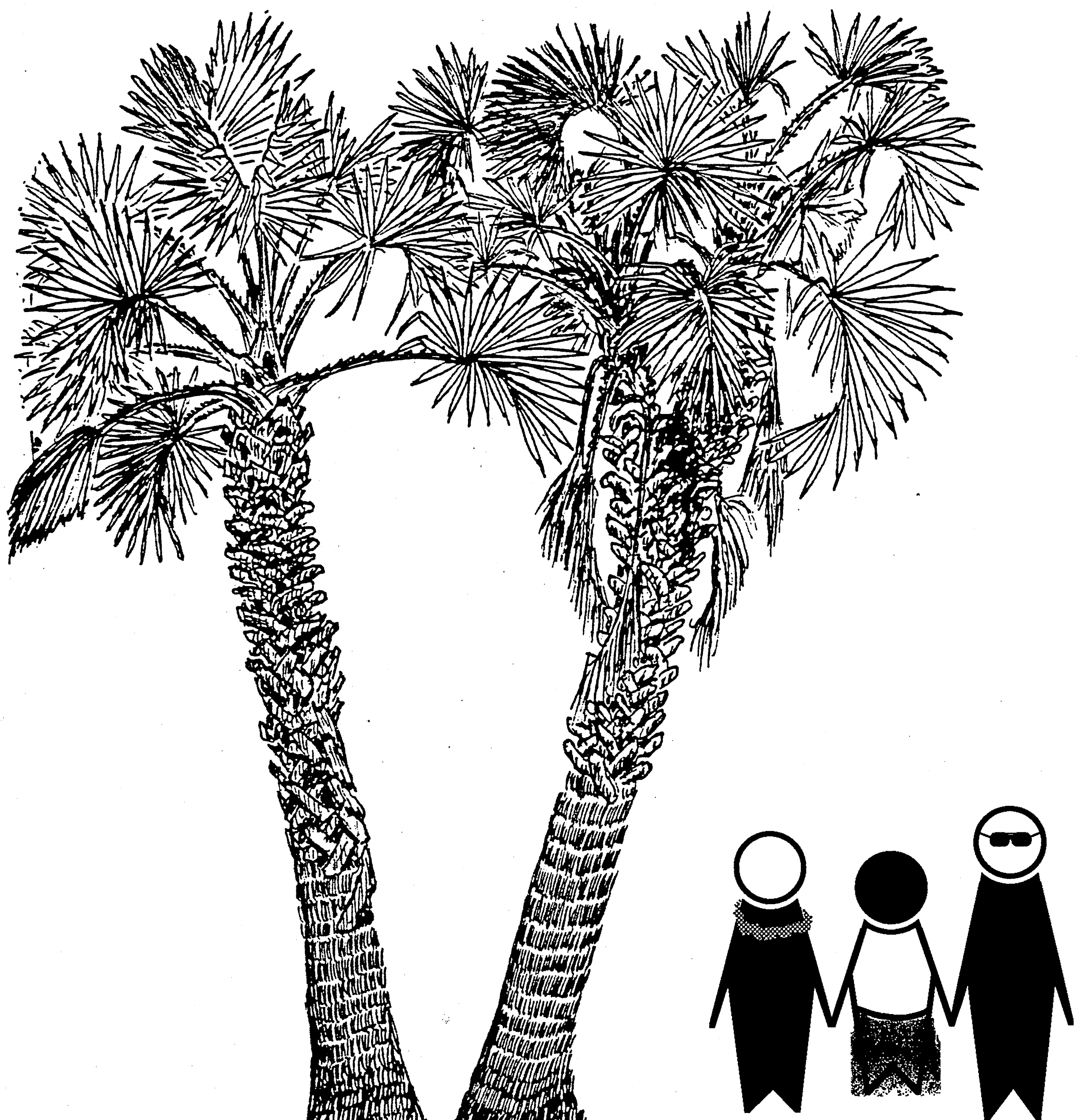
Advances in Consumer Research

Volume XVI



Thomas K. Srull, Editor

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Thomas K. Srull, Editor

Advances in Consumer Research, Volume 16

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Preface

The Association for Consumer Research is an organization that continues to evolve at a rapid pace. Its intellectual foundation is broadening, its knowledge base is deepening, and the geographical representation of its membership has become global. The 1988 Annual Conference of ACR, which was held at the Ilikai Hotel in Honolulu from October 13-16 and at the Marriott Hotel on the island of Maui from October 18-19, reflected each of these trends.

The site of Hawaii was an unusual one. On the one hand, the conference was more accessible than it has ever been to a growing percentage of our membership. On the other hand, many of us were forced to confront the logistics that a distant conference presents. There were long flights, jet lag, missed classes, churlish deans, and various other ailments. But there was also the sun, the beaches, and a warm environment that was truly international and multicultural. Most important, there was a large collection of consumer researchers that represented the entire breadth and depth of the field. The present volume reflects the content of the program, and includes the majority of the papers presented at the conference.

Many debts are accumulated in the course of serving as a conference chairperson, and I take pleasure in acknowledging them. Mike Houston, Melanie Wallendorf, and Paul Anderson, the three previous chairpersons, each provided immeasurable help. They alerted me to various stumbling blocks, provided advice when I asked for it, and even administered therapy when therapy was needed.

Rich Lutz, the President of ACR during 1988, was also a joy to work with. Rich's presidential address was directed at one of the most central issues facing consumer researchers today. I believe it is one of the most important and timely pieces to appear over the past decade, and I am delighted that it is reprinted in the present volume.

Keith Hunt's contribution to the 1988 conference is beyond words. He was not only the Executive Secretary of ACR but also the "local" arrangements chair. He dealt with hotels, airlines, rental car companies, tour package operators, printers, members with lost reservations, and various other minutiae. And he spent most of his time dealing with me. I can only say that Keith worked with such grace and charm that, even looking back on it, it is breathtaking. Members of ACR are indebted to him in ways that only a few understand fully.

As has become his custom, Jim Muncy has managed to turn every imaginable size of page and disk into a volume that is clear, easy to manage, and aesthetically pleasing. How he works his magic is beyond most of us but, on behalf of all, I thank him for it.

The quality of any conference obviously depends most critically on the papers submitted. In this regard, I want to offer my sincere appreciation to those who submitted competitive papers and/or agreed to participate in the special sessions. One of the most educational experiences I have ever had came from perusing the state-of-the-art of a very dynamic and interdisciplinary field. As readers of the present volume will discover, the papers represent the entire array of questions, issues, and intellectual approaches that characterize the field today.

In what was apparently a break with tradition, the competitive papers were not blind reviewed. Several people pointed this out to me, and a few objected to the non-blind review procedure; even those who did not object suggested that this was a very controversial decision. The truth is that it was no decision at all; I never even thought about it. And I was surprised that some people, even a small minority, felt so strongly about blind reviews. My impression is that this stems from the different cultures in which the various members of ACR come. Of the twenty or so psychology journals with which I am familiar, only one uses blind review; however, in marketing, a field that continues to dominate consumer research, the situation is quite different. At any rate, whether papers are reviewed blind or not, the editor is ultimately responsible and must stand behind his or her decisions. Readers, of course, are the ultimate judge of how wise those decisions were.

Finally, I want to offer my thanks and gratitude to the many people who agreed to serve as reviewers. Some of the reviews I and the authors received were herculean efforts that served to increase the quality and clarity of the papers substantially. I offer each of the many reviewers my appreciation for a job well done.

Thomas K. Srull
Editor

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Scott Ward
Rob Widing
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Conference Program

THURSDAY, OCTOBER 13

4:00 PM
CONFERENCE BEGINS
ILIKAI HOTEL ON OAHU

4PM to 8PM
REGISTRATION

6PM to 8PM
EARLY BIRD RECEPTION

FRIDAY, OCTOBER 14

8 AM to Noon
REGISTRATION

FRIDAY, OCTOBER 14

8:30AM to 10:00AM
CONCURRENT SESSIONS

1.1 *Special Session*: Household Consumption Behavior Research Forum

Chairs
Alvin C. Burns, University of Central Florida
James W. Gentry, University of Nebraska

Participants
George Belch, San Diego State University
Michael Belch, San Diego State University
Les Carlson, University of Arkansas
Kim Corfman, New York University
Ellen Foxman, Washington State University
Donald Granbois, Indiana University
Sanford Grossbart, University of Nebraska
Shreekant Joag, Mankato State University
George Moschis, Georgia State University
William Qualls, University of Michigan
Michael Reilly, Montana State University
Alladi Venkatesh, University of California, Irvine
Ann Walsh, University of Nebraska

1.2 *Competitive Paper Session*: Complaining and Word of Mouth Activities

"Consumer Complaining and Word of Mouth Activities: Does Problem Salience Matter?"
Steven P. Brown, University of Texas

"Consumer Complaining: Attributions and Identities"
Cathy Goodwin, Georgia State University
Susan Spiggle, University of Connecticut

"Some Limits on the Potency of Word of Mouth Information"
William R. Wilson, Rice University
Robert A. Peterson, University of Texas

1.3 *Competitive Paper Session*: Individual Difference Mediators in Consumer Research

"Need for Cognition and Attitude Persistence"
Curtis P. Haugtvedt, Ohio State University
Richard E. Petty, Ohio State University

"The Relationship Between Need for Cognition and Other Individual Difference Variables
Ayn E. Crowley, University of Texas
Wayne D. Hoyer, University of Texas

"A Temporal and Lifestyle Typology to Model Consumers' Smoking Behavior"
Jacob Hornik, Tel Aviv University

1.4 *Competitive Paper Session*: Consumer Reactions in Sales and Service Encounters

"Misperceptions of Time in the Sales Transaction"
Richard A. Feinberg, Purdue University
Peter Smith, Purdue University

"Consumers' Reactions to Waiting: When Delays Affect the Perception of Service Quality"
Laurette Dube Rioux, Cornell University
Bernd H. Schmitt, Cornell University
France Leelers, Cornell University

"Social Distance Within the Service Encounter: Does the Consumer Want to be Your Friend?"
Cathy Goodwin, Georgia State University
Charles D. Frame, Georgia State University

1.5 *Special Session*: Reactance Theory and Consumer Behavior. A Neglected Area of Research

Chairs
Greg Lessne, University of Rhode Island
M. Venkatesan, University of Rhode Island

"Reactance Theory: Theoretical Principles and Applications"
Jack W. Brehm, University of Kansas

"Reactance Theory in Consumer Research"
Greg Lessne, University of Rhode Island
M. Venkatesan, University of Rhode Island

"Methodological Issues in Reactance Theory Research"
Nicholas M. Didow, University of North Carolina

FRIDAY, OCTOBER 14

10:00AM to 10:30AM
COFFEE BREAK

10:30AM to NOON
CONCURRENT SESSIONS

2.1 *Special Session*: Household Consumption Behavior Research Forum
(Session Continued)

2.2 *Special Session*: The Use of the Microcomputer for Experimentation in Consumer Behavior

Chair
Terry L. Childers, University of Minnesota

"Evaluating Print Ads Through a Computerized Testing Procedure"
Terry L. Childers, University of Minnesota
Susan E. Heckler, University of Michigan
"The Use of the Personal Computer in Consumer Behavior Research"
Akshay Rao, University of Minnesota

"Using Computers in Laboratory Consumer Research"
James A. Muncy, Clemson University

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Merrie Brucks, University of North Carolina

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Paul Sauer, State University of New York at Albany

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John Gottko, Oregon State University
Paul Sauer, State University of New York at Albany

"A Conditional Analysis of Movers' Housing Responses"
James N. Morgan, University of Michigan

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Joseph A. Cote, Washington State University
Patriya S. Tansuhai, Washington State University

"Immigrant Consumer Acculturation"
Lisa N. Penaloza, University of California, Irvine

"Choice Strategies and Involvement: A Cross Cultural Analysis"
Dana L. Alden, University of Texas
Wayne D. Hoyer, University of Texas
Guntalee Wechasura, Chulalongkorn University

