the traditional and the modern positioning. This suggests that it is crucial for marketers to use a modern positioning to attract women with strong masculine sex-role identities. Marketers, however, have more flexibility in their choice of positioning for female segments with low masculine sex-role identities.

This research extends the current sex-role research into the financial services sector. Future research will examine whether the relationship between positioning and sex-role identity is significant in other product categories. It will also explore these relationships among men, as well as women.

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The Antecedents of Cognitive Age
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ABSTRACT

Gerontological explanations for the disparity between cognitive age and actual age were explored. Life satisfaction, activity levels, health, and culture influenced the discrepancy between cognitive age and actual age. Family relationships were not related to the age discrepancy.

Age segmentation is popular because it is operationally simple and intuitively logical. Barak with others (1980, 1985, 1986, 1988) has suggested that cognitive age rather than chronological age should be used as a basis for segmentation since it better reflects an individual's identity and behavior. While chronological age may be related to life events and people with similar ages may have similarities in lifestyle, health, and mental outlook (Reynolds and Rentz 1981), chronological age merely indicates birth date and causes nothing to occur (Jarvik 1975). Therefore, chronological age may be an inadequate basis for segmentation since it merely describes the market but does not provide an understanding of underlying consumer motivations.

Past research on cognitive age has focused on the relationship between chronological and cognitive age. The level of agreement between them is low suggesting that cognitive age captures a separate dimension of age not revealed by birth dates (Kastenbaum, Derbin, Sabatini, and Steven 1972; Barak and Schiffman 1980; Barak and Gould 1985; Barak and Stern 1985, 1986). There is also evidence that cognitive age may predict behavior better than chronological age (Smith and Moschis 1984). However, consumer researchers have not examined how cognitive age is related to consumer motivations. In order to improve our understanding of how cognitive age might be related to consumer motivations, this paper examines the relationship between the predictors of successful aging and cognitive age. The paper builds on research in the gerontology literature which has examined the relationship of aging and life satisfaction.

**LITERATURE REVIEW AND
HYPOTHESES**

Gerontological research takes a developmental perspective toward the aging process, focusing on tasks (such as family relationships, activity levels, and physical well-being) over the life cycle (Havighurst 1972). These experiences vary during the life span and have varying effects on life satisfaction. Inevitably, aspects in the life course affect cognitive age for much the same reason they can affect life satisfaction. People able to cope with age transitions will not feel the effects of age as much as people unable to cope.

Life satisfaction depends on social interaction, which changes throughout the family

and career life cycle (Mass and Kuypers 1974, Havighurst 1972). Social role changes occur from life events like retirement and reduced incomes, death of a spouse, establishing an explicit affiliation with one's age group, and meeting social and civic obligations (Havighurst 1972). While life events and transitions may be similar for everyone, people's ability to adapt differs. People better able to cope with transitions will be more satisfied. Mass and Kuypers (1974) suggest four lifestyle patterns among the elderly. Among these, the "family centered person" and the "hobbyist" were found to be more adaptive and experienced greater life satisfaction than the "remotely sociable" and "disorganized" types. Specific social interactions (activity levels and family relationships) will be examined in more detail below.

Activity Levels

Although there is a tendency for old people to become less active, Neugarten, Havighurst, and Tobin (1964) found that life satisfaction was greater in older people who were socially active and engaged than those who were inactive and disengaged. Blau (1973) also found life satisfaction increases with new roles and other socially interactive alternatives. ". . . Aging involves an unusual amount of personal change and status ambiguity. . ." (Ward 1977). Periods of personal change often result in increased self awareness (Rosenberg 1965). As a person becomes less active the realities of the aging process are more likely to be recognized. Discrepancies between now and when they were younger will be more obvious, making them feel older. People who remain active will not experience increased self awareness and are less likely to "feel their age."

Family Relationships

Life satisfaction is also highly correlated with family interactions (Lohman 1977). Family relationships and roles provide a sense of continuity, personalized interaction, and affection during the life span. Family ties become increasingly important sources of satisfaction as other roles are lost (Cherlin 1983). The life satisfaction attained from better family relationships means greater fulfillment in those roles, leading to a younger cognitive age perception. In addition, better family relations will also increase general activity levels.

Biological Factors

Even healthy older people experience declines in: energy, muscular strength, speed of response, sight and hearing; and have difficulty in adapting to extreme heat or cold (Marsh 1980). Health affects the performance of basic tasks and expected social

roles as well as affects adjustments to changing life conditions (Birren 1964, Botwinick 1978, Bromley 1974). Since the body symbolizes a part of the individual's identity, illness has a negative effect on self-esteem and age perception. Moos and Tsu (1977) found a positive relationship between good health and satisfaction. In the same way, emotional health influences successful aging patterns; those who perceive themselves to be healthy are likely to be more satisfied than others (Neugarten 1968). Mutran and Reitzes (1981) observed that self-reported health status also affects levels of activity.

Less healthy old people need to adapt more to changing life conditions. Activities and food enjoyed at a younger age can be experienced less frequently, or not at all. How often do we hear, "I must be getting old" when simple physical activities result in aches or favorite foods cause indigestion. As health problems begin to affect the enjoyment of activities, people will begin to feel old. Conversely, healthy older people will continue to see themselves as young since health does not affect their lifestyle.

Culture

Adaptation to developmental tasks varies depending on the extent to which different societies give deference and prestige to the old. It was suggested by Lebra (1976) that increased age brings increased status in the Chinese culture. Conversely, Kimmel (1988) found that a negative connotation towards aging exists in Western culture. Given these characteristics, a chronologically old person would experience different age perceptions depending on the cultural context. Older Westerners prefer to perceive themselves as young because their actual age status is not respected. When age is respected, as in the Chinese culture, the elderly would accept their actual age more willingly.

Hypotheses

Based on the discussion presented above, five hypotheses will be examined.

- H1: Higher satisfaction experienced in life results in a younger cognitive age.
- H2: Higher levels of activity result in a younger cognitive age.
- H3: Closer family relationships result in a younger cognitive age.
- H4: More healthy elderly persons will feel younger than the less healthy.
- H5: Those inclined to the Western culture will have a younger cognitive age than those inclined to a Chinese culture.

RESEARCH METHODOLOGY

A convenience sample of 301 elderly Singaporeans was given a self-administered questionnaire in either English or Mandarin. The

Mandarin questionnaire was back translated to English to ensure its accurate interpretation in both languages. The sample, selected from diverse groups, included several associations for the elderly, (n=140 eg., Singapore Retirees Association, Singapore Action Group for Elders, senior citizens clubs in community centers, clan associations, Dying Aid Society, and religious organizations), outpatient clinics (n=70), lunchtime crowd of the Stock Exchange of Singapore (n=20), and grandparents of colleagues and friends (n=71). The sample appeared to be an adequate representation of the various socioeconomic class. All participants were 55 years or older. Although aging is a lifelong process, the elderly are defined as persons 55 years of age or older for empirical purposes (Neugarten 1968). In Singapore, 55 is also the official government retirement age. None of the respondents were institutionalized, a common sampling limitation of previous research on elderly consumer behavior (Bernhardt and Kinnear 1976). While the age range, cultural orientation, and non-random nature of the sample prevents broad generalizations, it was felt the sample was acceptable for a test of the theoretical relationships specified in the hypotheses.

Measures

Each of the independent variables was constructed by lifestyle questions encompassing the activities, interests, opinions (AIO) of each individual (Wells and Tigert 1971). Agreement with each AIO statement was assessed using 7-point Likert-type scales. There were both positive and reversed statements included to control for possible acquiescence bias. Some fill in the blanks were also used to enhance the validity of the findings. The items of the independent variables were generated from earlier studies of the elderly (Wells 1974; Schutz, Baird, and Hawkes 1979).

Life satisfaction was defined as the type of gratification that an individual's life circumstances make available to him and allows him to attain. Ten items, such as "I am happier now than I ever was before," were designed to assess the effect life satisfaction has on cognitive age.

Activity levels are reflected in the respondent's patterns and attitudes towards levels of activity. Daily activities such as group membership, solitary activity, and interpersonal relationships were examined using ten items such as "I often take an active part in local civic issues." Those who are presently working answered three additional AIO statements since their activity levels differ from those who are retired. Finally, nine fill in the blank questions on the number of times the respondents participated in different activities were asked. Both the Likert-type and objective measures were included to provide a measure for both attitudes toward activity levels and respondents' actual activity.

The family life measure estimates the satisfaction with family ties and number of activities done together with members of the family. The

scale consists of seven Likert-type items and six fill in the blank.

Health was assessed using eight AIO statements related to various aspects of health including general overall health, energy level, and speed of recovery.

Language was used to assess culture orientation since it is a major determinant of an individual's mode of thought (Whorf 1956). The respondent specified what language he spoke most on a 5-point entirely English - entirely Chinese scale. The level of fluency of each language was obtained on a 3-point scale ranging from fluent to poor. Although language is not a perfect measure of cultural orientation, it is a commonly used component of cultural orientation measures. A more comprehensive measure was not used because of space limitations.

Cognitive age was measured using four questions: 1) I feel as though I am in my ____; 2) I look as though I am in my ____; 3) I do things as though I am in my ____; 4) My interests are mostly those of a person in their ____ (Kastenbaum et al. 1972; Barak and Schiffman 1980). Cognitive age was calculated as an average of the four age aspects.

Analysis

Factor analysis was conducted to determine the component structure of the multi-item independent variables. Factor scores were then used in a multiple regression analysis. The dependent variable in the regression analysis was the difference between actual age and cognitive age (hereafter referred to as the age differential). The age differential was used since the objective is to determine the factors that lead to a younger or older age perception.

RESULTS

The correlation between chronological and cognitive age was performed to determine any significant differences between them. This was done separately for those below and above 65 years of age. The results indicate both chronological and cognitive age are different from each other ($r = 0.4729$ and 0.4736 for below and above 65 years respectively). This points to the fact that cognitive age is capturing aspects of age that are not adequately reflected in the elderly's chronological age. Further, the cognitive age was constantly younger than the chronological age in both age groups. Both these findings are consistent with past research.

Factor analysis produced three dimensions for life satisfaction (see Table 1). The factors were identified as contentment, attitudes, and daily encounters. There were also three factors for health signs of aging, physical health, and strength. The activity level measure had four factors for the Likert-type scales (inactivity, social, enthusiasm, and work). Family life had two factors for the Likert-type scales (affection and pride). Each factor was

used as a separate variable in the regression analysis, for a total of 13 independent variables.

Overall, the independent variables were able to explain 22.7% of the variation in the difference between actual and cognitive age (see Table 2). The age differential was negatively related to the attitude factor of life satisfaction supporting Hypothesis 1. A positive attitude results in respondents feeling younger than their actual age. Hypothesis 2 was also supported since the actual activity and enthusiasm factors were significantly and negatively correlated with the age differential. This indicates that respondents felt younger when activity levels were high. Hypothesis 3 was not supported. None of the family life factors were related to the age differential. Two dimensions of the health factor (signs of aging and physical health) were negatively and significantly correlated with the age differential supporting Hypothesis 4. The old person who did not experience diminished functioning associated with age felt younger than their actual age. Hypothesis 5 was also supported. English-speaking respondents were more likely to feel younger than their actual age as apposed to the Chinese-speaking respondents.

DISCUSSION

Previous research on cognitive age has shown it is different than chronological age and may better explain consumer behavior in certain circumstances. However, the reasons why this might be so, and how cognitive age can affect consumer behavior has not been examined. This paper has examined several possible antecedents to cognitive age. Cognitive age was found to be related to life satisfaction, activity level, physical health, and culture. Surprisingly, family relationships were not found to affect cognitive age. This may be due to the strength of family relationships in Singapore, which vary little across families. Since almost all families are close, the ability of family relationships to explain variations in cognitive age would be masked.

These findings suggest that cognitive age, as a distinct construct, may be used to partially reconcile several contradictory findings in the literature on elderly consumer behavior. For example, in the health care marketing context, differing levels of consumerist activities were found to be present among elderly consumers. In his review, Tongren (1988) suggested that studies revealing higher levels of elderly activism were linked to concern with fraud and victimization. Lower levels of activism involved elderly consumers who were unwilling to appear dependent or who did not feel they had control over the cost and quality of medical treatment.

While Tongren's (1988) account appears entirely possible, the present findings suggest another plausible explanation. In particular, it may be that variations in cognitive age, as they are related to the physical health and activity levels of the elderly, serve to reconcile the observed differences in consumer activism among the elderly.

TABLE 1
Factors And Factor Weights For the Independent Variables

<u>Factor</u>	<u>Weights</u>
<u>Life Satisfaction</u>	
<u>Contentment</u>	
I feel I have little to be proud of.	0.7323
I often have experiences which teach me new things.	0.7133
I am happier now than I ever was before.	0.6462
I am unhappy with my life.	0.6110
I feel I have a number of good qualities.	0.5475
My life involves interesting kinds of tasks and activities.	0.4574
<u>Attitudes</u>	
I take a positive attitude toward myself.	0.7264
I wish I were younger than I am now.	0.7126
<u>Daily Encounters</u>	
Most of my activities involve people whose company I enjoy.	0.8591
I really enjoy the things I do.	0.7561
<u>Activity Level</u>	
<u>Inactive</u>	
I prefer watching other people being active than being active myself.	0.7821
I have a very inactive social life.	0.7661
My days seem to follow a definite routine like eating meals at the same time daily.	0.7152
I seem to have fewer friends now than before.	0.6960
<u>Social</u>	
I like visiting new places on my own.	0.7937
I do volunteer work for service organizations or hospitals on a fairly regular basis.	-0.6737
I am an active member of at least one service organization.	-0.6386
<u>Enthusiasm</u>	
I often take an active part in local civic issues.	0.7772
I work very hard.	0.7692
I have never felt I was too old to take up new ways.	0.3678
<u>Work</u>	
I work to maintain my lifestyle and independence.	0.8620
Working leaves me less time for my social life.	-0.7878
I want to work for as long as I can.	0.5254
<u>Family Life</u>	
<u>Pride</u>	
I look forward to a family gathering.	0.6993
Nothing makes me more upset than to see my children and grandchildren in a rough patch.	0.6749
<u>Affection</u>	
I am unhappy with the relationship I am having with my children.	0.7341
I do not worry about my children.	-0.5592
I often do things together with my children and/or grandchildren, watching television, having meals, etc.	0.5467
<u>Health</u>	
<u>Signs of Aging</u>	
My daily activities are limited by my health.	0.8986
I appreciated my favorite foods better ten years ago.	0.7062
I get tired more easily now than ten years ago.	0.6466
When I fall ill nowadays, I take a longer time to recuperate.	0.6331
<u>Physical Health</u>	
I am as quick as I used to be ten years ago.	0.8168
I have excellent overall health.	0.6696
Strenuous work tires me less ten years ago.	0.5778
<u>Strength</u>	
I have as much energy as ten years ago.	0.9690
It takes me longer to regain my energy after an exhausting day now.	0.9690

TABLE 2
Regression Results

Variable	B	Adjusted R Square	Change in Adj R Sq.	Significance
Physical Health	-0.3695	0.0920	0.0950	0.0004
Enthusiasm	0.3264	0.1331	0.0439	0.0010
Signs of Aging	-0.2942	0.1768	0.0462	0.0000
Actual Activity	0.0422	0.1992	0.0248	0.0008
Culture	-3.1190	0.2129	0.0162	0.0110
Attitude	-0.3009	0.2274	0.0169	0.0111

Hence, elderly consumer who perceive themselves to be cognitively younger and were more healthy and socially active may conceivably be less willing and interested to engage in consumer activism relative to those who perceived themselves to be cognitively older. Rahtz, Sirgy, and Meadow (1989), provide tentative empirical support for this contention when they found that individuals who felt younger were less likely to be active participants in the healthcare service domain as those who viewed themselves as older.