Discussant
John McCarty, University of Illinois

2.5 ***Competitive Paper Series*****: Developing Perspectives on Consumer Research**

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Elizabeth Cooper Martin, Georgetown University

"Consumer Types, Social Influence, Information Search and Choice"
David F. Midgley, University of New South Wales
Grahame R. Dowling, University of New South Wales
Pamela D. Morrison, University of New South Wales

"Interactive Information Systems and Normative Consumer Aid Models"
Donna J. Hill, Indiana University
Maryon F. King, Southern Illinois University

2.6 ***Special Session*****: The Meanings of Consumption: Anthropological and Sociological Perspectives**

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Melanie Wallendorf, University of Arizona

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Colin Campbell, University of York
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Melanie Wallendorf, University of Arizona

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Russell W. Belk, University of Utah

FRIDAY, OCTOBER 14

1PM to 10PM
POLYNESIAN CULTURAL CENTER TOUR

SATURDAY, OCTOBER 15

8:00AM to NOON
REGISTRATION

8:30AM to 10:00AM
CONCURRENT SESSIONS

3.1 *Competitive Paper Session*: New Directions in Involvement Research

"A Test of the Learning Hierarchy in High and Low Involvement Situations"
George M. Zinkhan, University of Pittsburgh
Claes Fornell, University of Michigan

"The Link Between Involvement, Use Innovativeness and Product Usage"
S. Ram, University of Arizona
Hyung Shik Jung, University of Arizona

"Must Consumer Involvement Always Imply More Information Search?"
Banwari Mittal, Northern Kentucky University

3.2 *Special Session*: Memory Retrieval and Cueing Effects in Consumer Decision-Making

Chair
Kevin Lane Keller, Stanford University

"Message and Cuing Effects on Decision Framing"
Amna Kirmani, Duke University
Peter Wright, Stanford University

"Retrieval Cues at Choice: An Additional Role for Product Attributes"
Prakash Nedungadi, University of Toronto

"Cue Compatibility and Framing in Advertising"
Kevin Lane Keller, Stanford University
Brian Wansink, Stanford University

"Accessibility of Ad Related Feelings and Brand Claims: Does a Point-of-Purchase Cue Have an Impact?"
Julie A. Edell, Duke University
Marian Chapman Burke, Duke University

"Cued Recall for Emotional and Non Emotional Advertisements"
Marian Friestad, University of Oregon

"The Spontaneous Activation of Brand Evaluations"
Discussant
Thomas K. Srull, University of Illinois
Ida Berger, University of Toronto

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"Sense of Time Urgency and Consumer Well Being: Testing Alternative Causal Models"
Aida N. Rizkalla, Rutgers University

"An Holistic Approach to Household Management of Well Being: A Thick Description"
Keith Neergaard, University of California, Irvine
Alladi Venkatesh, University of California, Irvine

3.4 *Special Session*: Context Effects in Consumer Judgment and Choice

Chairs
Paul M. Herr, Indiana University
Frank R. Kardes, Massachusetts Institute of Technology

"On the Meaningfulness of Sensory Attributes: Further Evidence on the Attraction Effect"
David W. Stewart, University of Southern California

"Further Evidence on the Attraction Effect"
Itamar Simonson, University of California, Berkeley

"Violations of Regularity in Consumer Choice Behavior"
Peter H. Farquhar, Carnegie Mellon University

"Some New Light on Substitution and Attraction Effects: An Assimilation/Contrast Perspective"
Frank R. Kardes, Massachusetts Institute of Technology
Paul M. Herr, Indiana University
Deborah Marlino, Massachusetts Institute of Technology

"Context Effects in Price Bundling"
Meir Karlinsky, Carnegie Mellon University

"The Attraction Effect Process or Artifact?"
Christopher P. Puto, University of Michigan

Discussant
Itamar Simonson, University of California, Berkeley

3.5 *Competitive Paper Session*: Public Policy Issues in Advertising

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Ivan L. Preston, University of Wisconsin
Jef I. Richards, University of Wisconsin

"Stages of Involvement with Drugs and Alcohol: Analysis of Effects of Drug and Alcohol Abuse Advertising"
Lorne Bozinoff, Canadian Gallup Poll
Victor Roth, University of Guelph
Colin May, Health and Welfare Canada
Rachel Ladouceur, Health and Welfare Canada

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Edward T. Popper, Northeastern University
Keith B. Murray, Northeastern University

SATURDAY, OCTOBER 15

10:00AM to 10:30AM
COFFEE BREAK

10:30AM to NOON
CONCURRENT SESSIONS

4.1 *Competitive Paper Session*: Perceptions and the Mental Representation of Price

"The Formation of Reference Price"
Robert Jacobson, University of Washington
Carl Obermiller, University of Washington

"The Framing of Sales Promotions: Effects on Reference Price Change"
William D. Diamond, University of Massachusetts
Leland Campbell, University of Massachusetts

"Price Limit Measurement: The Price Order Effect Using the Stoetzel Methodology"
Rustan Kosenko, Bradley University

4.2 *Special Session*: Memory Retrieval and Cuing Effects in Consumer Decision-Making
(Session Continued)

4.3 *Competitive Paper Session*: The Influence of Brand Names on Memory and Inference

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France Leclerc, Cornell University
Bernd H. Schmitt, Cornell University
Laurette Dube Rioux, Cornell University

"Investigating Dimensions of Brand Names that Influence the Perceived Familiarity of Brands"
Joan Meyers Levy, University of California, Los Angeles

"Inhibiting Brand Name Recall: A Test of the Salience Hypothesis"
Paul W. Miniard, Ohio State University
H. Rao Unnava, Ohio State University
Sunil Bhatla, Ohio State University

4.4 *Special Session*: Context Effects in Consumer Judgment and Choice
(Session Continued)

4.5 *Competitive Paper Session*: Life Span Development and Intergenerational Influences on Consumer Behavior

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Patricia Sorce, Rochester Institute of Technology
Philip R. Tyler, Rochester Institute of Technology
Lynette Loomis, American Red Cross

"Intergenerational Influences in Adult Buying Behaviors: An Examination of Moderating Factors"
Susan E. Heckler, University of Michigan
Terry L. Childers, University of Minnesota
Ramesh Arunachalam, University of Minnesota

"Proposal and Development of a Dialectical Model: Examining the Elderly Consumer"
Ruth Belk Smith, University of Baltimore
George P. Moschis, Georgia State University

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Paul F. Anderson, Pennsylvania State University

"Why Philosophy of Science has Abandoned Falsificationism"
Larry Laudan, University of Hawaii
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Melanie Wallendorf, University of Arizona

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Paul F. Anderson, Pennsylvania State University

SATURDAY, OCTOBER 15

NOON to 2:00PM
LUNCHEON

2:00PM to 3:30PM
CONCURRENT SESSIONS

5.1 *Special Session*: Motivational Factors in Consumer Attitudes and Behavior: Methodological and Conceptual Developments

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Sharon Shavitt, University of Illinois

"Hedonic and Utilitorian Antecedents of Consumer Attitudes"
Rajeev Batra, Columbia University
Olli T. Ahtola, University of Denver

"On the Relationship Between Motives and Purchase Decisions"
Brian T. Ratchford, State University of New York at Buffalo
Richard Vaughn, Foote, Cone & Belding

"Attitude Functions in Products, Personalities, and Situations: Implications for Consumer Behavior"
Sharon Shavitt, University of Illinois

"Selling Images versus Selling Products: Motivational Foundations of Consumer Attitudes and Behavior"
Mark Snyder, University of Minnesota

"The Interpretation and Processing of Functionally Relevant Consumer Information"
Kenneth G. DeBono, Union College

"Situational Determinants of Attitude Functions: Effects on the Perception and Evaluation of Advertisements"
Bernd H. Schmitt, Cornell University

"Attitude Behavior Consistency: Fulfilling the Need for Cognitive Structure"
Mark P. Zanna, University of Waterloo

Discussant
Richard Lutz, University of Florida

5.2 *Competitive Paper Session*: Current Issues in Measurement and Methodology

"Consistency Criteria and Unidimensionality: An Attempt at Clarification"
Richard P. Bagozzi, University of Michigan
Claes Fornell, University of Michigan

"Forecasting Consumer Acceptance of New Products For Multiple Market Segments Using Multiple Methods"
Arch G. Woodside, Tulane University
Elizabeth J. Wilson, Pennsylvania State University
Nicholas T. van der Walt, University of Canterbury
Roderick J. Brodie, University of Canterbury

"College Benefit Segmentation Analysis: Approach and Results"
Ronald Hoverstad, Texas Christian University
Charles W. Lamb, Jr., Texas Christian University
Patrick Miller, Texas Christian University

5.3 *Special Session*: The Five W's of Time: What, When, Why, Who, Where

Chairs
Linda L. Golden, University of Texas
U. N. Umesh, Washington State University
William A. Weeks, Baylor University

"Concepts of Time: Some Implications for Consumer Research"
Sigmund Gronmo, University of Oslo

"Is Time Infinite for Consumers? The Indivisible Problems of Theory, Method and Data"
John P. Robinson, University of Maryland
Franco Nicosia, University of California, Berkeley

"The Harried Consumer: Empirical Evidence"
Phil Hendrix, Emory University

"The Faces of Eve: Women's Timestyle Typologies"
W. Thomas Anderson, Jr., University of Texas
Linda L. Golden, University of Texas
William A. Weeks, Baylor University
U. N. Umesh, Washington State University

"Expectations of Behavior Based on Time Use Information"
Jonathan E. Schroeder, University of California, Berkeley

"Why Consumer Research has not Discovered Dr. Who and the Time Lords"
Franco Nicosia, University of California, Berkeley

"Panel Discussion of Issues and Future Research"

5.4 *Competitive Paper Session*: Experiential Factors in Purchase and Consumption

"These are a Few of My Favorite Things: Toward an Explication of Attachment as a Consumer Behavior Construct"
Susan Schultz Marine, University of Cincinnati
Robert E. Kleine, III, Arizona State University
Jerome B. Kernan, George Mason University

"Hedonic Consumption: Music as a Product"
Kathleen T. Lacher, Florida State University

"Pre Christmas Toy Guides: A Cross Sectional Research Study"
Christian Dussart, University of Ottawa

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Chairs
Mary T. Curren, Loyola Marymount University
Tina Kiesler, University of Southern California

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Joan Meyers Levy, University of California, Los Angeles
Therese A. Louie, University of California, Los Angeles
Mary T. Curren, Loyola Marymount University

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Deborah Marlino, Massachusetts Institute of Technology
Frank Kardes, Massachusetts Institute of Technology
Glen Urban, Massachusetts Institute of Technology
John Hulland, Massachusetts Institute of Technology

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Laura A. Peracchio, Northwestern University
Alice M. Tybout, Northwestern University

"The Influence of Schema Incongruity in Judgment and Choice Situations
Tina Kiesler, University of Southern California

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Jeffrey J. Stoltman, University of Nebraska
Shelley R. Tapp, University of Nebraska
Richard S. Lupidus, University of Nebraska

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Abraham D. Horowitz, General Motors Research Labs
J. Edward Russo, Cornell University

"The Impact of Reputation on Inferences About Unadvertised Attributes"
Brian C. Wansink, Stanford University

SATURDAY, OCTOBER 15

3:30PM to 4:00PM
BREAK

4:00PM to 5:30PM
CONCURRENT SESSIONS

6.1 ***Special Session*****: Motivational Factors in Consumer Attitudes and Behavior: Methodological and Conceptual Developments**
(Session Continued)

6.2 ***Competitive Paper Session*****: New Directions in Consumer Behavior and Consumer Research**

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"Effects of Identification with Comic Book Heroes and Villains of Consumption on Materialism Among Former Comic Book Readers"
Russell W. Belk, University of Utah

"Seven Routes to Facilitating the Semiological Interpretation of Consumption Symbolism and Marketing Imagery in Works of Art: Some Tips for Wildcats"
Morris B. Holbrook, Columbia University

6.3 ***Special Session*****: The Five W's of Time: What, When, Why, Who, Where**
(Session Continued)

6.4 ***Competitive Paper Session*****: Psychological Processes in Brand Comparison**

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Frank R. Kardes, Massachusetts Institute of Technology
Bryan D. Gibson, University of Utah

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Idriss Bensouda, University of Sherbrooke
Jean Guindon, University of Sherbrooke

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Shuzo Abe, Yokohama National University
Masao Tanaka, Aoyamagakuin University

6.5 *Special Session*: Nonmonetary Factors in the Effects of Price Promotions

Chairs
Robert M. Schindler, University of Chicago
Jerry N. Conover, Northern Arizona University

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Jerry N. Conover, Northern Arizona University

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Joel Huber, Duke University
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Robert M. Schindler, University of Chicago

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Lawrence F. Feick, University of Pittsburgh
Linda L. Price, University of Colorado
Audrey G. Federouch, Duquesne University

Discussant
Kent B. Monroe, Virginia Tech

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Eric R. Spangenberg, University of Washington

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Arthur E. Heimbach, University of Washington
Johny K. Johansson, University of Washington
Douglas L. MacLachlan, University of Washington

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Sung Tai Hong, University of Missouri
Julie F. Toner, University of Missouri

SATURDAY, OCTOBER 15

6:00PM to 8:00PM
RECEPTION

SUNDAY, OCTOBER 16

8:30AM to 10:00AM
CONCURRENT SESSIONS

7.1 *Competitive Paper Session*: New Directions in Advertising Research

"Commercial Clutter: Effects of 15 Second Television Ads on Consumer Recall"
Scott Ward, University of Pennsylvania
David Reibstein, University of Pennsylvania
Terence A. Oliva, Rutgers University
Victoria Taylor, University of Pennsylvania

"The Impact of Advertising Copy Testing: Is the Advertiser Getting More Than He Bargained For?"
Lauranne Buchanan, University of Illinois
Amiyu Basu, University of Illinois

"A Theoretical Investigation of the Impact of Race in Advertising"
William J. Qualls, University of Michigan
David J. Moore, University of Michigan

7.2 *Special Session*: Context Induced Affect and Commercial Effectiveness

Chair
Mark A. Pavelchak, University of Delaware

"Background Music as an Influence in Consumer Mood and Advertising Responses"
Judy I. Alpert, University of Texas
Mark I. Alpert, University of Texas

"The Effects of Program Induced Mood States on the Processing of Commercial Information"
Robert E. Burnkrant, Ohio State University
Kenneth R. Lord, State University of New York at Buffalo
H. Rao Unnava, Ohio State University

"Context Induced Mood and Brand Selection Strategy: The Mediating Role of Attention"
Meryl P. Gardner, University of Delaware
Ronald P. Hill, Cornell University

"Contextual Mediators of Commercial Performance"
John P. Murry, Jr., University of Wisconsin

"Context, Commercials, and Consumer Emotions"
Mark A. Pavelchak, University of Delaware

"Testing the Selection Processing Model: The Influence of Program Related Needs on Mood Induced Context Effects"
David W. Schumann, University of Tennessee
Esther Thorson, University of Wisconsin
Deborah Rosen, University of Tennessee

Discussant
Alice Isen, Cornell University

7.3 *Competitive Paper Session*: Processes in Brand Evaluation

"Selecting an Appropriate Standard of Comparison in the Post Purchase Evaluation Process"
Joseph A. Cote, Washington State University
Ellen R. Foxman, Washington State University
Bob D. Cutler, Washington State University

"Influence of Expertise and Purchase Experience on the Formation of Evoked Sets"
Girish Punj, University of Connecticut
Narashimhan Srinivasan, University of Connecticut

"Determinants of Choice Set Size: An Alternative Method for Measuring Evoked Sets"
Thomas S. Gruca, University of Massachusetts

7.4 *Special Session*: Going Beyond the Immediately Available Information: Consumers' Reactions to Partially Described Products

Chairs

Rami Zwick, Pennsylvania State University
Mita Sujan, Pennsylvania State University

"The First Complete Test of the Inferring of Missing Values Model: Effects of Interattribute Correlations, Biases, and Presentation Format in Limited Information Judgments"
Richard D. Johnson, University of Alberta

"The Impact of Mission Information on the Processing of Available Information: Inferences and Other Responses"
Carolyn J. Simmons, University of Illinois

"Inferences and Intrinsic/Extrinsic Cues: A Conceptualization"
Brian C. Wansink, Stanford University

"Same and Other Brands Information Sources in Evaluation of Partially Described Multiattribute Products"
Rami Zwick, Pennsylvania State University

Discussant

Robert J. Meyer, UCLA

SUNDAY, OCTOBER 16

10:00AM to 10:30AM
BREAK

10:30AM to NOON
CONCURRENT SESSIONS

8.1 *Special Session*: Advertising Repetition: New Theoretical Orientations

Chair

Jacqueline C. Hitchon, University of Wisconsin

"The Impact of Advertisement Repetition and Information Quantity on Brand Attitude Structure"
Rajeev Batra, Columbia University
Debra Stephens, University of Maryland

"Advertising Repetition as a Component of the Viewing Environment: Impact of Emotional Executions on Commercial Reception"
Jacqueline Hitchon, University of Wisconsin
Esther Thorson, University of Wisconsin
Xinshu Zhao, University of Wisconsin

"The Variation Strategies Hypothesis: Combatting the Wear Out Effect"
David Schumann, University of Tennessee
Scott Clemons, University of Tennessee

Discussant

Surendra Singh, University of Kansas

8.2 *Special Session*: Context Induced Affect and Commercial Effectiveness
(Session Continued)

8.3 *Competitive Paper Session*: Processes in Judgment, Choice, and Decision Making

"Insurance Decisions (or the Lack Thereof) for Low Probability Hazards"
Joel E. Urbany, University of South Carolina
Joan T. Schmit, University of Wisconsin

"The Role of Context in Consumers' Category Judgments: A Preliminary Investigation"
Craig Thompson, University of Tennessee

"Formal Models of Group Choice in Organizational Buying: Toward a Contingency Paradigm"
Elizabeth J. Wilson, Pennsylvania State University
Gary L. Lilien, Pennsylvania State University
David T. Wilson, Pennsylvania State University

8.4 *Competitive Paper Session*: Anthropological and Sociological Approaches to Consumption

"Observations on Marketing and Consumption: An Anthropological Note"
John F. Sherry, Jr., Northwestern University

"On Display: Social and Cultural Dimensions of Consumer Behavior in the Greek Saloni"
Janeen Arnold Costa, University of Utah

"Understanding Panic: A Sociological Perspective"
William M. Strahle, Rider College
E. H. Bonfield, Rider College

8.5 *Competitive Paper Session*: Effects of Vividness and Mental Imagery

"A Study of Selected Issues in Vividness Research: The Role of Attention and Elaboration Enhancing Cues"
Craig A. Kelley, California State University, Sacramento

"Case History versus Statistical Information: When Emotions Mediate the Effects of Vividness on Attitudinal Judgments"
David J. Moore, University of Michigan
Scott Hoenig, University of Oklahoma

"Extending Imagery Research to Sounds: Is a Sound Also Worth a Thousand Words?"
April Atwood, University of Washington

8.6 *Special Session*: Presentations by Ferber Award Winners

Chair
Richard Lutz, University of Florida

SUNDAY, OCTOBER 16

NOON to 2:00PM
LUNCHEON

2:00PM to 3:30PM
CONCURRENT SESSIONS

9.1 *Special Session*: Academe and Agency Perspectives on Advertising Research

Chair
Martin Horn, DDB Needham Worldwide

"Advertising Research: Inside the Belly of the Beast"
William J. McEwen, McCann Erickson

"Advertising Research Generated by Academics"
Esther Thorson, University of Wisconsin

"Maintaining the Delicate Balance: Industry and Academic Approaches to Advertising Research"
David W. Stewart, University of Southern California

"A Year in the Life"
Lisa Fortini Campbell, Young & Rubicam
Discussant
Peter Miller, Northwestern University

9.2 ***Competitive Paper Session*: Attribute Models of Consumer Choice**

"On the Nature of Product Attributes and Attribute Relationships"
Michael D. Johnson, University of Michigan
"Attribute Importance Weights in Conjoint Analysis: Bias and Precision"
Sanjay Mishra, Washington State University
U. N. Umesh, Washington State University
Donald E. Stem, Jr., Washington State University

"A Comparison of Several Approaches for Inferring Individual and Aggregate Attribute Effects in Pairwise Comparison Conjoint Choice Tasks"
Jordan J. Louviere, University of Alberta
Eugene Kaciak, Laurentian University

9.3 ***Special Session*: Information and Communication Technologies and the Consumer: Some Emerging Trends**

Chair
Franco Nicosia, University of California, Berkeley

"Consumer Research and Demand Forecasting for Wideband Telecommunications Services: Some Perspectives"
Murlidhar Rao, GTE
Gregory E. Wester, GTE

"Against all Odds: The Marketing of Videotex in France"
Robert N. Mayer, University of Utah

"Social Impacts of Computing in the Home: A Presentation of the Results of Project NOAH:
Alladi Venkatesh, University of California, Irvine

"Consumer Use of Electronic Fund Transfer Systems in Norway"
John W. Bakke, Marketing and Distribution Institute, Oslo

Discussant
Edward F. McQuarrie, University of Santa Clara

9.4 ***Competitive Paper Session*: Theory Construction in Consumer Research**

"Consumer Behavior Theories as Heroic Quest"
Elizabeth C. Hirschman, New York University

"Theory Borrowing and Reflectivity in Interdisciplinary Fields"
Jeff B. Murray, Seattle University
Deborah J. Evers, Seattle University

"Interpretation and Reinterpretation in Theory Construction and Application: The Views of Some Prominent Consumer Behavior Theorists"
Elizabeth C. Hirschman, New York University

SUNDAY, OCTOBER 16

3:30PM 4:00PM
BREAK

4:00PM to 5:30PM
CONCURRENT SESSIONS

10.1 ***Competitive Paper Session*****: The Dynamics of Family Decision Making**

"Measures of Relative Influence in Couples: A Typology and Predictions for Accuracy"
Kim P. Corfman, New York University

"An Exploratory Study of Family Decision Making Using a New Taxonomy of Family Role Structure"
Irene Raj Foster, Indiana University
Richard W. Olshavsky, Indiana University

"Sex Role Attitudes of Spouses and Task Sharing Behavior"
Chankon Kim, Concordia University
Hanjoon Lee, Western Michigan University

10.2 ***Special Session*****: The Reviewing Process: Author and Reviewer Perspectives**

Chairs
Richard J. Lutz, University of Florida
Alice M. Tybout, Northwestern University

Panel Members
Frank Kardes, Massachusetts Institute of Technology (Author)
Alice Tybout, Northwestern University (Paper Reviewer)
Thomas Srull, University of Illinois (Paper Reviewer)
Peter Wright, Stanford University (Reviewer at Large)
Rich Lutz, University of Florida (Editor)

10.3 ***Competitive Paper Session*****: Dimensions of Involvement**

"The Dimensionality of Involvement: An Empirical Test"
Thomas D. Jensen, University of Arkansas
Les Carlson, University of Arkansas
Carolyn Tripp, University of Arkansas

"Enduring Involvement: Conceptual and Measurement Issues"
Robin A. Higie, University of Connecticut
Lawrence F. Feick, University of Pittsburgh

"A Theoretical Analysis of Two Recent Measures of Involvement"
Banwari Mittal, Northern Kentucky University

10.4 ***Competitive Paper Session*****: Current Issues in Advertising**

"Self Monitoring and Reactions to Image Appeals and Claims About Product Quality"
William O. Bearden, University of South Carolina
F. Kelly Shuptrine, University of South Carolina
Jesse E. Teel, University of South Carolina

"Refining a Multidimensional Profile for Television Commercials: An Application of Target Analysis"
George M. Zinkhan, University of Pittsburgh
Scot Burton, Louisiana State University