Future Research

The findings in this research also imply that future research in elderly consumer behavior should incorporate cognitive, in addition to chronological, measures of age. Such an approach may broaden extant understanding of this important segment as it would allow consumer researchers to draw out the effects due to cognitive age from those due to chronological age. This paper considers a more precise delineation of the conditions under which one or the other age construct possesses greater predictive and explanatory power with regard to important elderly consumer behavior outcomes.

Future research may also focus on determining other antecedents of cognitive age given the encouraging results of the present study. For example, it may be useful to explore in greater depth the relationship between cognitive age and life satisfaction. Several scholars (eg., Aiello et al. 1977; Andres and Withey 1976; Meadow 1988; Neugarten, Havighurst, and Tobin 1961) have posited that life satisfaction may be construed as a composite global satisfaction outcome resulting from the satisfaction derived from various individual domains. With regard to the elderly, such relevant individual domains as healthcare may be explored in connection with cognitive age. Finally, it may also be instructive to establish with greater precision particular antecedents of cognitive age which account for variations in specific elderly consumer behaviors.

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Attitudinal and Leisure Activity Differences Across Modernized Household Life Cycle Categories

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ABSTRACT

An updated family life cycle model, originally proposed in the consumer behavior literature by Gilly and Enis (1982), is empirically evaluated. The model produces strong significant differences across men's and women's sexrole norms, work and time pressure attitudes, self-fulfillment attitudes, traditional values, and leisure activities. Further, this model results in less than one percent of the sample classified as "other," and incorporates individuals into new classifications reflecting changing demographic trends as called for by researchers in multiple disciplines. Suggestions for future research and potential model modifications are also discussed.

The family life cycle has been a widely studied construct in the marketing and consumer behavior literature (Arndt 1979; Gilly and Enis 1982; Murphy and Staples 1979; Wells and Gubar 1966). Over the past two decades, there have been calls for updating or modernizing our definitions of the family life cycle, mainly due to demographic shifts such as later age at marriage, an increase in working wives, postponed child bearing, and increased divorces (Gilly and Enis 1982; Glick 1977; Murphy and Staples 1979). In the marketing and consumer behavior literature, two recently proposed updated models attempt to capture some of the aforementioned changes and trends (Gilly and Enis 1982; Murphy and Staples 1979).

Changing Values and Demographics

Yankelovich (1981) attributes new demographic trends such as staying single, postponing marriage, postponing or forgoing childbearing, having fewer children, as well as separation and divorce, to changing values, and the "search for self-fulfillment." Nearly 80% of the population is now engaged in this search, associated with a shift away from traditional values, greater individualism, greater concern with self improvement, careers, and creative life styles, and more modern sex role norms. That 17% of the population who evidence what Yankelovich terms the "strong form", are much more likely to lead alternative life styles and to forgo, postpone or depart from traditional family life cycle progression. They tend also to be younger, higher socioeconomic status, experience greater time and work pressures, and are more health conscious. This tends to result in different consumption patterns (e.g., greater use of yogurt, imported wines, herbal teas, fresh fruit, restaurant meals, lesser use of high calorie, high cholesterol foods). It also results in different leisure activity patterns: more frequent participation in active exercise such as tennis, skiing, jogging, and dance; as well as more frequent social entertainment

such as dining out, going to bars, concerts, movies, and travel. Thus, we would expect similar profiles for postponed, foregone, or nontraditional family life cycle stages, including younger and middle aged bachelors, newlyweds, delayed fullnest households, and childless couples.

Scanzoni (1975, 1982, 1983) also concludes that our society has become more individualistic then collectivistic or familistic. He views these changes as evolutionary, and as due to rapidly increased women's education and labor force participation, as well as more modern sex role norms. Scanzoni (1975) empirically demonstrates that women's education and sex role modernity lead to women's work force participation, to greater autonomy, independence, and achievement, and to delayed or non-progression through traditional life cycle stages. He suggests that marriages in which both spouses hold sex role modern norms are even more likely to evidence nontraditional lifestyles and life cycle progression, while those with a modern wife and traditional husband are likely to become divorced if they can't effectively resolve their conflict. The implications of Scanzoni's work for non-traditional family life cycle stages are quite consistent with those of Yankelovich (1981).

Duvall and Miller (1985) discuss new forms of transitions/departures from traditional family life cycle progressions, and also discuss role transitions which must occur at different stages due to forming a new dyad, having a first child, having children enter school, empty nest transitions, divorce, etc. Wells and Gubar (1966) and Reynolds and Wells (1977) review some of the consumption and leisure activity differences associated with traditional progression through life cycle stages. Presence of young children at home generally curtails the more external and socially active leisure activities which characterize bachelors, newlyweds, and childless couples, and results in an increase in home and family oriented activities.

Major Family Life Cycle Models

Three major family life cycle models (Gilly and Enis 1982; Murphy and Staples 1979; Wells and Gubar 1966) have been used by marketing/consumer behavior researchers. Each of these models is described and briefly compared next.

The models differ in the number of categories assigned. The Murphy-Staples and Gilly-Enis models each use 13 groups, while Wells-Gubar has 9 groups. All three models incorporate at least a portion of the singles category. Wells-Gubar includes older divorced and widowed; Gilly-Enis includes bachelors, widowed, divorced, and separated of all age groups. The Murphy-Staples model adds categories for young and middle aged divorced, both with and without children, distinguishes between

middle aged married without dependent children and middle aged married without children, and adds a category for middle aged divorced without dependent children. Middle and older aged bachelors, single parents, cohabitating couples, and young and middle aged widow(er)s are all classified as "other." The Gilly-Enis model adds categories for middle-aged and older bachelors (which include both childless and non-custodial divorced and widowed individuals), for young, middle aged, and older single parents (whether never married, divorced, or widowed), for childless middle aged couples (treated the same as empty nest), and for delayed full nest (middle aged, child under 6). Further, cohabitating couples are treated as married in all couple unit designations. Another distinction among the models is the age cutoff. Wells-Gubar uses one age cutoff, 45, to distinguish between older and younger families. Both Gilly-Enis and Murphy-Staples use an age cutoff at 35 for middle aged, and of 65 for older couples. The Gilly-Enis model, however, uses age of female head of household for age cutoffs, based upon the rationale that most (traditional) women stop active childbearing by age 35.

In the marketing/consumer behavior literature, Wagner and Hanna (1983) compared the Wells-Gubar and the Murphy-Staples models as well as multiple regression models incorporating income and family composition variables in an examination of aggregate family clothing expenditures. Fritzsche (1981) compared the same two models on their ability to predict energy consumption profiles. Both studies had to substantially modify their operational definitions of the Murphy-Staples model, resulting in their testing a model closer to the Gilly-Enis model. Due to the limited nature of the dependent consumption expenditure variables examined, we know very little about how modernized life cycle categories differ.

The high incidence of households classified as "other," is also problematic. The Wells-Gubar model assigns 28 percent as "other," Murphy-Staples 19 percent, Gilly-Enis less than 1 percent. In this paper, we focus on the Gilly-Enis model in part because it classifies a much lower percentage of other, but also because it results in meaningful consumption profile differences across categories. Schaninger and Danko (1989) compared these three models, as well as several others in greater depth. They found that the Gilly-Enis model outperformed the other models, and demonstrated a higher percentage of variance explained as well as stronger significance across a variety of consumption related areas. Danko and Schaninger (1989) provide a detailed examination of specific consumption differences for this model, including food and beverages, dollar value of major durable acquisitions, major and minor appliance ownership, and use of services.

The purpose of this paper is to empirically test the Gilly-Enis model across the attitudinal constructs developed previously (sex role norms, work and time pressures, strong-former attitudes, and traditional values), as well as leisure activities, for

both men and women. We hypothesize that both men and women, in stages indicative of delayed or non-progression through traditional life cycle stages (young and middle aged bachelors, single parent women, childless newly weds, and delayed fullnest households) will be more sex role modern, report greater work and time pressures, score higher on strong former attitudes, and have less traditional values. We also hypothesize that such households will report greater participation in more active leisure activities, as well as more external/social leisure activities than households with children (particularly young children) present.

METHODOLOGY

Questionnaire Development

The questionnaire consisted of eight type-set pages and was mailed using university letterhead. The first segment elicited household descriptors (demographics), food and beverage consumption, use of services, durable goods ownership, and value of select durables. Two additional pages ascertained individual leisure activities, and six-point Likert scaled attitudes regarding topics such as sex roles (Schaninger, Buss, and Grover, 1982), work and time pressures (House and Harkins, 1975; Robinson, 1977), "strong former" attitudes (Yankelovich 1981), and traditional values (Reynolds, Crask, and Wells, 1977; Wells, 1974; Wells and Tigert, 1971; Yankelovich, 1981).

Sample Development

A telephone directory from a widely used test market and top 50 SMSA located in a mid-Atlantic state served as the sample frame. The initial sample was recruited over a four week period via telephone solicitation with three call-backs, using a systematic random sample design. Of the 2,790 households we attempted to reach, 111 had telephones not in service, and 508 households were unreachable after three attempts. Of the 2,171 households reached, 1,160 (53.4%) agreed to participate, while 1,017 refused. Within four weeks of the mailing, 19 questionnaires were returned as address unknown, 10 were completed partially and deemed unusable, and 307 were usable.

To ascertain possible non-response bias, three additional subsamples of 500 households each (unreachable by phone, refusals, and non-respondents from the first mailing) were mailed a personalized letter with a questionnaire and cover letter. This resulted in an augmented sample of 137 households (approximately equally distributed across the three nonrespondent groups) and 74 non-deliverables, yielding 444 households with usable returns. This represents a response rate of 31.1% of those who originally agreed to participate, and 17.2% of the original telephone book frame with working phones and reachable by mail. No significant differences were found between our original and augmented sample with regard to family life cycle classifications. Some households were comprised of adults of the same sex, and in some

FIGURE
THE GILLY AND ENIS (1982) FAMILY LIFE CYCLE MODEL

Stage	Description	Sample	
		Size	Percent
B1	Bachelor 1: head is 18-34, single (never married, divorced, separated, widowed), no dependent children	35	7.9
B2	Bachelor 2: head is 35-64, single (never married, divorced, separated, widowed), no dependent children	59	13.3
NW	Newlywed: female head is 18-34, couple (married or unmarried), no dependent children	33	7.4
SP	Single Parent: head is 18-64, single (never married, divorced, separated, widowed), dependent children	26	5.9
FN1	Full Nest 1: female head is 18-34, couple (married or unmarried), dependent children	44	9.9
DFN	Delayed Full Nest: female head is 35-64, couple (married or unmarried), dependent children under age 5	17	3.8
FN23	Full Nest 2, Full Nest 3: female head is 18-64, couple (married or unmarried), dependent children over age 5	98	22.1
CC	Childless Couple: female head is 35-64, couple (married or unmarried), no dependent children	71	16.0
OC	Older Couple (Empty Nest): female head is 65 or older, couple (married or unmarried), no dependent children	26	5.9
B3	Bachelor 3: head is 65 or older, single (never married, divorced, separated, widowed), no dependent children	33	7.4
	Unclassified "other" (not used in the analysis)	2	0.5
	Total Sample Size	444	100.00

NOTE: Single parents 1, 2, and 3 were combined into single parents, and full nest 2 and 3 were combined due to sparseness.

cases an adult son or daughter lived with one of their parents. For individual attitudes and leisure activities on such households, each individual was classified to a family life cycle stage based on their age and marital status. Thus, totals of both women and men may exceed household counts for bachelor categories.

When the total sample (444 households) was compared to 1980 SMSA census statistics, no significant differences were found for proportions of single under 18, or married couples without children under 18, or individuals under or over age 45. To further examine the question of sample representativeness, we compared our sample to March 1986 national census statistics. Overall, our sample's distribution was not significantly different from the census distribution at the .05 level,

although it was marginally different at the .10 level. Our sample slightly overrepresented married couples with no children under 18, and underrepresented non-married over 65 households. The lack of significant differences between our original and augmented samples, over total sample and 1980 SMSA data, and our total sample and 1986 census data suggests that non-response bias is minimal.

Operationalization of Family Life Cycle Models

Household classification (single never married, single by divorce or separation, widowed, married couple, or unmarried couple) and the ages of all adults and children in the household were reported by an adult head of the household. The Figure

outlines the categories used in the analysis for the Gilly-Enis model.

In their original formulation, Gilly and Enis (1982) developed 14 categories, including "other." The three single parent categories had to be collapsed into one category, as did full nest 2 and 3, to avoid sparseness. Our sample sizes in these original categories were nearly identical to 1986 census data proportions. Full nest 2 and full nest 3 were combined based on the common attribute that all dependent children are over five years of age and on the lack of significant differences across a variety of consumption and expenditure areas as well as leisure activities and attitudes. Thus the model we tested consisted of ten categories, with only 2 households classified as "other."

Analyses

For men's and women's attitudes and leisure activities we choose to apply separate single factor models (MANOVA's for attitudes, and Pearson Chi squares for leisure activities). While a two factor design (FLC stage by sex) could have been employed, we were not concerned with testing for sex differences, and had to drop male single parents ($n=4$) due to sparseness, thus resulting in different degrees of freedom for men's and women's tests.

RESULTS

Individual Attitudes

Men's and women's sex role norms, work and time pressures, strong former aspirations, and traditional values, were strongly and significantly related to family life cycle stages, as shown in Tables 1 and 2.

Among women, newlyweds, young bachelors, and single parents held the most modern sex role norms, while older bachelors followed by older couples and childless couples were most traditional. Middle age bachelors held more modern views toward wife's career importance, while fullnest 1 households held more modern views towards sharing household responsibilities if a wife works. Surprisingly, delayed fullnest wives were more traditional than fullnest 1 wives. Single parents reported the strongest pattern of work and time pressures, while older couple wives and older bachelors (as expected) demonstrated an opposite profile. Delayed full nest wives reported the highest non-work related time pressures. Strong former aspirations were highest among young bachelors and single parents, followed by newlywed women. They were lowest among older bachelor, followed by older couple women, as expected. Older bachelors, followed by older couples, and childless couples, agreed most with traditional values, while young bachelors, followed by newlyweds, demonstrated an opposite pattern. In general, these results are consistent with those hypothesized, although delayed fullnest wives were not more sex role modern nor less traditional than other fullnest wives.

Men's attitudes demonstrated a similar pattern to those of women for older couples and older

bachelors. They tended to be most sex role traditional, experience less work and time pressures, have weaker strong former aspirations, and hold more traditional values. Childless couple men demonstrated a similar, but weaker profile. Newlywed, followed by full nest 1 men, were most sex role modern and strong former oriented. Young bachelors held relatively modern norms toward a wife working but not toward wife's career importance or sharing responsibility. They also held relatively high strong former aspirations and less traditional values. Delayed full nest husbands, contrary to our expectations, were not more sex role modern and did not hold less traditional values. They did, however, score highest, followed by fullnest 1 and fullnest 2-3 households, on work and time pressures, reflecting the conflicting demands of work and family (children) obligations.

Overall, most of the patterns were in the direction hypothesized for men and women's attitudes. The finding of more traditional sex role norms and values for delayed full nest couples compared to full nest 1 couples, probably reflects age effects. It may also reflect the inclusion of couples who continued to have children with couples who delayed having children. The finding of more modern sex role norms for newlywed and full nest 1 men than for young bachelors suggests that men's sex role norms change after marriage due to negotiation and conflict resolution, as suggested by Scanzoni (1982).

Leisure Activities

Strong Pearson Chi square results were observed for women's and men's leisure activities as shown in Tables 3 and 4.