"Source Independence in Multiple Source Advertising Appeals: The Confederate Effect"
David J. Moore, University of Michigan
Richard Reardon, University of Oklahoma
John Mowen, Oklahoma State University

10.5 ***Special Session*****: The Psychological Underpinnings of Branding Strategies**

Chairs
Dipankar Chakravarti, University of Arizona
Kevin Lane Keller, Stanford University

"Memory Structure for Brand Names"
C. Whan Park, University of Pittsburgh
Robert Lawson, University of Pittsburgh
Sandra Milberg, University of Pittsburgh

"Consumer Response to Brand Extensions"
David A. Aaker, University of California, Berkeley
Kevin Lane Keller, Stanford University

"Product Category Perceptions, Elaborative Processing and Brand Name Extension Strategies"
Dipankar Chakravarti, University of Arizona
Deborah J. MacInnis, University of Arizona
Kent Nakamoto, University of Arizona

"Meaningful Brands from Meaningless Attributes: The Competitive Importance of Trivial Differences"
Gregory S. Carpenter, Columbia University
Rashi Glazer, Columbia University
Kent Nakamoto, University of Arizona

SUNDAY, OCTOBER 16

5:30 PM
END OF OAHU PORTION OF CONFERENCE

MONDAY, OCTOBER 17
NO SESSIONS

9:00 AM to 1:00 PM
EXECUTIVE BOARD MEETING
ILIKAI ON OAHU

TUESDAY, OCTOBER 18

1:00 PM
CONFERENCE RECONVENES
MARRIOTT HOTEL ON MAUI

1:00PM to 2:30PM
CONCURRENT SESSIONS

11.1 *Special Session*: New Directions in Consumer Choice Research

Chair
Peter Wright, Stanford University

"Heuristic Processes in Judgment: Effects of Compatibility and Information Load"
Eric J. Johnson, University of Pennsylvania
James R. Bettman, Duke University
John W. Payne, Duke University

"Does Having to Justify Lead to Better Decisions?"
Itamar Simonson, University of California, Berkeley

"Loss Aversion and the Framing of Trades"
Daniel Kahneman, University of California, Berkeley

"A Protocol Analysis of the Decision Framing Process"
Christopher P. Puto, University of Michigan

"Decision Under Conflict: Uncertain Preferences and Argument Based Choice"
Amos Tversky, Stanford University

"When Enough is Enough: The Impact of Choice Context and Task on the Decision to Stop Search"
Joel Huber, Duke University
Itamar Simonson, University of California, Berkeley
Eloise Coupey, Duke University

Discussant
Peter Wright, Stanford University

11.2 *Special Session*: Abnormal Consumer Behavior

Chair
Ronald J. Faber, University of Minnesota

"Fraudulent Consumer Behavior"
Catherine A. Cole, University of Iowa
Tim Heath, University of Pittsburgh

"The Obsessive Compulsive Nature of Collecting"
Melanie Wallendorf, University of Arizona
Russell W. Belk, University of Utah
John Sherry, Northwestern University

"Deviant Consumer Behavior"
George P. Moschis, Georgia State University
Dena Cox, Georgia State University

"Classifying Compulsive Consumers: Advances in the Development of a Typology and Diagnostic Tool"
Ronald J. Faber, University of Minnesota
Thomas C. O'Guinn, University of Illinois

Discussant
Raymond P. Krych, Scott and White Hospital

TUESDAY, OCTOBER 18

2:30PM to 3:00PM
BREAK

3:00PM to 4:30PM
CONCURRENT SESSIONS

12.1 *Special Session*: New Directions in Consumer Choice Research
(Session Continued)

12.2 *Special Session*: Heuristic versus Systematic Processing in Models of Persuasion: Theory and Research

Chair
Richard Lutz, University of Florida

"Heuristic versus Systematic Processing in Models of Persuasion"
Shelly Chaiken, New York University

"The Role of Comprehension in Moderating the Persuasive Impact of Source Expertise"
Srinivasan Ratneshwar, University of Florida
Shelly Chaiken, New York University

"Heuristic Processing Can Prime Systematic Processing: The Effects of Issue Involvement, Message Valence and Consensus Information on Persuasion"
Durairaj Maheswaran, New York University

"Cognitive Mediation of Positive Affect in Persuasion"
Leila Worth, University of California, Santa Barbara
Diane Mackie, University of California, Santa Barbara

Discussant
David W. Stewart, University of Southern California

WEDNESDAY, OCTOBER 19

8:30AM to 10:00AM
CONCURRENT SESSIONS

13.1 ***Special Session*: Issues Influencing the Choice of Particular Disaggregate Choice Models for Various Environments and Situations**

Chair
Dennis Gensch, University of Wisconsin

"A Grounded Model of Consideration Set Size and Composition"
John Roberts, University of New South Wales

"A Taxonomy of Consumer Purchase Strategies in a Promotion Intensive Environment"
Imran Currim, New York University
Linda Schneider, Dartmouth University

"Effects of Price Promotion on Brand Choice Behavior"
Barbara Kahn, University of California, Los Angeles
Therese Louie, University of California, Los Angeles

"Comparing Models of Stated and Revealed Choices: Preliminary Findings from a Longitudinal Study of U.S. High School Students"
Jordan Louviere, University of Alberta
Joel Horowitz, University of Iowa

"Conditions Influencing the Use of Multistage Choice Models"
Dennis Gensch, University of Wisconsin
Sanjoy Ghose, University of Wisconsin

13.2 ***Special Session*: The Cultivation of Consumer Beliefs: The Application of Communication Theory and Models to the Study of Consumer Behavior**

Chair
Thomas C. O'Guinn, University of Illinois

"The Cultivation of Consumer Confidence: A Longitudinal Analysis of News Media Influence on Consumer Attitudes"
Albert R. Tims, University of Minnesota
David P. Fan, University of Minnesota
John Freeman, University of Minnesota

"The Mass Mediated Consumption Realities of Three Cultural Groups"
Wei Na Lee, University of Texas

"The Cultivation of Consumer Norms"
Thomas C. O'Guinn, University of Illinois
Ronald J. Faber, University of Minnesota
Nadine J.J. Curias, University of Illinois

Discussant
Timothy P. Meyer, University of Wisconsin

WEDNESDAY, OCTOBER 19

10:00AM to 10:30AM
BREAK

10:30AM to NOON
CONCURRENT SESSIONS

13.3 *Special Session*: Issues Influencing the Choice of Particular Disaggregate Choice Models for Various Environments and Situations
(Session Continued)

13.4 *Special Session*: Advancements in Research Methodologies for Young Children

Chair
M. Carole Macklin, University of Cincinnati

"The Elimination of Advertising Directed to Children in Quebec: A Quasi-Experiment"
Marvin Goldberg, McGill University

"Measuring Responses from Young Children in a Multidimensional Scaling Procedure"
Kenneth Bahn, Virginia Tech

"Overcoming Information Processing Deficits: The Development of Scripts in Young Children"
Laura A. Peracchio, Northwestern University
Charise Mita, Northwestern University

"The Development of an Attitude Scale Appropriate for Use with Preschoolers"
M. Carole Macklin, University of Cincinnati
Karen Machleit, University of Cincinnati

PRESIDENTIAL ADDRESS

Positivism, Naturalism and Pluralism in Consumer Research: Paradigms in Paradise

Richard J. Lutz, University of Florida[1]

I stand before you today with the charge of saying something meaningful. I have considered, and discarded, topics such as the state of the Association, about which I care deeply; consumer response to advertising and product trial, which represents my most central research arena, and intergenerational transfer of consumer preferences and shopping behaviors, representing an emerging interest of mine. Instead, I have chosen to speak to you, in as brief and clear a fashion as possible, about issues emanating from the philosophy of science, or science studies, as it is more fashionably labeled. I speak to you, not as a practicing philosopher, but as a practicing consumer researcher. The goal of my remarks is to begin to bridge the gap between the level of philosophical discourse that characterizes the science studies literature and the so-called "workbench" level of activities that occupy consumer researchers in their day-to-day pursuit of knowledge.

I have chosen this topic for discussion, not because I am an expert (or anywhere close to it) on these issues, but because it represents an area that has demanded much of my attention over the past several months. As the editor of the *Journal of Consumer Research*, I have been faced with decisions regarding numerous manuscripts reporting on research efforts emanating from a research tradition that has been variously labeled postpositivism, interpretivism, postmodernism, and naturalism.[2] I have accepted some of these papers, and rejected others, based largely on the inputs of trusted reviewers skilled in the methods attendant to this tradition. At the same time, I have been forced, though quite willingly and with great interest, to learn more about this general form of inquiry. My intent today is to share with you some of what I think I have learned, and to sketch out a tentative blueprint for the future of our discipline, which I fervently hope will achieve a balance between the canons of positivism, and the dicta of naturalism, to forge a more eclectic view of the scientific enterprise which I will label, for present purposes, pluralism.

Hence, the title of my remarks today is "Positivism, Naturalism and Pluralism in Consumer Research: Paradigms in Paradise," the subtitle giving an explicit nod to the exotic surroundings in which these (hopefully not too) pedestrian thoughts are offered for your consideration.

In their analysis of the first fourteen ACR Presidential Addresses, Spiggle and Goodwin (1988) noted that not one had addressed the emergence of an alternative paradigm in consumer research. Even before I read their paper in my pre-speech evaluation apprehension frenzy, I had already decided to redress that deficiency. The field of consumer research is most certainly experiencing what Kuhn (1970) identified as a paradigm shift. A significant number of our membership has rejected the tenets of positivism and has turned instead to naturalism as the guiding paradigm for knowledge generation. Ethnography, literary criticism, historicism, auto-driving, and other methods have become increasingly common in our field, bringing with them a bewildering array of criteria by which such research endeavors are to be judged. How is one to assess the "contribution to knowledge" arising from paradigms that differ widely in their ontological, axiological, and epistemological assumptions?[3] [To paraphrase Karl Malden, "What is an editor to do?!"]

In attempting to resolve this rather imposing question, I have been particularly influenced by two works, Brinberg and McGrath's incisive treatise *Validity and the Research Process*, and Paul Anderson's exposition of a view of science he calls *critical relativism*. The former has assisted me immeasurably in framing the problem, while the latter has offered me a mechanism for beginning to solve the problem as I have framed it.

Brinberg and McGrath's (1985) core contribution was their Validity Network Schema (VNS), depicted visually in Exhibit 1. The VNS portrays the research enterprise as consisting necessarily of three domains: the conceptual, the substantive, and the methodological. Each domain is further decomposed into three levels, i.e., elements, relations, and

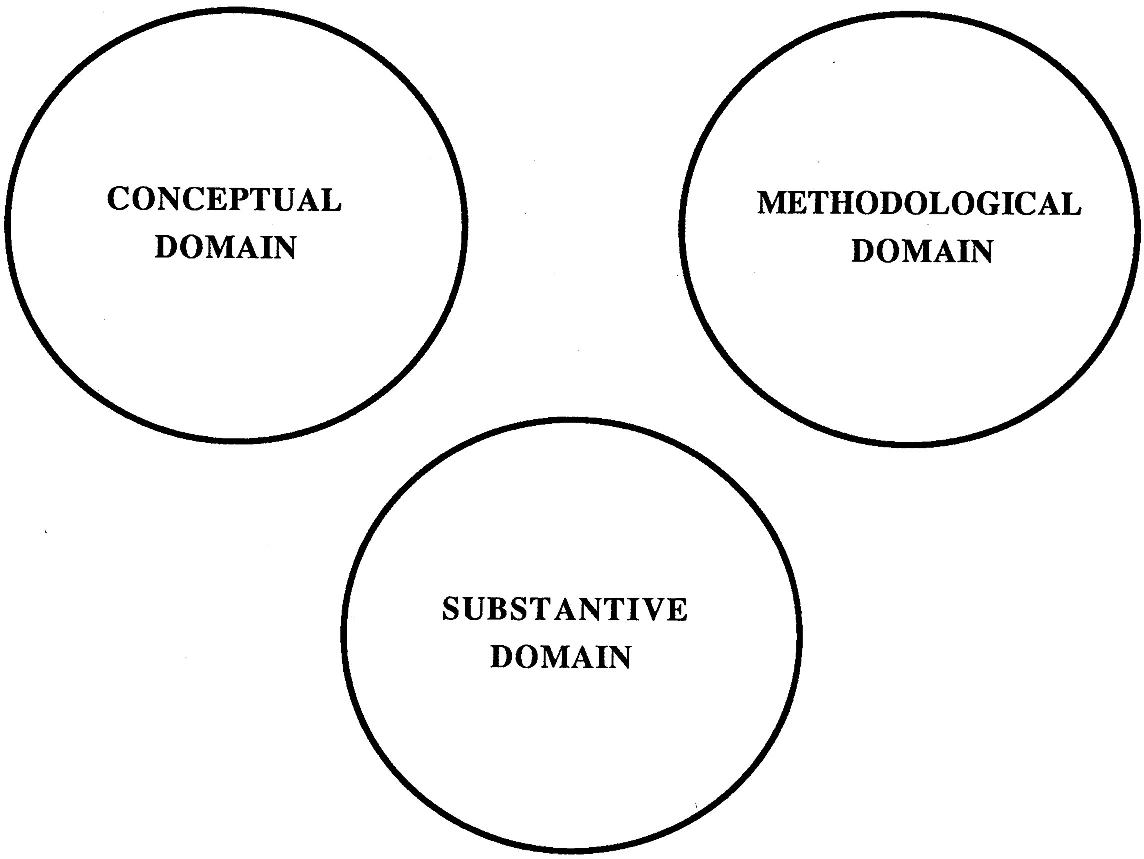
[1]I am grateful for comments on a draft of this paper by Paul Anderson, David Brinberg, David Mick, and Alan Sawyer.