Not unexpectedly, men and women demonstrated different leisure activity patterns across family life cycle stages. Among women, strenuous physical activities, including bicycling, skiing, tennis, and aerobic dance, were lowest among older couples and older bachelors, and highest among younger and middle aged bachelors, and newlyweds. Gardening was most prevalent among full nest 2&3 through older couple women. Volunteer work was most common in delayed full nest, full nest 2&3, and older bachelors. Bars, concerts, movies, and dancing were most popular among young bachelor, single parent, and middle aged bachelor women, with older couples and older bachelors scoring lowest. Probably due to presence of young children, full nest 1 and delayed full nest women reported heaviest usage, and older couples and older bachelors, least usage of rented movies. Dining out was highest among childless, older couple, newlywed, and middle aged bachelor women. Single parents, full nest 1 and delayed full nest households (due to presence of young children) were least likely to dine out. Thus, women's leisure activities demonstrate a pattern consistent with that hypothesized.

A similar pattern to that observed in women was found for physically strenuous activities among men, with lowest participation among older couples and older bachelors, and heaviest participation

TABLE 1
MANOVA ON WOMEN'S SEX ROLES, WORK/TIME PRESSURES, STRONG FORMER ASPIRATIONS, AND TRADITIONAL VALUES BY LIFE CYCLE STAGE

	B1 n=23	B2 n=29	NW n=32	SP n=22	FN1 n=44	DFN n=17	FN23 n=88	CC n=67	OC n=25	B3 n=22	F df=9,359
SEX ROLE: WORK AND YOUNG CHILDREN											
1: A wife should give up her job whenever it inconveniences her husband and children.....	1.95	3.05	1.87	2.18	2.05	2.47	2.55	3.09	3.36	4.29	6.55e
2: If a mother of young children works, it should be only when the family needs the money.....	2.73	3.65	2.46	3.11	3.11	4.05	3.68	3.97	4.44	4.52	4.36e
SEX ROLE: WORK AND FAMILY											
3: A married woman should be able to work even if it involves some inconvenience for her family.....	4.78	4.62	4.76	4.68	4.29	4.35	4.54	4.04	3.50	3.88	2.31b
4: A married woman's most important task in life is to take care of her husband and children.....	42.65	3.62	2.75	3.31	3.19	4.11	3.87	3.91	4.60	4.63	5.27e
SEX ROLE: WIFE'S CAREER IMPORTANCE											
5: A married woman's job should be just as important as encouraging her husband in his job.....	5.47	5.39	5.35	5.31	5.08	4.58	5.04	4.75	4.90	4.27	2.76c
6: A married woman who works should be able to make long range career plans, just as her husband.....	5.30	5.13	5.15	5.45	5.31	4.76	4.72	4.35	4.48	3.68	5.11e
SEX ROLE: SHARE RESPONSIBILITY											
7: If a wife works, a husband should share equally in chores such as cooking and cleaning.....	5.47	5.27	5.43	5.68	5.63	5.11	4.97	4.89	5.08	4.86	2.82c
8: If a wife works, a husband should share equally in the responsibilities of child care.....	5.60	5.05	5.29	5.56	5.46	5.41	5.05	5.01	5.20	4.90	1.80a
9: Both parents should have the responsibility to care for small children.....	5.47	5.10	5.65	5.59	5.44	4.52	5.02	5.01	4.52	5.22	2.62c
WORK AND TIME PRESSURE											
10: I feel I never have enough time to get everything done.....	4.17	4.48	4.59	4.54	4.47	4.94	4.69	4.38	3.72	3.59	1.93b
11: I always feel rushed in completing my day's activities.....	3.87	3.62	3.87	4.27	3.95	4.94	4.05	3.49	2.92	2.81	3.94e
12: I spend so much time working, I don't even have time to spend my money.....	2.43	2.10	2.28	2.63	1.97	1.82	2.39	2.22	1.76	1.72	1.68a
13: I feel a great deal of stress from work.....	3.21	3.27	3.15	3.13	2.70	2.35	2.78	2.41	2.04	1.36	4.17e
14: I often feel drained when I get home from work.....	4.00	3.51	3.81	3.45	3.27	2.58	3.42	2.97	1.64	1.31	7.92e
15: I find my job interferes with my ability to enjoy my family.....	2.08	2.48	2.43	2.68	2.45	2.35	2.45	2.22	1.44	1.04	3.68e
16: I have to plan in advance to spend time with those close to me.....	3.08	3.41	3.06	3.50	2.50	3.29	2.75	2.70	2.32	1.18	4.36e
STRONG FORMER ASPIRATIONS											
17: It is important to be well read and educated.....	5.52	5.62	5.23	5.54	5.15	5.70	5.34	5.46	5.78	5.77	1.72a
18: I feel a strong need for "new experiences".....	4.73	4.10	4.21	4.50	3.84	4.11	4.05	3.89	3.36	3.27	2.49c
19: I like to seek out new foods and tastes.....	4.34	3.89	4.34	4.09	3.54	3.41	3.65	4.00	3.44	3.63	1.68a
20: I am concerned with self-fulfillment.....	4.91	4.69	4.85	4.95	4.52	4.35	4.30	3.97	3.98	3.13	4.57e
21: I want to be outstanding in my field of work.....	5.21	4.63	4.81	5.00	4.54	5.00	4.39	4.44	4.44	3.75	2.49c
22: I want something meaningful to work toward.....	5.34	5.20	5.45	5.50	5.02	5.23	4.71	4.64	4.26	3.68	6.06e
23: I want time and energy left over to pursue personal interests.....	5.56	5.36	5.29	5.68	5.25	5.00	5.10	5.17	4.82	4.15	4.03e
24: Self-improvement is important to me and I work hard at it.....	4.82	4.60	4.59	4.63	4.11	4.55	4.36	4.32	4.28	3.54	2.07b
TRADITIONAL VALUES											
25: People should be free to look, dress, and live the way they want.....	5.08	4.86	4.96	4.81	4.68	4.58	4.61	4.52	4.00	5.09	1.76a
26: I prefer a more creative life to financial well-being.....	3.87	3.79	4.03	4.00	3.75	3.82	3.82	3.77	3.70	3.06	.89
27: The father should be the boss in the house.....	1.47	2.03	1.53	1.77	2.20	2.11	2.47	2.68	2.72	3.36	4.02e
28: I go to church regularly.....	2.39	3.37	2.37	3.13	3.27	3.52	4.12	3.67	3.88	4.04	3.09d
29: Everything is changing too fast today.....	2.52	3.62	3.06	3.31	3.04	3.76	3.42	3.53	3.80	4.40	2.84c
30: Today, most people don't have enough discipline.....	3.47	4.55	4.06	4.68	4.13	4.70	4.50	4.67	4.60	5.43	3.82e
31: "Strict, old fashioned upbringing and discipline" are still the best ways to raise children.....	2.56	3.58	3.65	3.90	3.29	3.52	3.62	3.86	4.14	5.00	4.11e
32: Four or more children is the best ideal number for a family to have.....	1.43	1.93	1.43	1.86	1.95	2.29	1.97	2.23	2.80	1.90	2.30b
33: It is morally acceptable to stay single and have children.....	3.91	3.31	3.29	3.50	3.42	2.70	3.02	2.40	1.92	1.70	4.66e
34: It is morally wrong for couples to live together if they are not married.....	1.43	2.75	1.93	2.09	2.54	2.76	3.18	3.31	2.94	3.09	3.90e
35: To buy anything on credit, other than a house or car, is unwise.....	3.00	2.82	3.09	3.18	3.22	3.17	3.38	3.46	4.06	3.63	1.18

a: $p < .10$, b: $p < .05$, c: $p < .01$, d: $p < .001$, e: $p < .0001$

Note: Means are based on a six point scale where 1=strongly disagree and 6=strongly agree

Sources: House and Harkins 1975: 10; Reynolds, Crask, and Wells 1977: 27; Robinson 1977: 11-16; Schaninger, Buss, and Grover 1982: 1-9; Wells 1974: 28, 29; Wells and Tigert 1971: 35; Yankelovich 1981: 17-26, 30-34.

Multivariate Tests
Pillai's Criterion
Hotelling's Trace
Wilk's Lambda

1.31e
1.73e
.22e

Labels: B1=bachelor 1, B2=bachelor 2, NW=newly wed, SP=single parent, FN1=fullnest 1, DFN=delayed fullnest, FN23=fullnest 2&3, CC=childless couple, OC=older couple, B3=bachelor 3

TABLE 2
MANOVA ON MEN'S SEX ROLES, WORK/TIME PRESSURES, STRONG FORMER ASPIRATIONS, AND TRADITIONAL VALUES BY LIFE CYCLE STAGE

	B1 n=23	B2 n=29	NW n=22	FN1 n=44	DFN n=17	FN23 n=88	CC n=67	OC n=25	B3 n=22	F df=9,359
SEX ROLE: WORK AND YOUNG CHILDREN										
1: A wife should give up her job whenever it inconveniences her husband and children.....	2.06	3.06	2.21	2.14	3.11	2.53	3.11	3.34	4.37	4.42e
2: If a mother of young children works, it should be only when the family needs the money.....	3.09	3.93	2.73	3.28	3.50	3.62	3.99	4.37	5.00	3.78e
SEX ROLE: WORK AND FAMILY										
3: A married woman should be able to work even if it involves some inconvenience for her family.....	4.63	4.03	4.64	4.21	4.29	4.18	3.95	3.80	3.12	1.51
4: A married woman's most important task in life is to take care of her husband and children.....	2.50	3.64	2.59	3.04	4.70	3.53	4.10	3.78	4.56	6.21e
SEX ROLE: WIFE'S CAREER IMPORTANCE										
5: A married woman's job should be just as important as encouraging her husband in his job.....	4.81	4.71	5.17	4.94	4.76	4.44	4.72	4.65	3.75	1.99b
6: A married woman who works should be able to make long range career plans, just as her husband.....	4.77	4.80	5.25	5.10	4.52	4.46	4.75	4.04	3.62	3.04c
SEX ROLE: SHARE RESPONSIBILITY										
7: If a wife works, a husband should share equally in chores such as cooking and cleaning.....	4.95	5.00	4.82	5.00	4.64	4.43	4.59	4.28	5.12	1.49
8: If a wife works, a husband should share equally in the responsibilities of child care.....	5.00	5.19	4.92	5.23	4.70	4.59	4.72	4.15	4.31	2.34b
9: Both parents should have the responsibility to care for small children.....	4.90	5.01	5.15	5.15	4.64	4.55	4.77	4.34	5.00	1.72a
WORK AND TIME PRESSURE										
10: I feel I never have enough time to get everything done.....	3.95	3.61	4.37	4.50	4.82	4.11	4.05	3.39	4.37	2.18b
11: I always feel rushed in completing my day's activities.....	3.54	3.12	3.68	3.83	4.23	3.75	3.40	2.65	2.62	2.79c
12: I spend so much time working, I don't even have time to spend my money.....	2.59	2.25	2.25	2.50	3.05	2.54	2.32	1.65	1.25	2.57c
13: I feel a great deal of stress from work.....	3.59	3.38	3.12	3.52	3.52	3.29	3.02	1.78	2.12	3.86e
14: I often feel drained when I get home from work.....	3.77	3.96	3.37	3.93	4.17	3.81	3.00	1.52	2.87	8.42e
15: I find my job interferes with my ability to enjoy my family.....	3.00	2.50	2.75	2.73	4.05	3.00	2.24	1.73	2.75	5.16e
16: I have to plan in advance to spend time with those close to me.....	3.31	3.00	3.15	3.17	4.05	3.34	2.62	1.73	3.12	4.10e
STRONG FORMER ASPIRATIONS										
17: It is important to be well read and educated.....	5.18	5.29	5.43	5.41	5.58	5.44	5.30	5.39	5.25	.40
18: I feel a strong need for "new experiences".....	4.09	3.64	4.37	4.37	3.82	3.74	3.90	3.00	3.00	3.07c
19: I like to seek out new foods and tastes.....	3.90	3.35	4.21	3.71	3.88	3.45	3.65	2.87	2.87	1.95a
20: I am concerned with self-fulfillment.....	4.36	4.35	4.57	4.67	4.11	4.45	4.25	2.87	3.37	4.96e
21: I want to be outstanding in my field of work.....	4.86	4.56	5.21	5.26	5.11	4.83	4.89	3.87	4.50	3.73e
22: I want something meaningful to work toward.....	5.13	4.64	5.21	5.07	5.23	5.16	5.08	3.82	4.62	5.66e
23: I want time and energy left over to pursue personal interests.....	5.45	4.87	5.28	5.39	5.05	5.03	4.90	4.26	5.25	2.82c
24: Self-improvement is important to me and I work hard at it.....	4.61	4.32	4.73	4.32	4.05	4.29	4.37	3.76	4.00	1.29
TRADITIONAL VALUES										
25: People should be free to look, dress, and live the way they want.....	4.81	4.19	4.71	4.60	4.47	4.57	4.61	3.73	4.00	1.76a
26: I prefer a more creative life to financial well-being.....	3.95	3.91	3.37	3.87	3.70	3.59	3.55	2.84	3.75	1.51
27: The father should be the boss in the house.....	2.65	3.09	2.90	3.01	3.29	3.54	3.47	3.08	3.87	1.34
28: I go to church regularly.....	1.68	2.41	2.28	2.83	2.76	3.61	3.00	3.15	2.87	3.05c
29: Everything is changing too fast today.....	2.72	2.90	3.28	2.76	3.41	3.47	3.55	4.04	3.50	2.35b
30: Today, most people don't have enough discipline.....	4.22	4.54	4.40	4.13	4.41	4.68	4.55	4.82	4.50	1.01
31: "Strict, old fashioned upbringing and discipline" are still the best ways to raise children.....	3.00	4.12	3.18	3.41	3.88	4.05	4.02	4.21	4.62	3.39d
32: Four or more children is the best ideal number for a family to have.....	1.86	1.83	1.68	1.95	2.41	1.92	2.05	1.73	2.87	1.02
33: It is morally acceptable to stay single and have children.....	3.72	3.09	3.07	3.06	3.23	2.59	2.34	1.60	1.87	3.66e
34: It is morally wrong for couples to live together if they are not married.....	2.25	2.58	1.56	2.43	2.11	3.01	2.85	2.30	1.81	2.78c
35: To buy anything on credit, other than a house or car, is unwise.....	3.22	3.41	2.71	3.54	3.47	3.39	2.94	4.39	4.37	2.47b

a: p<10, b: p<.05, c: p<.01, d: p<.001, e: p<.0001

Note: Means are based on a six point scale where 1=strongly disagree and 6=strongly agree

Sources: House and Harkins 1975: 10; Reynolds, Crask, and Wells 1977: 27; Robinson 1977: 11-16; Schaninger, Buss, and Grover 1982: 1-9; Wells 1974: 28, 29; Wells and Tigert 1971: 35; Yankelovich 1981: 17-26, 30-34.

Multivariate Tests
 Pillai's Criterion 1.32e
 Hotelling's Trace 1.73e
 Wilk's Lambda .22e

Labels: B1=bachelor 1, B2=bachelor 2, NW=newly wed, SP=single parent, FN1=fullnest 1, DFN=delayed fullnest, FN23=fullnest 2&3, CC=childless couple, OC=older couple, B3=bachelor 3

TABLE 3
CHI-SQUARE TESTS AND PERCENTAGES OF WOMEN ENGAGING IN ACTIVITIES BY LIFE
CYCLE STAGE

	B1 n=22	B2 n=28	NW n=31	SP n=22	FN1 n=42	DFN n=15	FN23 n=81	CC n=66	OC n=24	B3 n=20	chi-sqr df=9
Jogging	9.0	17.8	6.4	13.6	4.7	6.6	9.8	7.5	0.0	0.0	9.67
Bicycling	22.7	28.5	19.3	22.7	23.8	20.0	18.5	21.2	0.0	0.0	13.35
Skiing	27.2	21.4	25.8	4.5	16.6	26.6	7.4	7.5	0.0	0.0	26.24c
Tennis	18.1	10.7	3.2	4.5	2.3	0.0	3.7	3.0	0.0	0.0	16.64a
Aerobics	31.8	10.7	29.0	18.1	11.9	20.0	11.1	10.6	4.1	0.0	19.52b
Exercise on machine	13.6	17.8	12.9	22.7	14.2	33.3	14.8	22.0	20.8	5.0	8.05
Racquetball/ squash	4.5	0.0	3.2	0.0	2.3	0.0	0.0	0.0	0.0	0.0	8.95
Hiking	18.1	14.2	19.3	9.0	14.2	13.3	8.6	16.6	8.3	5.0	5.83
Camping	18.1	14.2	12.9	27.2	21.4	20.0	17.2	22.7	8.3	5.0	7.38
Hunting	0.0	0.0	3.2	4.5	2.3	0.0	2.4	1.5	0.0	0.0	3.78
Fishing	4.5	0.0	9.6	0.0	4.7	6.6	3.7	7.5	12.5	0.0	9.03
Gardening	13.6	35.7	38.7	40.9	35.7	40.0	44.4	51.5	66.6	40.0	17.17b
Volunteering	22.7	25.0	3.2	22.7	23.8	40.0	40.7	30.3	29.1	40.0	19.12b
Foreign travel	4.5	14.2	16.1	4.5	4.7	0.0	4.9	12.1	8.3	20.0	11.92
Going to bars	45.4	14.2	3.2	22.7	2.3	0.0	3.7	4.5	0.0	0.0	63.09e
Attending concerts	45.4	46.4	29.0	22.7	16.6	26.6	14.8	30.3	12.5	15.0	22.47c
Going to movies	63.6	57.1	45.1	50.0	26.1	46.6	28.3	22.7	16.6	30.0	29.73d
Going Dancing	50.0	21.4	9.6	45.4	14.2	6.6	13.5	16.6	16.6	15.0	29.99d
Renting movies	40.9	21.4	48.3	40.9	71.4	53.3	32.0	18.1	12.5	0.0	57.52e
Gourmet cooking	13.6	25.0	32.2	4.5	16.6	20.0	19.7	27.2	20.8	10.0	10.67
Dining out	59.0	71.4	70.9	27.2	38.0	33.3	56.7	69.6	83.3	60.0	33.53e

Note: B1=bachelor 1, B2=bachelor 2, NW=newly wed, SP=single parent, FN1=fullnest 1, DFN=delayed fullnest, FN23=fullnest 2&3, CC=childless couple, OC=older couple, B3=bachelor 3.

a $p < .10$, b $p < .05$, c $p < .01$, d $p < .001$, e $p < .0001$

among young bachelors. Delayed full nest men were most likely to jog and second most likely to exercise on a machine. Middle aged bachelor, newlywed, full nest 1, and delayed full nest men also tended to participate more in such activities than full nest 2 and 3 or childless couple men. Hiking and camping were highest among young bachelors and relatively high among middle aged bachelors. Gardening was lowest among young bachelors, highest among older couples, and high for full nest 2 and 3, childless couple, and older bachelors. External social activities (bars, movies, dancing) were highest among young bachelors. Middle aged bachelors also scored high on dancing, concerts, and movies. Movie rental was highest among couples

with young children (full nest 1 and delayed full nest) and lowest among older couples and older bachelors. Going to movies declines after the newlywed stage. Gourmet cooking was highest among young bachelors and newlyweds, and lowest among full nest 2 and 3, childless couple, and older couple men. Dining out (as a stated leisure activity) was highest among childless and older couples, and lowest among delayed full nest men probably reflecting the presence of children. Separate analyses showed that young and middle aged bachelors and newlyweds also eat out frequently at restaurants, although they may not have regarded it as a primary leisure activity. In general, the pattern

TABLE 4
CHI-SQUARE TESTS AND PERCENTAGES OF MEN ENGAGING IN ACTIVITIES BY LIFE CYCLE STAGE

	B1 n=23	B2 n=29	NW n=32	FN1 n=42	DFN n=14	FN23 n=91	CC n=65	OC n=23	B3 n=8	chi-sqr df=8
Jogging	21.7	13.7	25.0	11.9	35.7	15.3	7.6	0.0	0.0	17.26b
Bicycling	43.4	27.5	21.8	21.4	14.2	15.3	13.8	0.0	50.0	22.90c
Skiing	34.7	13.7	31.2	19.0	21.4	7.6	12.3	4.3	12.5	20.63c
Tennis	4.3	6.8	6.2	4.7	0.0	8.7	4.6	0.0	0.0	4.86
Aerobics	13.0	3.4	6.2	7.1	0.0	2.1	0.0	0.0	0.0	13.50a
Exercise on machine	43.4	24.1	18.7	21.4	35.7	10.9	12.3	13.0	25.0	18.97b
Racquetball/squash	8.6	6.8	18.7	4.7	0.0	2.1	0.0	0.0	0.0	23.83b
Hiking	47.8	27.5	18.7	19.0	14.2	7.6	18.4	0.0	50.0	33.37e
Camping	52.1	24.1	18.7	30.9	50.0	23.0	24.6	4.3	0.0	23.02c
Hunting	17.3	10.3	15.6	19.0	7.1	15.3	20.0	0.0	25.0	7.65
Fishing	17.3	20.6	28.1	38.0	28.5	24.1	26.1	17.3	25.0	5.70
Gardening	8.6	31.0	15.6	28.5	21.4	40.6	41.5	73.9	50.0	32.74e
Volunteering	17.3	13.7	9.3	23.8	28.5	19.7	24.6	17.3	25.0	5.19
Foreign travel	13.0	6.8	9.3	2.3	0.0	7.6	20.0	8.6	12.5	12.91
Going to bars	34.7	13.7	15.6	16.6	28.5	14.2	10.7	0.0	0.0	15.89b
Attending concerts	17.3	31.0	21.8	23.8	7.1	12.0	16.9	8.6	50.0	14.83a
Going to movies	52.1	41.3	40.6	33.3	35.7	26.3	20.0	13.0	25.0	16.25b
Going dancing	34.7	24.1	3.1	7.1	7.1	12.0	13.8	13.0	12.5	16.84b
Renting movies	39.1	27.5	46.8	57.1	64.2	35.1	23.0	0.0	0.0	38.24e
Gourmet cooking	26.0	13.7	25.0	4.7	14.2	9.8	7.6	13.0	25.0	13.89a
Dining out	43.4	51.7	65.6	57.1	35.7	56.0	69.2	78.2	50.0	13.64a

Note: B1=bachelor 1, B2=bachelor 2, NW=newly wed, FN1=fullnest 1, DFN=delayed fullnest, FN23=fullnest 2&3, CC=childless couple, OC=older couple, B3=bachelor 3.

a p<.10, b p<.05, c p<.01, d p<.001, e p<.0001

observed for both men's and women's leisure activities is consistent with that hypothesized.

SUMMARY AND CONCLUSIONS

The Gilly-Enis model proves to be a good predictor of individual attitudes and leisure activities. Because it classifies nearly every household (less than one percent are "other"), it is more applicable for examining today's "family" life cycle than the more widely used Wells-Gubar or Murphy-Staples models. Additional analyses (Danko and Schaninger 1989) demonstrate that this model is strongly and significantly related to food and beverage consumption, major and minor appliance ownership, dollar value of major household acquisitions (first

and second homes, automobiles, RV's, boats, etc.), and to dollar value of home entertainment devices (stereos, TV's VCR's, etc.), and furniture. An understanding of how life cycle stages differ both attitudinally and with regard to leisure activities provides us with a gestalt picture of these lifestyles. When coupled with consumption differences, this information should be of value in creating background themes for advertising specific food and beverage or durable products.

Based on the results reported here, it would appear that the Gilly-Enis model might be a useful predictor for additional areas of research such as family decision making, family interaction/conflict

resolution, household division of labor, use of time, or marital satisfaction.

Finally, although we view the Gilly-Enis model as fairly complete, there are a number of potential stages of the family life cycle that might be included in yet another updated version. For example, do second marriage individuals hold different attitudes than those in their first marriage? Do postponed newlyweds differ from those marrying earlier? While the Gilly-Enis model does include a delayed full nest, it encompasses both those having their first child after age 35 as well as those having additional children after age 35. Separate analyses on men's and women's attitudes based on using husband's rather than wife's age, found similar overall results, but resulted in a profile of delayed full nest couples closer to that hypothesized. Use of wife's age, rather than husbands, results in a larger proportion of full nest 1 households and smaller proportion of delayed full nest and older couple households. Use of husband's age, or retirement status might prove to be a fruitful modification. Additional research that incorporates such modifications may further demonstrate that, if properly formulated, the family life cycle construct can be both a valid empirical conceptual tool.

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The Intensions and Extensions of the Time Concept: Contributions from a Sociological Perspective

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ABSTRACT

Time has long been recognized as an important consumer behavior variable (Jacoby, Szybillo, and Berning 1976; Hirschman 1987; Feldman and Hornik 1981). However, our conceptual understanding of time itself is necessarily drawn from a variety of disciplines, often resulting in a disaggregated set of terms and measurement techniques, devoid of a unifying paradigm. Because of this, it is often difficult to assess the intensions and extensions of time both within marketing and in other fields. A systematic review of existing paradigms is recommended to establish a "common" understanding of time studies, or a "chronosophy", as proposed by Fraser (1981). This paper begins the chronosophical process in presenting a paradigm for the sociology of time, and develops a vocabulary which can be usefully incorporated into consumer research.

INTRODUCTION

Time has long been recognized as an important variable in consumer research. As consumers, individuals spend much of their time in shopping for and using products, perhaps based on a brand preference learned in the past, or prompted by a present immediate need, or stimulated by the perception of a need in the future. Despite the pervasive influence of time in consumer behavior, investigations are often limited by our abilities to conceptualize, model, and measure time itself.

The concept of time is difficult to understand in its entirety when viewed within the limitations and constraints of specific disciplines. That is, certain aspects of time are developed and tested through accepted research methods, while other topics of investigation are classified as inappropriate or not fitting within the discipline itself. Thus, an economic approach to time is likely to emphasize constraints and tradeoffs, while a religious perspective instead would focus on personal experience and feelings.

Several prior reviews present organized summaries of the development of the time concept (see for example, Feldman and Hornik 1981; Hirschman 1987; Jacoby, Szybillo, and Berning 1976). However, existing approaches used in marketing do not seem to be complete enough to model some aspects of consumer time. A frequent argument centers on the need to incorporate perceptual, subjective, and experiential aspects of time within the more traditional economic framework which has largely characterized prior time research (Hirschman 1987; Hornik 1984). That is, the marketing-economics interface forms only a limited subset of the social culture in which time phenomena occur.

In applying the concepts of other fields to the study of consumer time, it is necessary to determine whether the discipline under review is able to account for the aspects of time use which are of interest to marketers. The present paper argues that the in-depth consideration of time paradigms in other disciplines must precede the incorporation of concepts, terminology, or measurement techniques into consumer research.

A paradigm, according to Deshpande (1983), is "a set of linked assumptions about the world which is shared by a community of scientists investigating that world (p. 101)." That is, it includes statements of the proper domain of a science, what questions it should ask, and the rules to follow in interpreting results; in effect, a paradigm can be viewed as the foundation of theory, directing theory building efforts (Arndt 1983). However, Anderson (1983) points out that "there are often paradigmatic conflicts as a result of the different philosophical methodologies and frameworks across disciplines (p. 22)." Time studies provide a case in point. That is, many investigations take a mathematical or economic approach for granted, which does not allow the subjective aspects of time to emerge.

An Example: Problems with Existing Approaches

In particular, the often-used fixed resource paradigm from economics is not sufficient to capture the social, perceptual, or experiential aspects of time use (Hibshoosh and Silver 1988). Although the economic approach is useful in some studies, the "Beckerian" tradition is oriented toward the economy, considering quantities of time, rather than their value to the consumer. That is, economic or fixed resource models identify fixed amounts of clock time among work, or household, or leisure activities, without examining the importance or enjoyment perceived by the participants.

For instance, time budgets are frequently used in social psychology, home economics, and sociology in order to study individuals' time use throughout their day. Respondents are required to record, usually in minutes, all the activities done throughout a specified time period, similar to a monetary budget. Along with the straightforward process of time or money measurement, however, are also a set of underlying assumptions regarding the variables being studied. In a monetary budget, a given sum of money is used for a specified purpose, mutually-exclusive of other uses. The same period of time, in contrast, can be used to accomplish multiple purposes, when time is used polychronically. This is borne out in empirical research, as respondents frequently indicate secondary or tertiary activities (Lane, Kaufman, and

Lindquist 1989). The assumptions of the budget analogy do not allow for additional uses of the same time, nor do they provide information of the context, value, and meaning of time use. Instead, an overriding constraint specifies that daily time is limited to 24 hours a day, and implicit in that constraint, is that the 24 hours are divided among mutually-exclusive activities. This is a problem, since many consumer-related activities are often combined with other activities, such as shopping and child care, and can be classified as polychronic.

In response, economic models may be extended or modified in several ways: the utilization of a psychologically-based theory of time equilibrium (Wilson and Holman 1984); the addition of "subjective preference propositions" in time use studies (Hornik 1985); the consideration of both objective and subjective needs of the individual in modeling time allocation behavior (Hendrix 1980); the development of explanations and predictions of the future (Holman 1981; Nicosia 1982); or the application of transportation research to time study (Hibshoosh and Silver 1988).

It is also necessary to extend time research to include interaction with groups outside the individual (Gronmo 1989), as well as to more fully investigate internal perceptual time processing (Settle, Alreck, and Glasheen 1978). That is, research has largely focused on measuring quantities of time expenditure per individual, rather than the patterns of time expenditure among both individuals and groups (Jacoby, Szybillo, and Berning 1976).

A Complementary Perspective

Gronmo (1989) argues that concepts of time are complementary, rather than mutually exclusive or completely independent of each other. Moreover, some perspectives on time have been underutilized, such as social time, perhaps due to unfamiliarity with paradigms which tap the perceptual dimensions of time, and overreliance on the economic model which has predominated since it was formally introduced and reviewed.

The present paper addresses this need by proposing that a sociological paradigm, suggested by Lewis and Weigert (1981), can be used in the conceptualization of consumer time phenomena. That paradigm incorporates perceptions of time, as well as the interaction between individuals' time and their membership in groups. Some theory building terminology will be introduced next, for use in the paradigm review.

BACKGROUND

Theoretical Suggestions

In learning, evaluating, and possibly combining alternative paradigms for use in any study, Zaltman, Pinson, and Angelmar (1973) recommend that the respective concepts from each specific discipline be examined to learn if they refer to the same set of phenomena. That is, it is necessary to insure that they have "intensional and extensional compatibility with another and that they

are rooted in identical or at least comparative assumptions (p. 96)." In order to avoid conceptual mismatching, the researcher must determine whether there is "compatibility between the nonmarketing context in which a concept or theory has been empirically tested and the marketing context in which it is to be applied."

The recognition that given paradigms are appropriate for certain aspects of the time phenomena, and not for others forms a central core of the present paper. A chronosophical approach, discussed next, can provide an organized method to evaluate the intensions and extensions of time paradigms which are under consideration for use in modeling consumer behavior.

Chronosophy

While Fraser (1981) argues that the successful study of time must be interdisciplinary, the extension of time concepts into marketing must be done systematically and carefully. Prior reviews encompass a vast background of research, generally found in economics, home economics, sociology, social psychology, and psychology, as well as marketing. In addition, other, perhaps-less consulted fields, such as biology, physics, religion, music, and child development also provide insight into additional time processes and uses. A systematic research program which investigates, presents, and unifies these "traditional" and "non-traditional" fields is likely to add depth and understanding to current efforts to examine time in consumer research.