[2]Hereafter, I shall use the term "naturalism" to refer to this paradigm, since I regard it the most descriptive of the various labels. As noted by Hudson and Ozanne (1988), investigation of phenomena in natural settings is the hallmark of this form of inquiry.

[3]As discussed by Kuhn, a paradigm is a set of assumptions that is adhered to closely by researchers working in a particular venue. Kuhn's original discussion of the concept was remarkably fluid, with at least 22 different meanings attributable to the term in his introduction of it. Nevertheless, it has endured as one of the most powerful (and elusive!) concepts in the science studies literature.

EXHIBIT 1

VALIDITY NETWORK SCHEMA (VNS)*



* Adapted from Brinberg and McGrath (1985)

embedding systems, as shown in Exhibit 2. My interpretation of the VNS is that the embedding system level within each domain represents paradigm-like aspects of that domain, as suggested by the use of the term "conceptual paradigm" by Brinberg and McGrath. According to Brinberg and McGrath, most of the Kuhnian construals of paradigm entail conceptual paradigms (e.g., behaviorism), though some references implicate methodological paradigms (e.g., the role of introspection). Brinberg and McGrath, in a self-proclaimed Procrustean venture, introduce the notion of a substantive paradigm (i.e., a set of guiding axiological assumptions regarding what is worth scientific study).

For clarity, and representative of a partial reinterpretation of Brinberg and McGrath's partitioning, I have re-labeled the relation and embedding system levels of the methodological and substantive domains(See Exhibit 3). My reinterpretation of the substantive domain entails treating the relations level as a substantive system rather than simply patterns among selected elements in the substantive domain. Hence, I am suggesting that the relations level be regarded as somewhat more inclusive than is depicted by Brinberg and McGrath. Any pattern of relationships, including highly complex and potentially exhaustive ones, would be the unit of analysis at that level. In turn, the substantive domain's embedding system level would consist of a set of substantive paradigms, each of which is characterized by its substantive content and, importantly, by guiding axiological assumptions that designate what is "worth" scientific study. Thus, the substantive embedding system level takes on the paradigm-like feature of encompassing a "worldview" that implicitly governs researcher choices in that venue. Note that multiple substantive paradigms may exist in a general area of inquiry, reflecting different emphases or foci of researcher activity.

EXHIBIT 2

PARTITIONS WITHIN THE VALIDITY NETWORK SCHEMA

	Domains		
Levels	Conceptual	Substantive	Methodological
Elements	Constructs	Phenomena	Methods
Relations	Theories	Patterns	Comparison Techniques
Embedding System	Conceptual Paradigms	Substantive Systems	Research Strategies

In the methodological domain, my reinterpretation is similar in structure. I move research strategies to the level of relations and introduce the notion of a methodological paradigm at the embedding system level. The logic for this shift is analogous to that underlying the shift in the substantive domain. Research strategies encompass, at a higher level of abstraction and in more complexity, the relations among methods. Research strategies are dependent upon the perceived relations among various methods and hence represent the methodological equivalent of the substantive system discussed previously. Furthermore, multiple research strategies can exist within any given methodological paradigm. As with substantive paradigms, methodological paradigms carry with them certain assumptions, in this case epistemological in nature, regarding proper modes of knowledge production.

In order to put some meat on these rather abstract bones, let me offer two sets of examples. First, one of "normal science" (Kuhn 1970) as currently practiced in consumer research. This is reflective of the dominant positivist paradigm in our field. As shown in Exhibit 4, a prototypical positivistic consumer research endeavor would consist of elements from each of the three domains in the VNS. For example, the attitude construct might be used to explain brand choices generated in the context of a laboratory experiment. Each of these elements is representative of a broader array of elements and relations. Moving down the Substantive Domain column, for instance, one sees that the brand choice element is but one of many in a marketer-consumer system of exchange. Such marketer-consumer relations are embedded in an economic system paradigm. Similar hierarchical organizations exist within the Conceptual and Methodological Domain columns as well.

Note that the entries in each column of the Embedding System row are representative of paradigms (with a small "p", if you will) within each domain. In reality, a Paradigm (with a capital "P") in the way I am construing it, embodies the *entire* Embedding System level. That is, a Paradigm consists of a worldview that spans the conceptual, substantive and methodological domains.

As acknowledged by Brinberg and McGrath, though a paradigm *shift* may *originate* in any one of the three domains, the impact is eventually and necessarily felt in all three domains. Hence, a paradigm shift, in VNS terms, consists of adopting a new set of ontological, axiological, and epistemological assumptions that collectively comprise the "worldview" characterizing the new paradigm.

Note that on the VNS view, paradigm shifts entail changes at the embedding system level. Changes at the element or relation level are regarded merely as innovations within an existing paradigm (Kuhn's "normal science"). For example, Jim Bettman's 1987 ACR Presidential Address offered innovation within the existing decision making paradigm. At the Element level Jim focused on the construct of adaptivity in decision making. Innovations at the Relation level were represented by specification of conditions moderating the nature and degree of consumer adaptation in the decision process. Such changes are *evolutionary*, while changes at the Embedding System level, i.e., paradigm shifts, are more *revolutionary*.

Consider, for example, aspects of the Naturalist paradigm depicted in Exhibit 5. The substantive domain was represented prominently in Russ Belk's passionate call for macro consumer behavior research in his 1986 ACR Presidential Address and contrasts sharply with the substantive domain discussed earlier. For instance, rather than focusing on the micro-level phenomenon of brand choice, the broader phenomenon of societal materialism is of interest. At the relations level, an alternative "system" of consumption's relationship to societal well-being replaces the marketer-consumer system discussed previously. Finally, the substantive paradigm is one which prioritizes individual and societal quality of life rather than economic performance. Turning now to the

EXHIBIT 3

PARTIAL REINTERPRETATION OF VNS PARTITIONS

	Domains		
Levels	Conceptual	Substantive	Methodological
Elements	Constructs	Phenomena	Methods
Relations	Theories	Substantive systems	Research strategies
Embedding System	Conceptual paradigms	Substantive paradigms	Methodological paradigms

conceptual domain, we can think in terms of the conceptual paradigm emerging from the Consumer Behavior Odyssey (Belk, Wallendorf and Sherry 1989). At the element level, the construct of sacredness is used to distinguish consumption objects of extreme personal significance to individuals and groups. The various processes by which objects attain or relinquish sacredness is a corresponding example at the relations level. Finally, the conceptual paradigm housing this analysis might best be characterized as the sociology of religion. This clearly represents a much different "worldview" of consumer behavior than that offered by the dominant psychological information processing paradigm.

Finally, consider the methodological domain, where, in my opinion, is where the real action is, because it is in this domain that questions of epistemology arise - i.e., how research is evaluated for its merits in generating new knowledge, or "truth." There are major and obvious differences between Positivism and Naturalism at the element and relations levels; ethnography and audits, both highly qualitative procedures, share few if any features with experimentation and its attendant control and manipulation. However, the differences at the embedding system level are even more profound. Whereas the Positivist aspires to causal explanation, the Naturalist eschews notions of linear causality and instead seeks *Verstehen*, a richly textured understanding of the phenomena of interest. Thus, the very roots of scientific inquiry are axiomatically different and affect epistemological judgments about the merits of various methods and strategies.

It is in the methodological domain that the differences between the Positivist and Naturalist paradigms are most striking, and the attempt at violent overthrow most apparent. For example, in contrasting Positivism and Naturalism, Lincoln and Guba (1985) resort to rather inflammatory rhetoric. Positivism is variously characterized as inadequate, repugnant, unfounded, untenable, and ignorant of humanness, although Russ Belk's (1987) charge that consumer researchers have wasted their time on the "dog-food level of things" (p.2) has something of the same flavor (no pun intended) in the substantive domain. Lincoln and Guba's somewhat more dispassionate summary of key axiomatic differences between Positivism and Naturalism is shown in Exhibit 6.

From the VNS perspective, an important (perhaps *the* most important?) difference between Positivism and Naturalism is the *order* in which the domains are considered in any inquiry, Conceptual-Methodological-Substantive versus typically Substantive Methodological-Conceptual,, respectively. As discussed by Brinberg and McGrath, successive research choices in the domains set constraints on the range of possibilities in the remaining domains. The fact that the Positivist paradigm typically *begins* in the Conceptual domain, while the Naturalist paradigm *ends* in it and vice versa, underscores the very fundamental differences in worldview between these two paradigms.[4]

Having outlined the nature of the problem, i.e., a dominant paradigm and a strong challenger, where does this leave us as a field? As Sherry (forthcoming) has noted, at least two possibilities exist - complete schism or a re-integration into some sort of more pluralistic paradigm.[5] However difficult the latter may be to achieve, the former in my opinion would be disastrous.

[4]This parallels a similar analysis of the academic - practitioner debate in the field of marketing (Brinberg and Hirschman 1986).

[5]Hudson and Ozanne (1988, p.519) have identified some additional possibilities that I will not consider here.

EXHIBIT 4

EXAMPLES OF POSITIVIST CONSUMER RESEARCH

	Domains		
Levels	Conceptual	Substantive	Methodological
Elements	Attitude	Brand Choice	Lab Experiment
Relations	Fazio Process Model	Marketer-Consumer	Triangulation via Multiple
Manipulations			
Embedding System	Cognitive Information Processing	Economic System	Causal Explanation

EXHIBIT 5

EXAMPLES OF NATURALIST CONSUMER RESEARCH

	Domains		
Levels	Conceptual	Substantive	Methodological
Elements	Sacredness	Materialism	Ethnography
Relations	Sacralization Processes	Consumption and Well-Being	Audit
Embedding System	Sociology of Religion	Humanism	*Verstehen* (Understanding)

Paul Anderson's *critical relativism* appears to offer a philosophical foundation upon which a pluralistic paradigm for consumer research can be erected. In fact, in a recent critique of critical relativism, Siegel (1988) suggested that it might be re-labeled critical pluralism, and Anderson (1988) in his rejoinder did not disagree. Building on Laudan's (1984) reticulated model of scientific rationality, one of Critical Relativism's central notions "...is that there exists no single 'scientific method.' Instead, disciplinary knowledge claims are viewed as contingent upon the particular beliefs, values, standards, methods, and cognitive aims of its practitioners...there are multiple scientific objectives and alternative methods for attaining these objectives... [knowledge] claims must be assessed in light of their unique modes of production and their methods of justification" (Anderson 1986, p. 156). To quote Anderson further, "A critical relativist demands to know a program's methodological, ontological, metaphysical, and axiological commitments before he or she is willing to grant epistemic authority to its knowledge products. Most importantly, critical relativists want to know a program's realizable cognitive (and social) aims before they are willing to give it serious consideration" (p.167).