Such an interdisciplinary and normative study of time is designated as "chronosophy" (Fraser 1981). Its purposes include the search for new knowledge regarding time, while developing methods to integrate the contributions from existing multidisciplinary knowledge. Particularly important is the conscious effort to identify and communicate across research boundaries to permit interaction of experience and theory construction.

According to Fraser, the chronosophical approach would include the following:

1. surveys of historical and current ideas of time in the sciences and in the humanities;
2. studies of the relation of time to ideas of conceptual extremities such as motion and rest, or the spatially very large and very small;
3. comparative analysis of those properties of time that various fields of learning and intuitive expressions designate unproblematically as "the nature of time";
4. inquiries into the processes and methods whereby man learns to perceive, proceeds to measure, and proposes to reason about time;
5. exploration of the role of time in the communication of thought and emotion;

6. search for an understanding of the relation of time to personal identity and to death;
7. research concerning time and organic evolution, time and the psychological development of man, and the role of time in the growth of civilizations; and
8. determination of the status of chronosophy vis-a-vis the traditional systems of knowledge (pp. 591-592).

Using the chronosophical process as a guide, the following sections are organized to review and evaluate the potential contributions of a sociological time paradigm, introduced next.

A PARADIGM FOR THE SOCIOLOGY OF TIME

The sociological perspective is particularly useful in incorporating the qualitative features of time. A paradigm proposed by Lewis and Weigert (1981) suggests that social time permeates every region of social life, and thus time use is tied to a social structural framework, given as the individual, group, subcultural, and cultural levels of analysis.

Each of these levels has its own form of social time: the individual-level "self-time;" the group level "interaction time," for informal interactions and "institutional time" for organizations; and the socio-cultural level "cyclic time," such as days, weeks, and seasons (p. 434). This typology enables the researcher to conceptualize and study the movement of individuals from one temporal structure to another in everyday life. Self-time quite naturally taps the time perceptions of the solitary individual, including remembered pasts, experienced presents, and anticipated futures. At some point, however, the individual interacts with others, whether in an informal situation, such as a family, or one that is formal, such as employment. Here norms of behavior and specific interactional rules partially govern the situation. In turn, the individual's self-time and interaction time are embedded within the macro structures of institutional time and cultural time. Institutions, such as schools, stores, and factories, make up their own rules. "Although they may take into account time structures of other organization with which they must conduct exchanges, the norms and sanctions governing the use of time in any particular organization extend directly only to its own members (p. 438)."

The time levels are not mutually-exclusive, however, as behaviors at one level may depend on behavior at another, such as husbands' and wives' activities being somewhat dependent upon the needs of their families. Individuals acquire social roles which constitute the points of intersection between the levels, coordinating their behaviors to avoid role conflict. As a result, individuals must schedule their time to match the time standard of the larger groups in which they must function (Lane and Kaufman 1989). When invited to a social dinner,

one customarily arrives close to the specified time, regardless if one becomes hungry several hours earlier. Similarly, consumers of mass transit may purchase the right to travel within days and times specified by a set schedule, rather than simply at their own individual discretion.

On a larger scale, cultural time demands that its members match their time use with the standardized time of the culture. For instance, Lewis and Weigert point out that the weekend has become the dominant temporal marker of the weekly routine, evidenced by special weekend shopping hours and Monday holidays. However, desired shopping services are often not available on late nights or weekends, which may be the consumer's self-time for shopping. When consumers cannot standardize to the schedules of existing market institutions, opportunities are created for new developments, such as automated teller machines and round-the-clock repair services.

As part of this paradigm, however, Lewis and Weigert argue that the types of time exhibit a well-defined stratification. That is, "organizational time demands precedence over interaction time, and interaction time, in turn, demands precedence over self time (p. 444)." Thus one does not shop when required to be at work, although polychronic time processing allows consumers to blend several of these levels of stratification, such as shopping at home while supervising children.

INTENSIONS: ASPECTS OF TIME IN THE PARADIGM

In order to determine whether the sociological paradigm possesses intensional compatibility with consumer phenomena, it is necessary to examine the properties of time within the framework. Lewis and Weigert propose three major dimensions: embeddedness, synchronicity, and stratification. In addition, related terms are also presented which are commonly used in other social settings and are used within the paradigm presented here.

Sociological Aspects

Social embeddedness. Social embeddedness refers to the fact that all social acts are temporally fitted inside of larger social acts (Lewis and Weigert p. 437). Basically, this aspect of time recognizes the "human life and the social actions which constitute it are a complex overlap of actions and meanings at various stages of enactment (p. 450)." For instance, a physician may schedule a series of appointments as a set of embedded acts, which are to be completed before hospital rounds or after surgery.

Synchronicity. A coordination of broadly recurring sets of meaningful events characterizes synchronicity. "A modern industrialized and rationalized society can function only if most of its members follow a highly patterned and dependable daily round (Lewis and Weigert p. 439)." The physician's patients must match, or synchronize, their schedules with that of their appointments. Similarly, retailers are likely to conduct business during certain hours deemed acceptable by the

society, or community, in which they exist. Lack of synchronization generally reduces the productivity of a group, as evidenced by problems brought on by a transit strike or inclement weather.

Stratification. In order to synchronize their time with the demands and schedules of others, individuals must be able to order their time use according to some established priority. Certain types of time can demand precedence over other types of time, based on the subjective value assigned by the individual, as well as the obligations the individual bears to both informal and formal groups. The sociological paradigm proposes that organization time has priority over interaction time, which in turn has priority over self time. Overall, people must synchronize their embedded times to attain temporal coordination, depending on the stratification.

Other Related Aspects of Time

Time duration. Time duration can be defined as the interval between separate events (Piaget 1981). That is, its measure answers questions such as "how long an event takes," or "how long until the next event," or "how long since a past event."

Relational time versus absolute time. In contrast, relational time is used when our experience is related to other events happening in time. Thus the individual can discuss time "speeding up" or "slowing down." In contrast, time duration can be measured objectively, without referring to its content. This is known as "absolute time," and has its origin in Newtonian physics (Benjamin 1981).

Subjective time. Individuals perceive time differently. Thus, durations can be affected by the individual's perceptual capabilities as well as their time orientation (Settle, Alreck, and Glasheen 1978). For instance, some events seem longer than others. Enjoyable tasks may appear to move quickly, while unpleasant chores may seem to last "forever." This unevenness in perception is likely to be situational, as a one hour block spent browsing in a favorite store may appear to pass at quite a different rate than an hour hurriedly searching for a last-minute gift.

Succession. Succession, or temporal order, deals with the sequence of events (Piaget 1981). Certain events precede others naturally (i.e., day-night cycles), while some are scheduled to occur before or after specific events. Thus "After Christmas" and "Back-to-School" sales tie their expectations to the passage of certain days, offering retail assortments which match the needs of consumers.

Time Standardization. Similar to the notion of absolute time, this concept refers to the specific schedule required by a household, community, organization, or government. Individuals are thought to standardize their internal time senses to match external conventions, when necessary. This manifestation becomes our public time (Lane and Kaufman 1989).

SOME PRELIMINARY PROPOSITIONS

In developing the sociological paradigm, Lewis and Weigert offer some preliminary propositions regarding the study of time. These appear to represent the general foundation for some specific consumer research relationships between activity and time.

Perceived Temporal Distance

P1: The greater the number of temporally-embedded events between two points in physical time, the shorter is the perceived temporal distance between two points.

A few studies in marketing have investigated consumers' perceptions of waiting time. For instance, using supermarket checkout lines, Hornik (1984) found that individuals exhibit a tendency to overestimate waiting time, perhaps because little is happening between entering the line and eventually paying for one's purchases. It is likely that the lack of other-embedded activities affects the overestimation. Common managerial strategies, such as providing entertainment or displays while in amusement or exhibit lines, embed "filler" activities between the two points of entry and exit, which presumably shorten the consumers' perceived wait. Comm and Palachek (1984) further extend the notion of perceived wait to consumer regret levels.

Synchronization

P2a: The greater the interdependence of actors, the greater the necessity for temporal synchronization.

P2b: The degree of difficulty in temporal synchronization is a positive exponential function of the number of timetables involved.

These two propositions appear to be directly related to the multiple time schedules inherent in interdependent groups, such as households. That is, rather than restricting time allocation models to the individual level, the explicit recognition of synchronization must be incorporated into consumer research. Perhaps difficulties in temporal synchronization are a key to the wives' employment area. Role overload, defined as conflict resulting from multiple roles, would appear to be directly related to the ability to synchronize multiple role expectations. The interdependence between husbands' and wives' employment constraints is likely to affect their individual and joint household responsibilities.

Stratification

P3: Social times are stratified in the following hierarchy (from highest priority to lowest): cyclic time, institutional-

organizational time, interaction time, self time.

Stratification enables consumers to prioritize their uses of time, allocating precedence to those activities which are deemed most important. For instance, a society typically establishes certain holidays, which affect customary employment schedules. Certain retailers are likely to close on those holidays, or perhaps offer additional incentive salaries as compensation for working on a holiday. Interactional time, such as that spent with one's family, is necessarily structured around one's employment obligations, leaving the remainder as time for self. However, priorities regarding one's time use are often established based also on the value of certain activities to the individual. As Hirschman (1987) indicates, consumers are likely to schedule their time in certain activities based on tradeoffs between the perceived pleasure of the experience and the obligations which constrain use of time.

EXTENSIONS TO CONSUMER RESEARCH

The underlying importance of time in consumer behavior stems from its inherent role in the purchase and use of products. Needs may be perceived in relation to past experience, present dissatisfaction, or anticipated future requirements. Those needs will be addressed in terms of consumer self-time, the consumers' interaction with others, the consumers' synchronization time with household and employment, and standardization with the environment.

Consumer researchers need to describe time involved in recognizing and searching for ways to fulfill needs. The simple economic assessment of quantities of time greatly limits our ability to describe the dimensions of time. For instance, needs may be recognized as part of consumer self-time. However, the consumer is likely to discuss those needs within family or social settings, engaging in interaction time. Moreover, overly-simplistic measures of institutional time, such as number of minutes spent shopping, reduces our understanding. Without in-depth questioning, it would be difficult to discern from present-day time budgets what amount of shopping time is spent in search, in negotiation, in discussion, and in complaints; moreover, no information is given whether the retail time is perceived as short or long. These fine distinctions enable us to describe the tradeoffs among temporal resources which characterize the dimensions of time discussed above. All the time use categories are additionally affected by cultural influence and perceptions of time.

In addition, time processing may vary among linear, procedural and cyclic perspectives across respondents in any given study. For instance, some individuals may shop after receiving their pay, in a linear sense; others instead may shop procedurally until the "right" product is found; while yet others may schedule weekly or monthly shopping trips in a

cyclical sense. Economic time budgets, however, would necessarily group time used in shopping in similar categories, without being able to investigate the underlying differences in the patterns of shopping time. Moreover, shopping may be done as a single, monochronic activity, or it may be combined with other tasks, such as child care, socializing with friends, or housework, if home shopping is chosen. The complexities of polychronic shopping behavior is also masked by research frameworks and measurement tools which implicitly assume that time use is a linear, separable, monochronic, individual phenomena.

The conceptual framework and terminologies provide clear implications for consumer research. The sociological perspective enables us to differentiate among time used solely by self, such as that in need recognition or internal search; various types of interaction time, such as time spent negotiating household activities or retail purchases; and culturally-determined time patterns, such as "appropriate" sales hours and holidays. For instance, consumers shop for "back-to-school" clothing or for holiday gifts and food, rather than just shopping for three hours in a given week in 1985.

A TIME VOCABULARY

In particular, the sociological paradigm can be used to propose the following time vocabulary with clear extensions to consumer research:

consumer self-time: experiential, subjective, perceptions of time use as interpreted by the individual

consumer interaction time: time spent in informal groups such as households, decisionmaking units; in retail settings; in work settings

consumer institutional time: employment or other organizational activity, volunteer time, etc.

consumer cyclical time: individuals have certain repetitive routines, determined by their subculture or culture, which may affect time spent in market exchange. Shopping for holidays follows a ritualistic pattern

market institutional time: consumers must conduct exchanges during standardized shopping hours, which may be culturally-determined - this may lead to dissatisfaction when needs occur during non-standard hours, such as supermarket delis and pharmacies which close at a specified early evening hour

cyclic time: defined in terms of repetitive structures, such as days, weeks, and seasons - blue laws result from the interaction of culture and market institutions

time embeddedness: consumer shopping and household production behavior take place within the confines of employment obligations. There may be only limited time for shopping. Rise of home shopping is one response. Problems occur in synchronizing market time and consumer time.

synchronicity: the matching of consumers' time schedules creates the necessity for scheduling in households. This may be a factor contributing to the role overload.

stratification: valuing time, enabling consumer to determine schedules through the setting of priorities

The interactions between the various levels and dimensions are useful in identifying opportunities and problems in consumer research. For instance, when the demands of consumers' institutional time limits their time spent in interaction with their households or friends, convenience products and household services may provide a needed supplement to reduce role conflict. Moreover, institutional demands may also make it difficult for consumers to synchronize their time with other household members. Products which enable time to be deferred, such as VCRs and telephone answering machines, can adjust discrepancies in time schedules. Employed parents' time is necessarily embedded within the demands of their households as well as those of their employers, creating new needs which face sometimes conflicting sets of stratified commitments. Similarly, when consumers cannot synchronize their institutional and market schedules because of priorities assigned by work, new retail modifications, such as home shopping networks, can provide a way to achieve synchronization.

SUMMARY

This paper presents a sociological time paradigm as a complement to the prevailing microeconomic/fixed resource framework. It has been argued that the latter paradigm is limited in its ability to integrate the experiential, subjective, or perceptual natures of time phenomena into consumer research. As a result, it is likely that current measures and models of time use are largely dominated by the assumptions of linear, separable, monochronic time.

Instead, the Lewis and Weigert framework provides additional tools for theory development in this area. In particular, the matching of individual consumer time with the interaction time of households and retailers provides a broader context which can accommodate the time tradeoffs (stratification) and schedule synchronization which occur. In addition, institutional time and cyclic time place additional constraints on the consumer's actual choices in using time, taking into account the notion of time embeddedness. The authors recognize that while these links with consumer research are

preliminary in nature, the proposed "time vocabulary" can provide a basis for incorporating additional dimensions of time use into existing models, and form a broader foundation for further theory development.

IMPLICATIONS FOR FUTURE RESEARCH

Several implications can be drawn from this chronosophical review and evaluation of the sociological paradigm. In applying the proposed framework, exchange theory can be extended to examine the retail interaction time spent in search, evaluation, and purchase activities. Moreover, the retail perspective can also help to identify mismatches of time processes: for example, consumers may spend time waiting for a repairman or in a physician's office for an appointment. That is, the lack of synchronization and stratification of social timetables can be investigated as a possible cause of consumer dissatisfaction. In addition, cyclic time appears to form part of the rationale behind some of the ritualistic behavior exhibited by consumers. Weekly shopping, holiday gift-giving, and seasonal "white" sales follow the consumer's apparent response to repetitive cycles held in regard by the larger society in which the individual resides, or is "temporally-embedded."

Perhaps a more far-reaching implication is the further consideration of other disciplines in developing a theory of time. The studies reviewed in this paper strongly support the notion that time is multidimensional, and that those dimensions are often the specific focus within a given discipline. For instance, a three-dimensional approach might involve a processing dimension, an activity dimension, and a level of involvement dimension (Lane and Kaufman 1989). Individuals would vary based on their use of linear, circular, or procedural processing; their capabilities for monochronic or polychronic activities; and their level of cognitive effort as they use time. It is possible that these dimensions can account for some of the variability in consumers' use of time.