One aspect of Critical Relativism with which I take issue is its emphasis on the sociological forces at work in knowledge production. I accept such factors as descriptive of scientists' behavior, but I do not share Anderson's conclusion that such considerations must enter into normative statements about the practice of science. Time and space do not allow me to pursue this disagreement here; let me simply indicate my desire to reduce the emphasis on sociological factors by accepting Siegel's label of Critical Pluralism.

What are the implications of Critical Pluralism for the day-to-day practice of consumer research? That is, how does the philosophical translate into the pragmatic? A whimsical subtitle for this concluding segment of my remarks might be "Notes from Paul Anderson's Workbench," though I am not at all certain that Paul would want to endorse all of them.

First, each of us needs to make a commitment to learn more about these science studies issues. We can no longer afford to be like a fish in water, not knowing he or she is wet. Our work, whether as researchers or reviewers, implicitly reflects a guiding paradigm. We can benefit as individual researchers by making those ontological, axiological and epistemological assumptions explicit, at least in our own minds. At a minimum, then, each of us needs to understand the current dominant paradigm in consumer research.

Then, we need to learn more about the alternatives to positivism. Just as consumers search for information in order to make informed purchases, we owe it to ourselves to make informed choices about how we seek knowledge. Not the least of these choices resides in the substantive domain. What are we attempting to achieve through our research efforts? Whether it is to assist practicing marketing managers in making advertising decisions or to address macro consumer behavior issues, we need to devote more serious effort to thinking about substantive domain issues. As Belk (1987) implied and Anderson asserted in his 1983 paper, a discipline achieves scientific respectability only when it is widely perceived as addressing questions of social significance.

Simultaneous with our own "consciousness-raising" (Mick 1988) regarding these issues, we owe it to our students to raise their consciousness as well. The terminal degrees we bestow are Ph.D.s, and we need to put more philosophy behind that Ph.

In our day-to-day research, we should strive to make more explicit our paradigmatic assumptions (cf., Hudson and Ozanne 1988). As I have attempted to demonstrate, knowledge claims are judged by dramatically different criteria, depending on the paradigm upon which they rest. Making the paradigm explicit helps guide research strategies throughout the research enterprise. For example, a positivist seeks to maximize causal explanation, whereas a naturalist strives for "thick description."

Ideally, the review process will be a flexible one in which the explicit nature of the paradigm governing the research makes it conceivable to identify reviewers who are both willing and able to adopt the criteria attendant to that worldview in judging the research.[6] We need more Morris Holbrooks, scholars who can move easily between positivism and naturalism. One can almost envision a cover letter of submission that specifies the ontological, axiological and epistemological assumptions guiding the work (though this idea may move beyond the workbench to the cookbook!).

Finally, we need to read and benefit from one another's work. Consumer research is a vital and vibrant field, due in large part to its diversity. We need to respect the legitimacy of different paradigms and draw on the eclectic insights offered by this variety of approaches. By cultivating a more sophisticated pluralistic view of the research enterprise, we can actually learn more from each other.

Spiggle and Goodwin speculated that the solidarity-producing function of the ACR Presidential Address has caused past presidents to ignore the present paradigmatic divisiveness in the field. I hope that my remarks today have not only recognized our current differences and addressed them head-on but also have begun to pave the road to re-integrating the two camps. In his 1981 ACR Presidential Address, "Toward a Science of Consumer Behavior," Jerry Olson issued a plea for more tolerance of new theoretical perspectives. To this, I would add a plea for methodological and substantive domain tolerance as well. If we are successful in adjusting and enlarging our individual worldviews, the field of consumer research may take a giant leap toward achieving full fledged, intellectually pluralistic, disciplinary status. I encourage each of you to join with me in pursuit of that objective.

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[6]Of course, this does not mean that a reviewer should uncritically accept a researcher's criteria as probative, especially if they do not serve to achieve the researcher's cognitive aims.

EXHIBIT 6

CONTRASTING POSITIVIST AND NATURALIST AXIOMS*

Axioms About	Positivist Paradigm	Naturalist Paradigm
The Nature of reality	Reality is single, tangible and fragmentable.	Realities are multiple, constructed, and holistic.
The relationship of knower to the known	Knower and known are independent, a dualism.	Knower and known are interactive, inseparable.
The possibility of generalization	Time- and context-free generalizations (nomothetic statements) are possible.	Only time- and context-bound working hypotheses (idiographic statements) are possible.
The possibility of casual linkages	There are real causes, temporally precedent to or simultaneous with their effects.	All entities are in a mutual simultaneous shaping, so that it is impossible to distinguish causes from effects.
The role of values	Inquiry is value-free.	Inquiry is value-bound.

*Source: Lincoln and Guba (1985, p. 37)

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Consumer Complaining and Word of Mouth Activities: Field Evidence

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Complaining and the spreading of negative word of mouth as alternative responses to consumer dissatisfaction have attracted considerable scholarly attention (e.g., Westbrook 1987; Richins 1983; Folkes, Koletsky and Graham 1987; Folkes 1984). Research has investigated whether the same determinants predict both complaining and word of mouth (Richins 1983), what cognitive mechanisms lead to the selection of one response over the other (Richins 1983), what types of causal attributions lead to complaining and negative word of mouth (Folkes 1984; Folkes, Koletsky and Graham 1987; Richins 1983), and the role affect plays in complaining and/or negative word of mouth (Westbrook 1987, Folkes, Koletsky and Graham, 1987).

One difficulty with complaining and negative word of mouth research has been its reliance on retrospective self-reports for measurement of the constructs of interest (Richins 1983; Folkes 1984; Westbrook 1987). This technique asks subjects to remember a dissatisfying experience and, relying on their memory, to complete measures assessing the cognitive and affective dimensions of the experience which caused them to complain or to spread negative word of mouth. While this approach is ecologically valid in the sense that it taps into a real experience, it also creates potential sources of bias in subjects' responses.

First, asking respondents to report on past experiences may not give an accurate portrayal of the factors which caused them to respond as they did when the dissatisfying was temporally salient. Forgetting and abatement of affect caused by the experience may bias retrospective measures.

Second, asking survey respondents to reflect on a dissatisfying experience with a broadly defined product category (e.g., clothing items or appliances) is likely to elicit a great diversity of contexts within which those experiences took place. That is, each respondent reports measures based on a different experience which occurred in a context unique to that experience.

The present study investigates complaining and negative word of mouth in a naturalistic setting under conditions of problem salience. It measures constructs related to complaining and word of mouth at the time of problem occurrence, and measures the reactions of all study participants to the same problem. The study reexamines the question raised by Richins (1983) of whether the same variables affect both word of mouth and complaining and extends her work by providing a measure of the extent of word of mouth activity. This research introduces perceived inconvenience as a variable related to responses to dissatisfaction and tests it as a possible mediator of the relationship between problem severity and response. It also measures hypothesized determinants of complaining and negative word of mouth diachronically to gain insights into the behavior of these variables over time and into the question of whether dissatisfaction and responses to it vary differentially across levels of severity over time.

While level of involvement has not been systematically varied to date in studies of consumer response to dissatisfaction, the present study captures the effects of problem severity, inconvenience, attributions or controllability of the cause of product failure, and perceived responsiveness of management in a highly involved consumption situation.

BACKGROUND

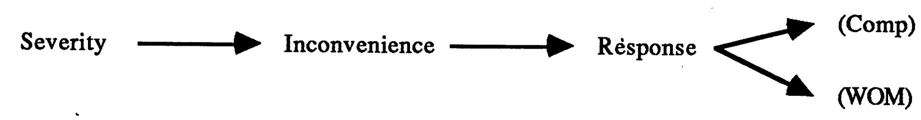
Richins (1983) has investigated whether the same variables which affect complaining also affect word of mouth. Using retrospective self-reports, she found evidence among consumers who had problems with clothing items or appliances that the severity of the problem and the attribution of blame for the problem influence the amount of effort spent seeking redress. The consumer's perception of the marketer's responsiveness, in turn, influences the form of response chosen.

Richins found a positive correlation between management responsiveness and complaining and a negative one between management responsiveness and word of mouth. This suggests that the more responsive the dissatisfied consumer perceives management to be, the more likely complaining is to be chosen as a response. Similarly, the less responsive the consumer perceives management to be, the more likely word of mouth is to be chosen.

Richins attributes this positive correlation between perceived management responsiveness and complaining to a cognitive process in which the consumer compares the effort expended in complaining with the expected return on that effort. The more responsive management is perceived to be, the higher the ratio of expected return to effort expended, and the more likely the consumer is to consider the effort worthwhile.

Folkes and her colleagues (Folkes 1984; Folkes, Koletsky and Graham 1987) investigated complaining behavior from the perspective of attribution theory. They found that attributions of causal locus for a product failure, controllability of the cause of failure, and the likelihood of recurrence influence the incidence of complaining. Folkes, Koletsky and Graham (1987) developed a model of complaining which includes the affective variable anger as a mediator between attributions of causal locus, controllability, and stability (i.e., likelihood of recurrence) and the intention to complain or to repurchase from the same vendor. Supporting

FIGURE 1



evidence for the model came from a field investigation of airline passengers awaiting delayed flights. Folkes (1984) provided other empirical evidence of the importance of attributions and of the affective dimension in complaining from a study using retrospective self-reports of unsatisfactory restaurant experiences. Westbrook (1987) has also provided strong evidence of the importance of negative affect on complaining and word of mouth by showing that the effect of negative affect is not completely mediated by disconfirmation and satisfaction/dissatisfaction constructs.

HYPOTHESES

The first research objective is to examine the effects of problem severity, perceived controllability of the cause of the problem, and perceived management responsiveness on complaining and word of mouth under conditions of problem salience. If there are no differences in study participants' response styles between retrospective self-reports and problem-salience self-reports, results similar to those reported in studies using retrospective methodologies (Richins 1983; Folkes 1984) would be expected. Hypothesis one (H1) states these expectations.

H1) Problem severity, attribution of controllability of the cause of the problem, and perceived management responsiveness should correlate with complaining in the following manner:

a) problem severity should correlate positively with both complaining and word of mouth.

b) attribution of controllability of the cause of the problem should correlate positively with both complaining and word of mouth (i.e., the more controllable one perceives the problem to be, the more likely one is to engage in complaining and/or word of mouth).

c) perceived management responsiveness should be positively related to complaining and negatively related to word of mouth.

In addition to the variables which have been previously examined as predictors of complaining and word of mouth, inconvenience is introduced as a potential mediator between problem severity and the response variables. The inconvenience construct is posited to be closely related to but discriminably distinct from problem severity.

H2) Perceived inconvenience resulting from product failure increases as the severity of the problem increases and serves as a mediator between problem severity and complaining and word of mouth, (Figure 1).

Finally, an exploratory test is made into the behavior of variables related to response to dissatisfaction over time. This test examines whether perceptions of the inconvenience caused by product failure will change differentially across levels of problem severity. No a priori hypothesis is offered regarding this exploratory test.

THE STUDY

The present study investigates complaining and negative word of mouth among residents of a 417-unit apartment complex. Dissatisfaction arose among the residents when failure of the main gas line into the complex disrupted gas service partially or totally to 113 of the units. The failure affected units within the complex differently, with 26 losing all gas services (i.e., heating, stove gas, hot water), 87 losing heating and stove gas but not hot water, and 304 losing nothing in the way of gas services.[1]

The different ranges of gas services lost by different units provides a natural experimental manipulation of problem severity. Those deprived of all gas services constitute a "severe" group, those who lost heat and cooking but not hot water form a "moderate" group, and those who remained unaffected form a pool from which a control group was randomly chosen.

Of a total of 25 buildings in the complex, six buildings contained the 113 affected units. In the six buildings affected, all units suffered the same level of service disruption. Because all units within each particular building of the complex were affected similarly, randomization with respect to problem severity was not possible. Demographic variables, including length of residence, number of adults, and number of children occupying the unit, were subjected to analysis of variance across levels of severity. No

[1]The broken gas line belonged to the apartment complex. The actual cause of the break in the line (children playing had punctured it with a large rock) was never communicated to the residents by the management and was generally unknown to residents.

significant differences resulted, indicating considerable homogeneity across the severity groupings. All units within the complex were constructed at the same time, have similar maintenance histories, and according to the apartment management, have experienced similar turnovers rates during the thirteen years of the complex's existence.

This field investigation counterbalances the difficulty of randomization with regard to problem severity with the corresponding benefit of high ecological validity (Brunswik 1956; Cook and Campbell 1975). The time measurement of determinants of and responses to dissatisfaction under highly salient and highly involving product failure conditions sacrifices a small degree of internal control in order to provide a test of these phenomena in a naturalistic setting.

Shortly after the onset of the loss of gas services, residents of each affected units were approached and asked to complete a questionnaire. A total of 163 questionnaires was distributed among the three levels of problem severity: 26 severe, 87 moderate, and 50 control.[2]

One hundred three responses were obtained by repeated call backs, resulting in a 63% response rate. The severe group yielded 17 responses (65% response), and the control group 25 (50%).

The questionnaire included items to measure (as dependent variables) whether the study participants had complained to management about the loss of gas services (yes/no), whether they had engaged in word of mouth activities regarding the loss of gas services, and, if they had engaged in word of mouth activities, how many people had they spoken to about it.

Independent variables included problem severity (a three-level variable determined by number of gas services lost), perceived inconvenience, perceived controllability of the cause of the problem, and perceived management responsiveness. The inconvenience measure consisted of a single item on a seven-point bipolar scale anchored by "not inconvenienced at all" and "extremely inconvenienced." Controllability of the cause consisted of two items on seven-point bipolar scales which asked study participants how likely they thought the cause of the gas service disruption was poor maintenance (very likely--not at all likely) and how likely they thought the cause was management error (very likely--not at all likely). A test of the internal consistency of these two measures yielded a coefficient alpha of .75.

Perceived management responsiveness was measured by three seven-point bipolar items relating to management's communication effectiveness, concern with residents' well-being and effectiveness in responding to residents' needs during the loss of services. Coefficient alpha for these three items was .80.

Questionnaires were distributed before gas services were restored, and all responses were obtained within a week of restoration of services, after the affected units had been without gas services for eight days.[3] Thus the product failure event was highly salient to the affected study participants at the time of the study.

Two months after the first study, a second questionnaire was distributed to remeasure the same constructs well after the problem had been resolved to assess changes in perceptions. The questionnaire was delivered to the 103 units which had responded to the first questionnaire and collected over a one-week period with repeated personal call-backs. In nine of the units, respondents to the first survey had moved during the two-month interval between surveys. Of the remaining 94 units, 85 (90%) provided responses to the second survey.

RESULTS

The correlation matrix in Table 1 reveals generally high correlations between the independent and dependent variables and generally low ones between pairs of independent variables. The one notable case of correlated independent variables occurs for severity and inconvenience ($r = .69$). A strong positive correlation between these two variables was predicted by H2. However, the two constructs, though closely related, appear to be distinguishable, as an F test for significance of gain in R^2 by adding inconvenience to the regressions proved highly significant for all three models (Kerlinger and Pedhazur 1973).

To test the hypotheses, multiple regressions were conducted as reported in Table 2. Problem severity, attribution of controllability of the cause, and perceived management responsiveness were entered into the regression models as independent variables. Then perceived inconvenience was added as a covariate to test its role as a mediator. If its addition caused the beta coefficient for problem severity to drop from significance to non-significance, evidence of inconvenience's mediating role as predicted in H2 would be provided (Turnbull, Insko, and Yandell 1974; Westbrook 1987).

In the extent of word of mouth model, parameter estimates for problem severity, attribution of controllability of the cause and perceived management responsiveness all proved significant as predicted in H1. In the existence of word of mouth model, however, only the parameter estimate for problem severity was significant.

In the complaining model, the parameter estimate for problem severity was significant. The parameter estimate for management responsiveness reached statistical significance, but in the opposite

[2]Because the number of unaffected units (304) greatly exceed the number of affected units (113), a random sample of 50 of the unaffected units was deemed sufficient.

[3]The time of the onset of the failure and of the restoration of service was the same for all units affected.

TABLE 1

CORRELATION MATRIX

	WOM y/n	WOM ext	Comp	Sev	Incv	Cont	Man
WOM (yes/no)	1.00	.56	.46	.51	.61	.08	.14
WOM (extent)		1.00	.27	.46	.54	-.06	.26
Complain			1.00	.22	.40	-.13	-.35
Severity				1.00	.69	.15	-.12
Inconv					1.00	.23	-.31
Cont						1.00	-.25
Manage							1.00

TABLE 2

REGRESSIONS FOR COMPLAINING AND WORD OF MOUTH

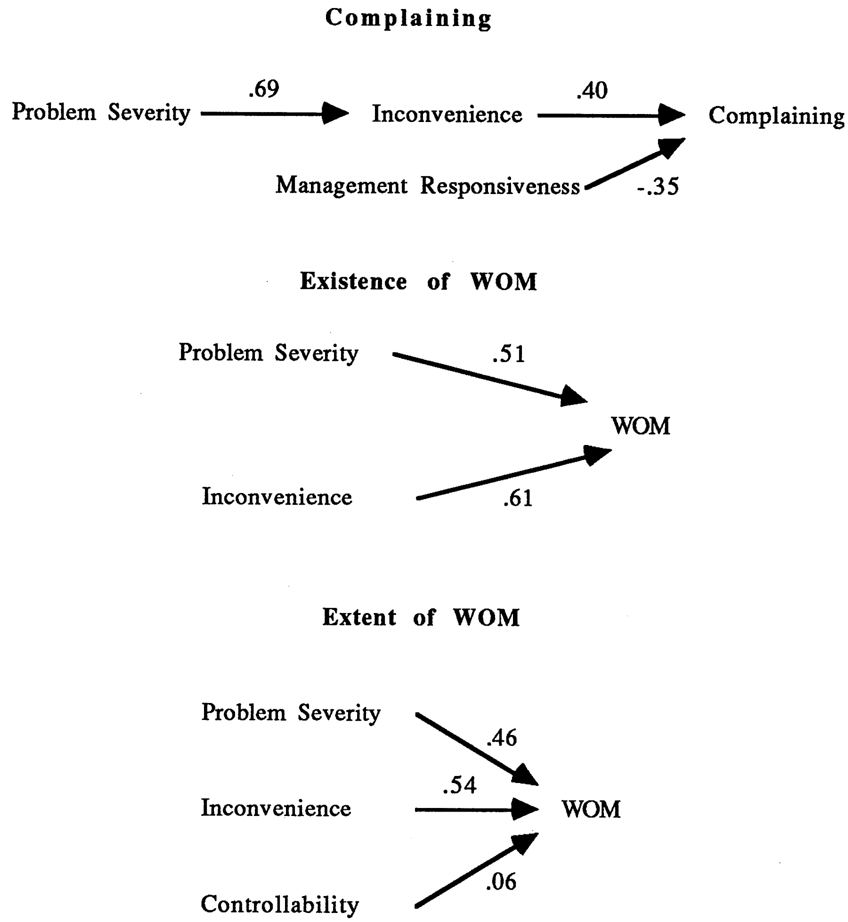
(Beta Coefficients with significance levels in parentheses)

Independent Variables

Dependent Variables	Severity	Controllability	Management Responsiveness	Inconvenience	R^2
	.22 (.03)	-.06 (.57)	-.30 (.00)		.17
Complaining					
	-.04 (.73)	-.03 (.79)	-.22 (.03)	.41 (.00)	.25
	.61 (.00)	.09 (.30)	-.08 (.38)		.39
WOM (yes/no)					
	.38 (.00)	.18 (.16)	-.01 (.89)	.35 (.00)	.45
	.50 (.00)	.20 (.03)	-.21 (.02)		.32
	.26 (.03)	.23 (.01)	-.14 (.12)	.38 (.00)	.39

FIGURE 2

MODELS OF COMPLAINING AND WORD OF MOUTH
WITH PATH COEFFICIENTS



(negative) direction from what was predicted in H1c, suggesting that the less responsive management is perceived to be, the more likely complaining is to occur. This result leads to rejection of H1c for the complaining model and is discussed below. The significant negative beta coefficient for management responsiveness in the extent of word of mouth model accords with H1c.

Addition of inconvenience as a covariate in the complaining model caused the beta coefficient of problem severity to drop to non-significance, suggesting that in convenience does mediate the problem severity-complaining relationship. The word of mouth results furnish no support for the mediating role of inconvenience. Parameter estimates for both problem severity and inconvenience showed significance, suggesting that both variables influence word of mouth directly. Figure A presents path coefficients for the complaining and word of mouth models.

The attribution of controllability of the cause, according to H1b, was expected to vary positively with both complaining and word of mouth. Only in the extent of word of mouth model does the parameter estimate for controllability achieve significance. Thus, the extent of word of mouth model provides limited support for H1b, while the existence of word of mouth and complaining models fail to provide support.

Table 3 shows the differences between measures of inconvenience, attributions of controllability of the cause of the problem, and perceived management responsiveness taken at the time of the problem occurrence and then repeated two months later. ANOVA was conducted using perceived inconvenience, attribution of controllability, and perceived management responsiveness successively as dependent variables and problem severity as the independent variable. Analyses compared means resulting from the first measurement, the second measurement, and the

TABLE 3

MEANS FOR REPEATED MEASURES OF INCONVENIENCE, CONTROLLABILITY AND MANAGEMENT RESPONSIVENESS UNDER CONDITIONS OF SALIENCE AND NON-SALIENCE

Condition	Variable	n	Salience Mean (First Measure)	Non-Salience Mean (Repeated Measure)	Difference
Severe	Inconv	13	6.50	6.23	.27
Moderate	Inconv	44	5.16	4.94	.22
Control	Inconv	11	1.76	1.63	.13
			F = 53.15 (2,65) p = .000	F = 26.03 (2,65) p = .000	F = .03 (2,65) p = n.s.
Severe	Control	10	4.12	3.97	.15
Moderate	Control	42	4.06	3.54	.52
Control	Control	12	3.91	3.76	.15
			F = 1.64 p = n.s.	F = .60 p = n.s.	F = .29 p = n.s.
Severe	Manage	12	4.11	4.13	-.02
Moderate	Manage	43	4.78	4.59	.19
Control	Manage	12	4.74	4.81	-.07
			F = 1.35 p = n.s.	F = 1.04 p = n.s.	F = .61 p = n.s.

mean difference between the first and second measurements. Significant differences resulted between levels of problem severity for both the first and second measures of perceived inconvenience, but the change in perceived inconvenience between the two measures did not differ significantly. No other analyses yielded significant differences.

Thus the results of the exploratory test into the behavior of variables related to response to dissatisfaction over time show very little change in the perception of inconvenience as the problem situation fades into the past. The change in perception of inconvenience did not differ across levels of problem severity. One possible explanation for these results is that the loss of gas services was sufficiently highly involving that the affective response to it was long-lasting. Study participants may also have tried to respond consistently across the two studies.

DISCUSSION AND CONCLUSION

The results of this study include one striking departure from reports of previous studies into complaining and word of mouth behavior -- i.e, the negative correlation between complaining and perceived management responsiveness. While several possible explanations might be offered for the strong difference found in this relationship between the present study and previous studies (Richins 1983) (e.g., differences in operationalization of constructs, differences in product context studied, differences in study participants' level of involvement with the product category investigated) perhaps the most obvious explanation is that people tend to respond differently depending on whether the problem is temporally salient or long since past.