Alternative frameworks, like the one reviewed here, are likely to suggest additional dimensions of time. For instance, time is culture-bound; disciplines in the laboratory sciences, such as physics and biology, may provide further insight into time dimensions since they are not as strongly tied to cultural bias as fields such as sociology. Disciplines which look across cultures, such as art, music, and biology, may also uncover additional dimensions, which transcend cultural boundaries.

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Aging, Life Cycles and the Sociology of Time

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A discussion of the three papers presented in this session could focus on any number of concerns. However, in exploring the "core" of each paper, the underlying dimension of time emerges. The three papers each deal with a variety of interesting consumer behavior related issues in their unique treatment of time. Although their viewpoints are very different, their approaches suggest a variety of implications for future consumer behavior research.

The first paper "The Antecedents of Cognitive Age" explores a personal and subjective view of the passage of time. Within the past decade, considerable research has examined older adults' self perceptions of their ages (e.g. Barak and Schiffman, 1980; Underhill and Cadwell, 1983; Sherman, Schiffman and Dillion, 1988). This research uniformly indicated that older consumers perceive themselves to be younger than their chronological ages. In addition, older consumers' subjective ages have found to be inversely related to several other self perceptions including one's self esteem, confidence and feelings of purpose in life (Barak, Stern, and Gould, 1988).

With such a subjective perspective, aging is a form of life passages instead of a chronological milestone. What does it mean to turn "40," or "60"? There is a need to expand our understanding of cognitive age, and to use it as a basis for segmentation since it better reflects an individual's identity and behavior. Cognitive age --suggests that the 65 year old may be more like the 50 year old, and thus time in the chronological sense of the measure is not as good an indicator for understanding consumer motivations.

The second paper "Attitudinal and Leisure Activity Difference Across Modernized Household Life Cycle Categories" empirically evaluates an updated family life cycle model, originally proposed in the consumer behavior literature by Gilly and Enis (1982). The family stages have often been considered similar to life stages of an individual. As the modern family (or household) changes, the traditional stages of the family life cycle increasingly fail to capture accurately and reflect the family life cycle as the same categories did twenty or more years ago. The old distinctions between life periods are blurring in today's society. Only a few decades ago, aging was closely defined with the family cycle. During that time period, when there were fewer children per family, and births spaced closer together, the signal for the emerging of "middle age " was the time when children left home, while the onset of "old age" was commonly acknowledged as the time following retirement.

Today's changing patterns have altered our perceptions of chronological age categories. Thus, we have greater difficulty measuring life periods when 20 and 40 year old women are both having first babies. In the past, empty nesters were often regarded as those family members in their late

forties. Today, yuppies often postpone having children, and now have a child in their late thirties and forties. With these changing cycles, it is important to reflect how the traditional family life cycle categories will be affected by these older parents, who are often the same age as their contemporaries who are often already empty nesters, and who sometimes are grandparents. Furthermore, those in the later stages of the family cycle are living longer, healthier lives and are even marrying and remarrying up through their seventies.

For consumer behavior, these changes have implications from both a research and a strategy point of view. A surprising finding of the Danko, and Schaninger research is that "delayed full nest" wives, do have very traditional values. They defined "delayed full nest" wives as those women having their first child after age 35 as well as those having additional children after age 35. These women also reported high non-work related time pressures. Not surprisingly, single parents also reported strong patterns of work and time pressures. The relationship of time pressure, work related stress, and family time will continue as important areas of exploration in the coming decade. Additional insights on these issues will be explored subsequently in this commentary.

The third paper by Kaufman and Lane(1989) presents a sociological paradigm that can be used to conceptualize consumer time phenomena. This paradigm incorporates perceptions of time, as well as the interaction between individual's time and their membership in groups. The authors suggest that time constraints pervade language and other aspects of consumer behavior. They recommend a systematic review of existing time paradigms to establish some common understanding of time studies or a "chronosophy" as suggested by Fraiser(1981). Using the chronosophical process, the authors proceed to review potential contributions of a sociological time paradigm and introduce us to a rich vocabulary of time concepts which can be incorporated into consumer research. The authors conscientiousness and attention to detail need to be commended.

While the general topic of time has been addressed in all three papers, a closer examination of some of the specific issues raised by the authors in this session needs to be addressed.

COGNITIVE AGE AND CROSS CULTURAL RESEARCH

The authors, Chua, Cote and Leong build on research in the gerontology literature which has examined the relationship of aging and life satisfaction. The relationship between the predictors of successful aging(i.e life satisfaction, higher levels of activity, closer family relationships, good health and western culture are explored. Although the concept of cognitive age is

interesting and important in our attempt to understand the older consumer, the paper raises several questions. Firstly, one problem was the use of the convenience sample of 301 "elderly" Singaporeans with a self administered questionnaire. Cultural differences are often particularly acute dealing with perceptions relating to such concepts as perceived age. For example, what does it mean to be 55 or older in Singapore compared to a comparable chronological age in the US? Furthermore, can any generalizations be made from the results found in this research? Differences in the cultures regarding age perceptions may make it precarious to do so. An illustration of these differences relates to the age of retirement in these two countries. Since in Singapore 55 is the official government age to retire, there can be major perceptual differences between older people in these two countries based on this factor alone. As the authors acknowledge, the age range, cultural orientation and non-random nature of the sample prevents broad generalizations as they relates to aging. One cultural phenomena that may make the results less generalizable to the U.S. is the authors suggestions that the lack of association between family relationships and cognitive age might be due to the strength of family relationships in Singapore, which vary little across families. None of the family life factors were related to the age differential, so their third hypothesis was not supported.

Other problems refer to the methodology used in this research. For example, although the authors attempt to measure life satisfaction, they define it as "the type of gratification that an individual's life circumstances make available to a person" is a nonconventional approach to measurement. One might wonder why some well established means of life satisfaction or well being such as Neugarten's (1961) measure was not used. The measurement of cognitive age was not clearly defined.

I agree with the authors that future research needs to focus on various relationships such as that between cognitive age and life satisfaction. Previous research by Sherman, Schiffman and Dillon, (1988), and Sherman and Forman (1988) both indicated positive relationships between life satisfaction and cognitive age. Further investigation of our knowledge of subjective age perceptions continues as an important avenue for research in the coming decade.

THE MODERNIZED FAMILY LIFE CYCLE

Danko and Schaninger's paper explored attitudinal and leisure activity differences across modernized family life cycle model, using the Gilly Enis model to empirically test perceptions of sex role norms, work and time pressure attitudes, traditional values and leisure activities. Our changing demographics certainly present a strong argument for the need for this research. The research suggest differences across sex roles norms and various attitudinal and leisure activities by

gender. Their findings indicate the need for future research to use women as head of household and compare these findings with men as head of household. Also using women's ages, instead of men's would suggest shifts in terms of the leisure activities of various stages of family life cycles. Other research issues might be to distinguish between those having their first children and those merely continuing to have children.

Furthermore, various categories need closer exploration. Although newlyweds, bachelors and single parents were categorized, it would be interesting to examine the views of other groups such as noncustodial parents, and true childless couples. In addition, future research which might compare the attitudes of those in second marriages with those in a first marriage and the attitudes of those who marry later with those who married earlier. Other interesting directions might be to explore attitudes and activities by types of career patterns of those who married later and those women who return to "work" and those who return to establish new careers with more education and training. The influence of other variables such as social class would be an interesting area for future investigation. The attitudinal and leisure activities explored in this research are interesting for giving us a gestalt perspective of life style patterns and suggesting new directions for future research.

THE TIME CONCEPT

Kaufman and Lane's paper presents an absorbing review of the time paradigms in other disciplines and how they can be incorporated into consumer research. The authors suggest that this in-depth consideration of time paradigm in other disciplines must precede the incorporation of concepts, terminology and measurement techniques into consumer research. The concept of time has often been characterized in a traditional economic framework. This mathematical or economic approach does not allow the subjective aspects such as the need of the individuals which may be interacting with other time phenomena. A "Chronosophy" approach which is an interdisciplinary and normative study of time.

Their point is well taken. Similar cross discipline analysis in other areas of consumer behavior, such as the two other areas of this session, aging and the family might be fruitful. This paper presents important avenues for consumer research and marketing strategy. While the authors suggest certain areas, others that come to mind for future research include the relationship of roles or the conflict from multiple roles and their relationship with time synchronization. An analysis of various family roles and the changing time perspective would be interesting (i.e. single families, and dual working families).

Another area would be the relationship of time studies and the consumer decision processes. For example, how does it relate to information uncertainty and consumer satisfaction? If the level of expectations and realized outcomes affect

consumer satisfaction, does consumer perceptions of the time involved in various consumer behavior activities affect their satisfaction?

The authors discuss the important implications of their paradigm for retailers. For example, the new opportunities created by the inability of consumers to standardize their schedules to existing market institutions which has led to the initiation of special week-end and late nite shopping hours, automated teller machines and round-the clock repair services. Further in-depth investigation of the associations between shopping time and its relationships to other time perspectives such as "social time" can be beneficial. Future research might compare the changing perceptions of time in the last five years and perhaps some speculation about future perspectives of time. Most importantly, consumer researchers need to explore how time concepts relate to consumer needs and fulfillment. The authors research in this area points out the many avenues for future research. For example, consumer "self time", such as age perceptions, consumer "interacting time", such as household roles and consumer's "cultural time", such as holiday celebrations and other events suggest potential areas for building richer time constructs and linking them to consumer decision analysis. Implications of these findings include incorporating gender perceptions and the extension of research (Schroeder, 1989) of the expectations behavior based on time use information. A variety of interesting directions for future research have emerged from this session.

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Computer-Controlled Experimentation in Consumer Decision Making and Judgment

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ABSTRACT

Relative to other laboratory techniques for experimentation in consumer decision making and judgment, computers offer three major advantages to researchers: 1) potential for complex and dynamic task structures, 2) precise measurement and control of time, and 3) automation of experimental procedures and data file creation. Disadvantages are related to the artificiality of the task as well as user interface, software, and hardware issues. These advantages and disadvantages are discussed and directions for future research that is especially well-suited for computer-controlled experimentation are suggested.

INTRODUCTION

The growing availability and capability of the microcomputer has resulted in increased interest in computer-controlled experimentation in consumer decision making and judgment research (e.g., Brucks 1985; 1988; Brucks and Chakravarti 1986; Brucks and Schurr 1990; Drumwright 1986; Hoyer and Jacoby 1983; Johnson et al. 1986; Olshavsky and Rosen 1985; Ozanne 1988; Ozanne, Brucks and Grewal 1989; Painton and Gentry 1985; Rosen and Olshavsky 1987; Urbany 1986; Urbany, Bearden and Weilbaker 1988; Zeithaml and Brucks 1987). This article identifies major advantages and disadvantages of computer-controlled experiments in consumer decision/judgment research, and points out directions for future research that is especially well-suited for computer-controlled experiments.

ADVANTAGES OF COMPUTER-CONTROLLED EXPERIMENTS

Relative to other laboratory techniques for experimentation in consumer decision making and judgment, computers offer three major advantages to researchers: 1) potential for complex and dynamic task structures; 2) precise measurement and control of time; and 3) automation of experimental procedures and data file creation. Each of these advantages is discussed below.

Potential for Complex and Dynamic Task Structures

Typically, laboratory studies of information search behavior have examined only two factors: brands and attributes. Yet the information environment that consumers usually face is significantly more challenging. Consumers may obtain information of various types (e.g., attribute values, product class information, overall evaluations of alternatives) from various sources (e.g., brochures, advertising, salespersons, friends, consumer and hobbyist magazines) by various methods (phone, visit, incidental exposure). It is important to study decision making behaviors of

consumers in complex information environments since it has been shown that information search and processing is contingent on task complexity (Payne 1976; 1982).

Menu-driven computer programs offer a method by which to study large and complex information environments. The sequence and contents of menus may be structured in such a way as to simulate many of the complexities of real-life decision making. For example, the subject may first be asked to choose an information source and method of contacting that source (phone a friend, visit a store, etc.) Next, the subject may choose what type of information to request (recommendation, specific information about a brand, advice on important attributes). After that piece of information has been received, the subject may choose to continue requesting information from that source or to go to another source.

Obviously, the more complex a simulation is, the more programming and computer memory will be required. One must carefully consider how much task complexity is necessary for a specific experiment's goals. While one might be tempted to incorporate as much complexity as possible in order to achieve "realism," this may not be desirable. It is impossible to simulate the real world *exactly*, so descriptive data resulting from such studies are always suspect. For example, if one wants to learn the percentage of people who use each of several information sources, the simulation would have to match the real world exactly on the perceived relative costs and benefits of contacting each of the information sources in order to produce meaningful results. If we understood search costs and benefits well enough to do this, we would not need the simulation to learn about information source usage.

The task complexity associated with computer simulations is most useful for experiments and quasi-experiments in which the effects of the independent variables are contingent on task complexity. For example, research in cognitive psychology has shown that one of the major effects of expertise is on problem perception and representation (e.g., Chase and Simon 1973; Chi, Glaser, and Rees 1981). Thus, some of the information processing advantage that experts have over novices may not be evident in simple, well-structured tasks. A complex, ill-structured information environment provides a better test of expertise effects (Brucks 1985).

In addition to large task structures with a variety of stimuli, computers are ideally suited for dynamic task structures, i.e., tasks where the stimuli or task objectives presented to the subject depend on the subject's previous behavior or current status in the task. A dynamic task structure is useful when the researcher wants to place a manipulation, measure, or instruction at a specific intermediate

point in the task. For example, the effects of types and timing of unintentional exposure to information can be studied by interjecting various screen displays at predetermined points in the decision process. More specifically, the influence of personal selling, stockouts, and unintentional exposure to advertising on the consumer decision or judgment process may be more directly examined.

Measurement and Control of Time

Time may be measured to create dependent variables, or it may be controlled to create independent variables. As a dependent variable, time measurements are often used to infer amount of cognitive processing. For example, the amount of time it takes for an individual to agree or disagree with the statement "Car X is highly reliable" indicates whether this evaluation has been previously stored in memory (and must simply be retrieved) or whether an evaluation must be formed at the time the question is presented. Thus, response time measurements may be used to study memory content, memory structure, and also inference processes. In information search experiments, the time spent examining a piece of information, or information of a specific type (for example, the attribute price), indicates the amount of processing devoted to that piece of information or information type. Traditionally, response times have been measured with tachistoscopes - specialized equipment not always available to consumer researchers. The capability of microcomputers to measure response times makes this methodology widely accessible.

As an independent variable, time may be manipulated by varying the amount of time a stimulus or piece of information is visible (exposure time), by varying the amount of time before subjects' information requests are displayed on the screen (waiting time), and by varying the time allotted to the task (time pressure). Computers may be programmed to manipulate these time variables precisely and reliably within or between subjects.

In decision making experiments, waiting time may be used to represent search costs. The major advantage is that waiting time parallels the cost of search in actual purchase situations. In the real world of consumer behavior, information is collected by such activities as talking to friends, visiting showrooms, or making telephone calls. For most people the major cost associated with such activities is the time it takes to do them. Although most purchases are not made under explicit time pressure, consumers do have alternative ways to spend their time. Waiting time, then, represents the time cost of information search. A disadvantage of using waiting time to represent search costs, however, is that people have widely differing perceptions of the value of their time, and it is very difficult to control for this statistically or experimentally. Another disadvantage is that waiting in front of a blank computer screen may be much more or much less aggravating than spending time shopping in the real world. Other methods for operationalizing time costs may be used in conjunction with waiting time,

such as providing subjects with opportunity costs for time spent doing the decision-making task.

Although microcomputers control time precisely and reliably, mainframe computers do not. The number of other users and the jobs they are running affect the response time of the computer to the subjects' keyboard entries. Thus, time-sharing computer systems should not be used if time control is critical.

Automation of Procedures and Data Creation

Computers do exactly what they are programmed to do (assuming reliable hardware). Thus, multiple administrations of treatments and tasks will be identical each time, eliminating unwanted variations due to differences in experimental procedures. Furthermore, depending on hardware availability, many subjects may be run simultaneously - a big advantage for process-oriented experiments.

The data generated from process-oriented experiments are notoriously difficult to analyze. Computers can eliminate the need to manually convert the subjects' process traces into a quantitative data file. For example, Search Monitor (Brucks 1988) contains a program that keeps track of specific types of subjects' actions and outputs these data directly into a file that is in the usual format for input to a commercial statistical package. With some minimal knowledge of computer programming, the program can be altered to keep track of additional output variables.

DISADVANTAGES

It is often argued that the primary disadvantage of computer-controlled experiments is their artificiality. Specifically, computer simulations are not realistic depictions of real-world decision making, and they might encourage a more rational approach to decision making and judgment than consumers usually use. As mentioned earlier, this artificiality is certainly an important obstacle to using computer-controlled simulation for descriptive research. It may or may not be an issue for experimentation, however. One must suspect that the artificiality of the task interacts with one of the independent variables in its effect on the dependent variables in order to argue that artificiality is a serious threat to external validity (see Lynch 1982 for an expanded discussion of this issue).

The remaining disadvantages are related to user interface, software, and hardware issues. User interface refers to the communication between the experimental subject and the computer. Difficulty may arise if subjects are unfamiliar with computers, or worse yet, intimidated by them. These problems are minimized if the task includes early screens designed to reduce subject anxiety and explain simple commands. Subjects need to know what will happen if they press the "wrong" key and they need a chance to practice skills that will be needed in the experimental task, such as choosing options from a

menu. Difficulties may also arise if the task requires subjects to formulate and type in their own requests and commands (rather than choose them from a list). If the sample is drawn from a non-student population across various social strata, the resulting data set may contain excessive undesired variation due to differences in verbal and typing abilities of the subjects.

The expertise and time required to develop original software is a major disadvantage. Search Monitor (Brucks 1988) and Mouselab (Johnson et al. 1986) were developed by consumer researchers to handle task structures typical of consumer research experiments, thus avoiding the need to develop new software for every new experiment. Commercial user-interface software, such as HyperCard, also may be used instead of developing software from scratch. However, even these software packages take time to learn to use and to create specific experiments.

Hardware availability may also pose a problem. If a large number of subjects are required, it is helpful to have several computers (or terminals) available. Although it is certainly possible to run a one-computer study, it adds to the already lengthy process of implementing a computer-controlled study. Another potential hardware-related problem is the size and quality of the screen display. Computer screens are relatively small and may not be able to display simultaneously all the desired information or stimuli.

SUGGESTIONS FOR FUTURE RESEARCH

Almost any consumer decision-making task may be implemented on a computer, but it may not be appropriate to do so. For many research problems, the only major advantage of the computer is automation, which may not be important enough to offset the disadvantages - especially the time and expense of developing software for the task. In this section, some research problems that are particularly likely to benefit from a computer-controlled approach are discussed.

Complex Purchase Environments

The computer's capability to store and retrieve great quantities of information make it ideal for studying consumer information acquisition in complex purchase environments. It is relatively easy to include multiple stores, multiple information sources, and multiple purchase goals, as well as the usual assortment of brands and attributes in a decision-making task. Thus, for example, one can experimentally examine the relationship between store choice and brand choice or the effect of stores' inventory and pricing strategies on information search. Furthermore, the number of available stores, information sources, and purchase goals may contribute to perceived task complexity or information overload. Future research is needed to examine this possibility and its implications.

III-Structured Choice Tasks

Although much previous research has presented subjects with well-structured decision tasks, the consumer choice situation is often an ill-structured problem (Brucks and Mitchell 1981). Consumers do not usually know all the available alternatives and product attributes before beginning a decision-making task, nor are they certain which methods for obtaining information will be fruitful. It is suggested that consumers develop an internal representation of the decision problem based on these task characteristics during the decision-making task. What factors affect this process of problem representation? How do the (probably) concurrent processes of problem representation and problem solution interact?

Computer-controlled tasks may provide a method to examine these questions. By utilizing dynamic task structures, the task-defining characteristics do not have to be identified at the beginning of the decision process. To examine how problem representations are formed during decision making, the subject might be allowed to search for information on task-defining characteristics (e.g., number of alternatives, identity and importance of product attributes, number of available stores, and store characteristics) as well as attribute values. The amount and timing of search on task-defining characteristics might illuminate the development of problem representation, especially if coupled with concurrent verbal protocols.

Interrupts in Decision Making

The concept of interrupts is crucial to Bettman's information processing model of consumer choice (Bettman 1979). Bettman uses Simon's (1967) proposal that a scanner mechanism continually monitors the environment, looking for conditions that might require changes in current activities. When such conditions are found, the interrupt mechanism stops progress on current activities and initiates a response to the condition encountered. Bettman's model postulates that interrupts affect all parts of the decision-making process: motivation, attention, information acquisition and evaluation, decision processes, and consumption and learning processes. Yet little research has examined responses to interrupts and their effects on the consumer decision process.

Computer-controlled experiments can use dynamic task structures, which provide an ideal methodology for studying interrupts. Phenomena suspected of causing interrupts may be programmed into the task, presenting themselves to consumers at specific points in the decision process. Thus, consumers' responses to the timing and nature of various interrupts may be examined.

The major source of interrupts is a perceived departure of environmental conditions from those expected or anticipated. More specifically, interrupts result from impediments to goals, such as stockouts and unexpected negative information (e.g., high price). Interrupts may also result from unintentional exposure to information. For

example, unsolicited advice from a salesperson or another consumer may cause a consumer to rethink a purchase intention. Similarly, unintentional exposure to advertising or a competitor's display may also cause an interrupt.

Salesperson Influences

Although information from salespeople is a major influence on consumer purchase decisions (Wilkie and Dickson 1985), it has received little attention in the information processing literature. Little is known about the effects of information obtained from salespeople on the process of decision making and judgment. Such influence may occur in the form of an interrupt (unsolicited information), or sales influence may be actively sought by consumers. One direction for future research is to examine the effect of various aspects of salesperson-customer interactions on the formation of problem representation as well as problem solution strategies.

The computer provides a way to experimentally manipulate the timing and content of sales messages while providing access to the consumer's decision process. One might argue that presenting information on a computer screen and ascribing that information to a salesperson does not sufficiently capture the complexities of the face-to-face interaction between customer and salesperson. While this is a real limitation, it does not imply that computer simulation is an inappropriate method to study sales interactions. Rather it implies that independent variables must be chosen that do not significantly interact with this aspect of artificiality. As discussed earlier, purely descriptive research would be problematic.

A special aspect of sales influence research that computers can facilitate is the bargaining process. A simulated salesperson may be programmed to respond to various types of consumer influence attempts with specific messages and concessions (e.g., Brucks and Schurr 1990; Schurr and Ozanne 1985). Computer-opponent bargaining eliminates the need for a human experimenter to trade messages with subjects and allows clean manipulations of bargaining strategy (i.e., one doesn't have to depend on a research assistant to follow instructions). Although the researcher must be careful about generalizing results to face-to-face bargaining situations, it is possible to conduct experiments on independent variables that would not be expected to interact with the "humanness of opponent" dimension.

Memory and Inference

Because computers make response time measurements easily obtainable, research on memory and inference is facilitated. Response time measures provide insight on the organization and content of product information in memory and the development of cognitive structures (Gardner, Mitchell, and Russo 1978). They are commonly used to examine cognitive representations of category structures (Mervis and Rosch 1981). Since response times

help differentiate responses based on memory from responses constructed on the spot, these measures may also be useful for distinguishing product judgments made during choice from product judgments made in response to experimenters' questions.

CONCLUSION

While the computer facilitates or makes possible a number of interesting research endeavors, it is not well-suited for all decision-making or judgment topics. For many research problems, the only major advantage of the computer is automation, which may not be important enough to offset the disadvantages - especially the time and expense of developing software for the task. It is recommended that the researcher carefully weigh the advantages and disadvantages before embarking on a computerized course.

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Product Category Perceptions, Elaborative Processing and Brand Name Extension Strategies

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ABSTRACT

This paper argues that consumers' judgments of fit between established brand names and new product extensions are determined by the associations that are activated and elaborated upon in a given situation. A pilot study explored the elaborative processing that occurred, both independently and when prompted by a cue, when consumers considered the extension of some established brand names into hypothetical product categories. The methodological and managerial implications of the results are discussed.

INTRODUCTION

When a firm attempts to penetrate a new product category, considerable managerial attention is devoted to the naming of the new brand. The importance of this decision is underscored by the substantial resources that firms are willing to invest in the process of naming a brand (Mamis 1986, Leuthesser 1988). One common recommendation is to extend a well-established brand name to the new product via a family branding or similar strategy. It is argued that the franchise enjoyed by the established brand name will transfer to the new product. Such a transfer may provide several potential benefits, e.g., easing the task of generating awareness for the new product, providing an instant image for the new product, enhancing acceptance of the new product by the trade, and allowing potential promotional efficiencies. These arguments partially explain why firms have increasingly tended to adopt a brand extension strategy when introducing new products (Erickson and Dagnoli 1988, Kesler 1987, Tauber 1981).

The prevailing wisdom is that the above benefits of brand extensions should be most pronounced when the original and new product categories are similar (Kotler 1988). However, little is known about the nature of these similarity assessments. Indeed, recent psychological research on the organization and structure of human memory (Mervis and Rosch 1981, Smith and Medin 1981) suggests that this prevailing view may be overly simplistic. Whether or not a brand name transfers as intended from an old to a new product category may depend on the associations that are activated and elaborated either naturally or by a marketing cue.

In this paper, we discuss and empirically explore some factors that may influence the cognitive processes underlying consumers' judgments of "fit" between the original product category and new extension. Specifically, we consider (1) the degree to which the associations between the old and new categories are shared versus

unique; (2) the implications of the relative salience or non-salience of these associations in memory and (3) the impact of the presence/absence of marketing communications cueing specific associations. We then describe a pilot study designed to provide some initial insights on these aspects of the brand name transfer mechanism. Finally, we discuss the methodological and managerial implications of the study findings.

FACTORS INFLUENCING BRAND NAME TRANSFER

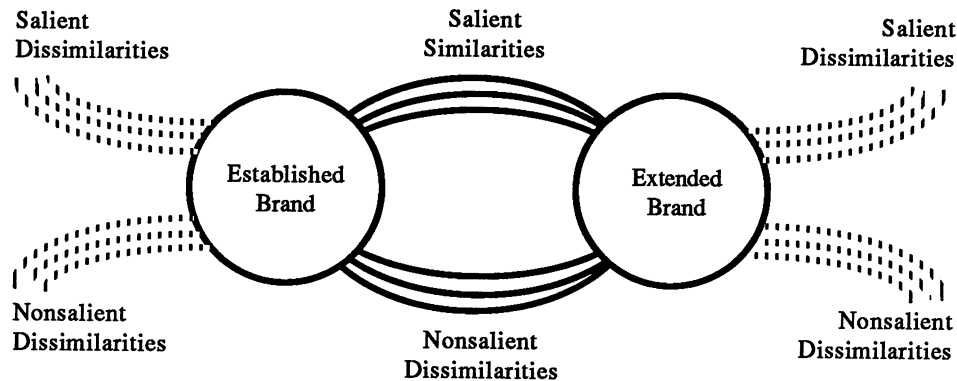
Recent discussions of the nature of product knowledge in consumer memory draw upon the cognitive psychology literature (Anderson 1983, Wyer and Srull 1986) and argue that knowledge of an established brand is represented in memory as a series of associations (Lynch and Srull 1982). Some associations may be generic to the product category whereas others may be brand-specific. Thus, associations for Haagen Dazs ice-cream may include generic features of ice-cream such as "cold", "sweet" and "high in calories", as well as features specific to Haagen-Dazs, such as "rich" and "expensive". Beyond product features, the associative knowledge structure for a brand or product category may also comprise of benefits, usage situations and skills pertaining to manufacture. We now consider the aspects of these associations that may influence the judged fit and evaluation of a new product that has been given an established brand name, i.e., the determinants of brand name transfer (Aaker and Keller 1988).

Shared and Unique Associations

The degree to which the old and new product categories have shared and unique associations is expected to be a factor that determines the likelihood of brand name transfer. Figure 1 represents this schematically. A brand name would be more likely to transfer when an old and a new product category *share* more associations (see the solid lines in Figure 1). Thus, Haagen Dazs sherbet may be a logical extension from a consumer's perspective, and may be seen as a good fit with Haagen Dazs name because the two products have common associations or shared features.

However the overlap between two products is seldom complete. Thus, for any given extension, the established and extended brand are likely to have knowledge associations that are not shared (see the dotted lines in Figure 1). For example, while Haagen Dazs ice-cream is made with butterfat, sherbet is not. Moreover, the two products often come in quite different flavors. Thus, the old and new product categories are also likely to have unique (distinctive

FIGURE 1
Associations Between an Established and Extended Brand



or dissimilar) features. The greater the extent of such unique associations, the lower may be the transferability of brand names across the two categories.

These ideas on brand name transferability are closely related to theories of categorization which suggest that the greater the feature overlap between items, the greater the likelihood that such items will be perceived to belong to the same cognitive category (Rosch and Mervis 1975, Rosch 1978, Mervis and Rosch 1981, Smith and Medin 1981). Other theories of similarity judgments (Tversky 1977) also propose corresponding ideas. Thus, Haagen Dazs sherbet may seem like a natural extension since ice-cream and sherbet share many physical features. However, to the extent dissimilarities become salient during the fit judgment, the extension may be viewed as less appropriate.

Shared benefits may be another basis for judging the appropriateness of a brand extension. Barsalou (1982, 1983) suggests that, in considering items linked by a common goal (e.g., things to eat on a diet), it is shared benefits rather than physical features that guides category judgments. Thus, although cake and ice-cream share few physical features, both may be linked to the same goal (i.e., things to eat for dessert). This may explain why a brand extension such as Haagen Dazs cake may be judged appropriate. By a similar logic, the Arm and Hammer brand name may transfer readily from baking soda to air freshener because the two products provide similar deodorizing benefits.

Usage complementarity among product categories may provide a basis for assessing the appropriateness of a brand name transfer. This type of complementarity between product categories is a special case of shared benefits in that it makes the joint benefits of the two products higher than the sum of their benefits viewed individually. Thus, the Haagen Dazs brand name may readily transfer from ice-cream to chocolate syrup because the two products are complementary in usage.

From a firm's perspective, the decision to produce an extended brand is often determined by marketing or manufacturing synergies between the two products. In some cases, these technological or manufacturing synergies are also obvious and meaningful to consumers and may provide the basis for a perceived similarity between the old and the new product categories. Thus, skills associated with the moulding of plastic products makes Rubbermaid a credible brand name across a number of disparate product categories such as floor mats and storage boxes. Thus, manufacturing synergies that are readily perceived by the consumer may also be a basis for judged fit of an extended brand name.

Salient and Nonsalient Associations

Associations among products may be differentially salient to consumers. Just as some associations come to mind very easily, others are less accessible in memory or more difficult to perceive in the environment. For example, it may make sense for Haagen Dazs to produce frozen vegetables because it already commands a developed technology for distributing frozen foods. Likewise, Heinz may be capable of producing high quality apple juice because the production technology for ketchup is akin to that used for making apple juice (extraction). However, despite marketing and manufacturing similarities between the categories, consumers may not focus on these similarities. Thus, Haagen Dazs frozen foods or Heinz apple juice may be viewed as inappropiate extensions of the brand names. Thus, in addition to considering the type and nature of associations between the established and the extended products, (i.e., shared vs. unique features), it is important to consider the salience of the associations.

Barsalou (1983) suggests that some attributes of items in a category are salient regardless of context, while the salience of others are context-dependent. Context-independent attributes tend to be those central to the meaning of the category. One may speculate that the basic features of product

categories, and those central to a product's ability to deliver its core benefit, would be context-independent and hence naturally salient. On the other hand, if consumers typically think of products based on their benefits or physical features, potential technological or commercial synergies between the products are less likely to be salient.

Figure 1 depicts associational patterns between an established and an extended brand, classified on the basis of whether they are shared/unique or salient/nonsalient. Thus, the two products may be (1) similar on both salient and nonsalient dimensions, (2) similar on salient dimensions but dissimilar on nonsalient dimensions, (3) dissimilar on salient dimensions but similar on nonsalient ones, and (4) dissimilar on both salient and nonsalient dimensions. This fourfold classification scheme permits us to consider the nature of the fit judgments and also the managerial relevance of each classificatory cell.

Cases 1 and 4 are straightforward and imply strong and weak fit judgments respectively. Cases 2 and 3 have significant managerial relevance. First, consider Case 2 in which an established and extended category pair have dissimilar salient associations but are similar on nonsalient dimensions (e.g., Heinz ketchup and apple juice). Because the two brands are dissimilar on salient features, benefits or usage, consumers may perceive Heinz apple juice as a poor fit and evaluate it negatively. The manufacturer then would have to ensure that previously nonsalient manufacturing synergies become salient to the consumer. Likewise, consider Case 3 where an established and extended product pair share salient associations, but there exist nonsalient issues that may raise legitimate questions regarding a firm's competence to manufacture the extension. For example, though Heinz relish may seem like a natural extension due to the perceived complementarity between ketchup and relish, the manufacture of the two products involve quite different processes (extraction versus pickling). A competitor pointing out these differences would lower the credibility of Heinz relish. These examples illustrate why one must consider both salient and nonsalient associations in judgments of fit between an established and an extended category.

Cueing Effects

The salience of associations is likely to be subject to a number of external and situational factors. One factor investigated in this study is the effect of a general, externally-provided cue that is designed to prompt elaboration of previously nonsalient associations. Advertising is particularly important in this regard. Advertising claims could alter the salience of particular associations or, more generally, shift the mental frame or set in which judgments take place, changing the set of associations that are salient.

HYPOTHESES

Given the above, one would expect that without elaboration, nonsalient similarities or dissimilarities would have no effect on the perceived fit of the extended brand with the established brand. Salient cues would drive judgments of the goodness of a brand extension. Thus:

H1: When elaboration is not cued, judgments of the goodness of an extension are best when the established and the extended products have similar features, benefits or usage, and are worst when the two products have dissimilar features, benefits or usage.

However, when an externally provided cue prompts greater elaboration, previously non-salient cues may begin to matter. Thus, two products which initially seem dissimilar may be more favorably evaluated as consumers come to find similarities that were not immediately salient. On the other hand, upon elaboration, a consumer may also find dissimilarities between two products on non-salient dimensions, even though the products initially seemed to be quite naturally associated. The identification of these distinctive features may change how well the established brand name is perceived to fit the extended product and may also change perceptions of the goodness of the extended brand.

H2: Cued similarities on nonsalient dimensions may reduce the impact of salient dissimilarities on the perceived goodness of the extended brand, while cued dissimilarities should reduce the impact of salient similarities on perceived goodness judgments.

In summary, we suggest that the basis for evaluative judgments regarding a brand extension lies in the associations that link the existing branded product and the new product class. Associations may be shared or unique (i.e., similar or dissimilar) and they may be either salient or nonsalient. Salient associations will affect judgment regardless of external cues. Other, initially nonsalient associations may become salient if they are cued. In the next section, we describe a pilot study that examined how the sharing and the salience of associations influences consumers' evaluation of brand extensions.

STUDY DESIGN AND PROCEDURES

A set of seven well-known brands were selected (Table 1). We expected that product category characteristics would be strongly associated with them (Carpenter and Nakamoto 1989). Each brand served as a replicate of the basic design. Five types of extensions were developed for each brand (Table 1). One extension was a control product actually produced under the brand name. Others were extensions to hypothetical categories that varied in

TABLE 1
Stimulus Product Categories

Established Brand	Control Category	Extended Product Category			
		SS/NS	SS/ND	SD/NS	SD/ND
Hunts	Tomato Paste	Tomato Puree	Dill Pickles	Apple Juice	White Wine
Kleenex	Napkins	Disposable Diapers	Sponges	Tree Nurseries	Furniture
Papermate	Pens	Markers	Staples	Disposable Razors	Auto Parts
Alpo	Puppy Food	Cat Food	Flea Collars	Canned Tuna	Shoes
Haagen Dazs	Ice-cream Bars	Butter	Chocolate Syrup	Frozen Dinners	Canned Peaches
Sheraton	Travel Lodging	Beach-front condos	Suitcases	House-keeping services	Tax services
Kelloggs	Corn-flakes	Oatmeal	Bread	Birdseed	Beer

SS= salient similarities (i.e., similar features, usage, benefits)

SD= salient dissimilarities

NS= nonsalient similarities (i.e., similar technological, marketing synergies)

ND= nonsalient dissimilarities

similarity or dissimilarity to the established brand. Some extension categories were picked such that the similarities or dissimilarities on dimensions that we presumed would be naturally salient. Operationally, these tended to be physical features, benefits, or usage characteristics. Other extensions concerned dimensions that we presumed would be non-salient. These mainly concerned technology or manufacturing dimensions.

Finally the study manipulated whether an external cue (elaboration instruction) was present or absent. If present, the cue was embedded in the study instructions. It suggested that in evaluating the extensions, subjects should beware of first impressions, and that technological synergies and shared marketing efficiencies could allow the company to produce a quality product at a reasonable price.

The study used a 2 (salient dimensions - similar or dissimilar) by 2 (nonsalient dimensions - similar or dissimilar) x 2 (cueing present or absent) experimental design. Since, for this pilot study, we had a limited number of students (97) in a

convenience sample, each subject judged only five of the seven extensions. The extensions were assigned using a balanced incomplete block design. In the no cue condition, each subject saw all four treatment combinations plus a control. In the cued condition, only the mixed similarity extensions were used, i.e., the salient similarity - nonsalient dissimilarity or the salient dissimilarity - nonsalient similarity cases. The subject judged two of one type and three of the other type.

For each of the five brand extensions, subjects provided four judgments on 7-point scales anchored by high and low. The judgments, (1) similarity to other products made by the brand, (2) fit with the brand's image, (3) quality of the new product, and (4) the extended brand's expected sales, were assumed to reflect the perceived goodness of the extension. After providing judgments for all five products, subjects provided some qualitative reasoning for their judgments of fit and quality.

TABLE 2
Judgments as a Function of Similarity/Dissimilarity on Salient and Nonsalient Dimensions.

Anova Table:

Source	df	Sum of Squares	F	p
Category	6	79.47	1.53	0.169
Salient Similarities	1	950.48	109.65	0.001
Nonsalient Similarities	1	152.61	17.60	0.001
Salient x Nonsalient	1	31.08	3.59	0.059
Residual	266	2305.87	8.67	

Pattern of Means for FIT Judgments:

		Nonsalient Elements	
		Similar	Dissimilar
Salient Elements	Similar	5.01	4.51
	Dissimilar	3.13	2.03

RESULTS

The judgments for the extended brand were analyzed in a repeated measures analysis of variance using the brand extension as the unit of analysis and the similarity manipulations on salient and nonsalient dimensions as factors. Our first hypothesis (H1) was that, in the absence of an external elaboration cue, judgments would be driven by naturally salient associations. The results were somewhat consistent with expectations (Table 2). For associations deemed to be salient, (physical features, benefit, and usage), similarity had a strong main effect ($p < 0.001$) on judgments. Unexpectedly however, similarity had a significant main effect ($p < 0.001$) for nonsalient associations as well. Moreover, as indicated by a marginally significant salient x nonsalient interaction, ($p < 0.06$), the effect of similarity varied by whether the associations were salient or nonsalient. For space reasons, Table 2 reports the means for only the fit judgments. However, the data for the similarity, quality and sales judgments showed similar patterns.

The interaction suggests that the impact of nonsalient similarities (technological synergy) on judgments was greater when physical feature or usage similarity was low. Thus, if consumers initially perceive that the established and extended products are dissimilar on salient dimensions, they may engage in greater elaboration to find similarities that may not be immediately obvious. These results suggest that in some circumstances, consumers may look for and "find" similarities on nonsalient dimensions even without an external cue.

It was also hypothesized (H2) that the presence of an elaboration cue increases the impact of nonsalient similarities and reduces the impact of salient dissimilarities on judgments. In an ANOVA on the four types of judgment, (considering only the mixed similarity extensions judged), the cue by extension type interaction was marginally significant ($p < 0.06$). However, the means were not ordered as expected (Table 3). When brands were similar on physical features, benefits or usage, the cue had no impact. Even when cued, the lack of technological synergy did not adversely affect judgments regarding these extensions. Only when technological synergy was present did the cue have the expected effect of increasing fit judgments. These results are consistent with the idea of a confirmation bias (Einhorn 1982). Specifically, these analyses, pooled over the seven brands used in the study, suggest that consumers primarily search for evidence of similarity on salient features. If brands are similar on these salient features, the impact of dissimilarities on nonsalient dimensions is minimal.

Brand-Level Analyses

In the preceding analyses, the effects of brand and of type of judgment were also significant and interacted with the salient and nonsalient similarity/dissimilarity manipulations. Because of our focus on fit perceptions, judgments of the fit of the brand extension with the brand's current image were of particular interest. We therefore considered these judgments in more detail at the brand level.

TABLE 3
Judgments as a Function of Cueing and Extension Type

Anova Table:

Source	df	Sum of Squares	F	p
Category	6	307.41	5.60	0.001
Cue	1	8.98	0.98	0.322
Extension Type	1	593.76	64.90	0.001
Cue x Extension Type	1	33.87	3.70	0.055
Residual	268	2451.91	9.15	

Pattern of Means for FIT Judgments:

	Cue	No Cue
Salient Similarities	4.51	4.60
Nonsalient Dissimilarities		
Salient Dissimilarities	3.13	2.44
Nonsalient Similarities		

These analyses provide further insight on the reasons for the patterns noted above.

We summarize these results without going into detailed descriptions of the data. In essence, the data for one brand and its extensions (Kellogg's) showed the pattern originally expected. In the absence of cueing, physical and usage similarity drove fit judgments. Thus, oatmeal and bread were both rated very high on fit, while birdseed and beer were rated poorly. The cue had the effect of increasing ratings slightly for birdseed (because of the shared production technology), and decreased fit ratings for bread. The qualitative reasoning explaining the fit judgments were also consistent with our expectations.

However, the remaining six brands reflected idiosyncratic patterns. In some cases, (e.g., Kleenex Tree Nurseries), products that were expected to be seen as naturally dissimilar were not seen that way. The presence of the cue seemed to intensify the impact of the physical feature/usage similarities. In other cases, (Haagen Dazs chocolate syrup), product-specific factors such as usage complementarity appeared to have strong effects, regardless of the cue. In some cases, (Alpo canned tuna), even the recognition of technological synergies did not change evaluations because of other salient inferences. Thus, although Alpo tuna uses many of the same manufacturing and packaging technologies as Alpo dogfood, consumers made inferences about the extension (i.e., would taste like dogfood) lowering fit perceptions. Moreover, though subjects recognized the potential sharing of equipment used to make both pet food and human

food products, this was perceived as disgusting by some.

DISCUSSION

While the study results did not conform to our expectations, they provided a number of insights on the varied inference processes that may underlie judgments about brand extensions. These suggest both methodological caveats and managerial implications for future research.

First, as may be expected, salient associations have a strong impact on judgments about brand extensions and similarity between the established and extended brands seems to have a positive impact on fit judgments. However, it is clear that perceptions of similarity can be based upon multiple dimensions and that the specific context may drive what is salient. Physical feature and usage similarity are two generally effective bases, but other bases (e.g., product complementarity) emerged as well, sometimes dominating the effects of physical disparity.

Cues to nonsalient dimensions had mixed effects. In the absence of other sources of similarity between the established and extension categories, the cue seemed to have had an asymmetric effect - increasing ratings if it cued a basis for similarity, no effect if it did not. However, if other more obvious sources of similarity were present, the cue, when effective, seemed to cause increased elaboration of these obvious sources. This increased their impact, but did not enhance the salience of the intended nonsalient attributes.

The first implication of these findings concerns the identification of "good" and "bad"

extensions. A complex cluster of associations may exist between an established brand name and an extension product category. Hence, it is difficult to specify a priori which of these are likely to be accessed and elaborated in a judgment situation. Thus, to the extent that a priori judgments of salience/nonsalience were inaccurate, it is difficult to predict fit judgments. Thus, for future research examining these effects, it may be necessary to develop a baseline set of associations for each brand pair. In theoretically-motivated empirical work, this may be done at the individual subject level and used to assign subjects to experimental groups. In other, managerial applications, one may look for segments of individuals who depict similar, stable clusters of salient and nonsalient associations for a product category.

Second, the effect of cues to nonsalient associations seems highly variable. In the present study, the cue was rather global and provided a general invitation to consider certain bases for comparison. Based on the verbal reports, the cue appears to have been successful only in some cases. Thus, self-driven elaboration took rather idiosyncratic directions. By contrast, advertising cues tend to be much more specific. Hence, associations cued by well-executed advertising messages may have a more uniform impact.

Third, the brand stimuli used here were established names that were perhaps prototypical and may have anchored the cluster of associations in their original categories. Relative to names that were less prototypical, the set of associations evoked by these brand names may have been difficult to overcome even with the help of a cue. Thus, with less stable associations and a weaker product category member, external cues may have stronger effects.

Finally, the judgments reflected a difference between the noting or comprehending of an association and the adjustment of a fit evaluation on that basis. In the Alpo Tuna case, it was clear that the cued associations (technological synergies in food processing and canning) were clear to many subjects, but were not compelling. The pattern of evaluations suggested that it was impossible for subjects to discount the incongruity between dog food and human food.

Thus, if a taxonomy of brand extensions is to be based on the idea of salient associations, it will be necessary first to develop some more detailed understanding of the classes of associations that may arise in relating an established brand and a novel product category. We are currently studying the structure of brand knowledge as a basis for predicting the natural or baseline perceptions likely to emerge when an extension is introduced. Despite the somewhat mixed findings here, it remains an intriguing possibility that ultimately, a brand name may enjoy greater credibility in a product category if it permits priming of deeper and more meaningful structural associations, even if the surface similarity is not judged to be great.

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 WOLFINBARGER, Mary Finley; University of California, Irvine; (8.4)
 WONG, John K.; DePaul University; (9.6)
 WOOTEN, David; University of Michigan; (7.4)
 WRIGHT, Peter; Stanford University; (1.6)

YALCH, Richard; University of Washington; (8.5)
 YOON, Carolyn; Duke University; (6.3)
 YOON, S.J.; Purdue University; (5.1)

ZAICHKOWSKY, Judith Lynne; Simon Fraser University; (7.2)
 ZALTMAN, Jerry; University of Pittsburgh; (7.6)
 ZANNA, Mark P.; University of Waterloo; (2.3)
 ZEITHAML, Valarie; Duke University; (1.6) (4.6)
 ZINKHAN, George M.; University of Houston; (2.5) (5.4) (7.6)