Consumer's perceptions at a time when they have just undergone considerable stress and inconvenience are likely to differ from those of consumers who calmly reflect on past events. Particularly, it seems reasonable that the former would be more likely to respond in an affective (i.e., angry) manner, rather than engaging in a calculation of the expected return on effort expended in complaining. Thus, salience of the product failure is likely to be an important determinant of consumer response to dissatisfaction. A hypothesis meriting investigation is whether an initially affective response to dissatisfaction later gives way to a cognitive response.

The product failure studied here involved individuals' living arrangements and essential domestic facilities for which they exchange a substantial proportion of their monthly income. Disruption of use patterns of such basic facilities would likely arouse a stronger affective response than failure of a less essential product or service. Thus, level of involvement may in part account for the obtained negative relationship between perceived management responsiveness and complaining.

The correlational analyses presented here do not provide a basis to conclude that problem severity, perceived inconvenience, attributions of controllability of the cause of the problem, or perceived management responsiveness *cause* complaining and word of mouth. Thus, the negative relationship found between complaining and perceived management responsiveness could be attributable to the possibility that study participants who complained might not have received prompt action in response and hence perceived management to be unresponsive. his possible explanation is rendered somewhat less likely in consideration of the fact that 37% (32) of the study participants affected by the gas problem reported complaining, while only 15% (12) of them rated management responsiveness below four on a seven-point scale (which was the average of three items).

Previous findings have posited both cognitive (Richins 1983) and affective (Westbrook 1987; Folkes, Koletsky and Graham 1987) interpretations of complaining. The cognitive interpretation predicts consumers will be more likely to complain when they perceive the marketer to be responsive to such complaints. The results of this study do not confirm this prediction.

Supporting evidence for the cognitive interpretation has come from retrospective self reports, in which consumers reflect on past dissatisfactions. It seems likely that reliance on that type of methodology introduces a cognitive bias into responses, as the passage of time allows for the abatement of negative affect aroused by a product failure. Self reports are also used in the present study, but here they reflect study participants' reactions at the time of problem occurrence.

The present research also removes another potential source of error variance by measuring all study participants' responses to the same product failure. In retrospective self report surveys, most or all of the study participants respond to dissatisfying events which are unique to their own experience.

This study has also revealed a considerable degree of heterogeneity between predictive models of complaining and word of mouth, suggesting that the same set of correlates does not necessarily predict both responses to dissatisfaction. Of the variables tested, problem severity and inconvenience were the best predictors in the word of mouth models, with attribution of controllability of the cause of the problem also proving significant in the extent of word of mouth model. These results suggest that problem severity alone is sufficient to generate negative word of mouth activities, but that the extent of those activities is a function of the extent to which the consumer perceives the cause of dissatisfaction to be under management's control and the degree of responsiveness which the consumer attributes to management.

In the complaining model, inconvenience exerted the strongest influence on the criterion and acted as a mediator of the problem severity-complaining relationship. Perceived responsiveness of management also accounted for a significant amount of variation, but its negative sign ran counter to expectations as discussed above.

The limitations of this study include the difficulty of maintaining strict controls in a naturalistic setting. It was not possible, for example, to randomize with respect to the problem severity variable. Problem severity, however, figured as only one of a number of independent variables, and a check of demographic variables indicated considerable homogeneity among the groupings. In a dynamic situation, it is also difficult to manipulate systematically the variables under examination. Measures of study participants' perceptions of management responsiveness are taken at a point in time during a continuous process of interaction between management and the participants. Perhaps, as Sherry (1984) suggested, a mix of qualitative and quantitative techniques may be needed in future research efforts to capture the richness of this oral tradition.

In spite of these limitations, the present study employs a methodology (problem-salience self-reports) which contrasts with the retrospective self-report method of data collection which has characterized previous response to dissatisfaction research, and a different result was obtained. It is argued that using retrospective self-reports may tend to bias responses toward a cognitive interpretation of complaining. The study shows that the same correlates do not necessarily predict both complaining and word of mouth. It also shows that perceived inconvenience is highly related to both complaining and word of mouth and suggests that problem salience may have important effects on the form of response to dissatisfaction.

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Consumer Complaining: Attributions and Identities

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ABSTRACT

This paper uses an attribution perspective to investigate consumer complaining in a service context. Two pilot studies are conducted. Study I indicates that attributions which individualsmake of others' complaining are related to others' sex and whether the behavior is defined as complaining or informing. Study II investigates self definitions of complaining and defines three types of individuals--those who embrace a complainer self definition, those who reject such a definition, and those whose complaining is situationally driven.

Introduction

Research on consumer complaint behavior has focused largely on factors which influence the consumer's decision to provide negative feedback to the marketer, as opposed to remaining silent or generating negative word-of-mouth. Some researchers have identified consumer characteristics which may affect complaining decisions, such as demographics (Moyer 1984; Masson and Himes 1976; Warland et al. 1975; Best and Andreasen 1977); culture (Villareal-Camacho 1983); personality (Fornell and Westbrook 1979); and general attitudes toward complaining (Richins 1983). Other studies have identified situational influences, such as dissatisfaction with product or service (Bearden and Teel 1983); problem severity (Richins 1983; Bearden and Mason 1984); availability of alternatives (Fornell and Didow 1980); cost of complaining (Richins 1981; Bearden and Oliver 1985); expected provider responsiveness (Bearden and Mason 1984); and attribution of blame (Krishnan and Valle 1978; Folkes 1984).

A consumer's self-definition as a complainer may also exert influence as an enduring characteristic, while the act of complaining may take on various meanings to the consumer in the context of specific situations. In making a complaint, the consumer takes on the role-identity (McCall and Simmons 1978) of "complainer." People tend to incorporate positive identities into their self-definitions, but distance themselves from strongly from negative identities, such as a "violator" apprehended by the police after running a red light (Sykes and Brent 1983). Similarly, we may hear disclaimers of the complainer identity ("I don't like to complain," or, "I'm not usually a complainer"), suggesting a reluctance to include this identity as a part of one's "self."

Complaint behavior represents a particularly observable social activity, as compared to information search, alternative evaluation and choice, which may be purely cognitive processes. Search, for example, may take place through anonymous window-shopping, activation of long term memory, or perusing advertisements. Complaints, on the other hand, are witnessed by marketers receiving them and often by other customers and clients if present. These special characteristics suggest that behavioral meaning will affect complaint behavior more than the less visible, less social consumer behaviors.

This issue has relevance for researchers who ask consumers for complaint behavior self-reports, as consumers may under-report such behavior if they reject the "complainer" identity. There is additional relevance for marketers seeking consumer feedback, as consumers attempting to avoid the "complainer" identity may be reluctant to communicate negatively to the marketer.

This paper uses an attribution theory framework to examine the meanings attached to the "complainer" identity as well as the connotations of the term "complain." Two pilot studies examine the meaning of complaint behavior in a service context, where complaining requires direct confrontation with a person who provides the service. Study I addresses the way observers evaluate people who provide negative feedback to marketers. Study II explores the components of the complainer identity as well as the way that identity is shaped by anticipated attributions of others.

Attribution Theory

Attribution theory can be applied generally to "processes whereby people attribute characteristics, intentions, feelings and traits to the objects in their social world" (Kanouse and Hanson 1972). Jones and Davis (1965) identify two types of attributions--dispositional and intentional. People make intentional attributions directly from observed behavior; observers begin to make sense of their world by speculating about why others perform certain actions. These speculations often include situational factors, e.g., "He complained because the repair work was poorly done, and he wanted his money back."

In turn, Jones and Davis (1965) suggest, intentions offer cues to dispositions, the more stable, underlying components of the actor's personality which persist across a variety of situations. These dispositional attributions often take the form of ascribing to the observed individual a set of "broad" traits, "despite the scant empirical evidence for their existence" (Jones and Nisbett 1972).

While the Jones and Davis (1965) model and Shaver (1983) posit a sequence of inferences from intention to disposition, Reeder (1985) argues that people often make dispositional attributions directly from observed behavior, without making inferences about intentionality of the behavior. Dispositional attributions have been found to have relatively little relevance to marketing (Folkes 1988); however, we would expect that people will be reluctant to accept the complainer role-identity if they anticipate that observers attribute negative personal traits to people who complain, e.g., "he is an aggressive person." Howard and Levinson (1985) suggest that attributional processes may be related to social labeling; thus, in an extreme case, negative attributions about complainers may lead consumers to see complaint behavior as somewhat deviant and to feel stigmatized when they complain.

Even the words "complain" or "complainer" may serve as negative labels for the consumer who offers negative feedback. Kanouse (1972) suggests that connotations of meaning affect causal attributions, noting that the verb "detest" has more active connotations than the verb "abhor." The findings of Kehret-Ward and Yalch (1984) suggest that labelling a person will not only affect his or her product choices, but "increase the availability of positive versus negative attributions." Therefore, we would expect that labelling an action "complaining" will evoke different attributions than labelling the action more neutrally as "informing."

Considerable research suggests that people not only make attributions about others, but also respond to attributions they expect others to make. Mills (1940, p. 908) makes this point early in the literature: "We influence a man by naming his acts or imputing motives to them--or him."

People can be influenced not only by anticipated attributions of observers who are physically present, but also by imagined attributions of absent or even imaginary others (e.g., Schlenker 1980; Goffman 1959). A recent empirical study by Baldwin and Holmes (1987) suggests that the experience of "self," as expressed by responses to reading controversial passages of literary works, can be affected by imagined responses of salient others.

Calder and Burnkrant (1977) apply this perspective of "imagined others" to a marketing context, suggesting that consumers, as social actors, are subject to and influenced by observation as they carry out consumption activities. Moreover, they suggest, the consumer's "attributional sensitivity" may depend not on observers but on the actor's own self-perceptions, or even "from vicarious exposure to attributions manifested by fictitious observers." In a complaint context, the consumer who imagines negative attributions may be as reluctant to complain as the consumer who actually hears negative statements.

Complainer Characteristics

Attribution research has shown that inferences about the stimulus person are strongly influenced by physical features, gender and such artifacts as clothing (summarized in Schneider et al. 1979, Chapter 2). For example, McKee and Sherriffs (1957) found that both males and females perceived men to be more informal, calm, logical, ambitious, boastful and reckless, while women were perceived as more sophisticated, tactful, lovable, religious, fearful, shy and frivolous. Qualities associated with males tend to be more supportive of complaint behavior than those associated with females. Therefore, we would expect female complainers to be regarded more negatively than male complainers.

A series of studies summarized by Deaux (1976) found that both (a) men and women attribute male success to competence, female success to luck or effort and (b) male tasks are more difficult than female tasks. To the extent that complaining about poor service may be likened to accomplishing a task, we would expect observers to perceive complaint behavior as requiring more effort on the part of the female, more social skill on the part of the male.

Research Questions and Hypotheses

A number of research questions emerged from this framework. Does behavior defined as "complaining" generate more negative attributions about the actor than behavior defined more neutrally, using such words as "inform?" Do observers make more positive attributions about males who offer negative feedback to marketers than about females performing the same action? Do expectations about observers' attributions shape individual's complaining behavior? Do individuals differentially embrace the role of complainer and do variations in self definition of complaining shape how individuals behave when dissatisfied?

It was hypothesized that:

H1 Those who were defined as informing would more likely described by adjectives associated with positive valences and social skills than those who were defined as complaining.

H2 Male, whether defined as complainers and informers, would be credited with more social skills as well as more positively-valenced adjectives than females.

H3 Females, whether defined as complainers and informers, would be assigned more adjectives than males in the "effort" category.

H4 Individuals who reject the role definition of complainer will experience more negative attributions when they complain than those who embrace a complainer identity.

METHOD AND RESULTS

Study I: Labeling Complaint Behavior

This pilot study was designed to test Hypotheses 1, 2 and 3.

Data was collected from 100 MBA and undergraduate students (64 from an urban southern university, 36 from a northeastern rural university, 60% male), who volunteered to participate. Subjects averaged 25 years of age, 3 years of full-time work experience, and 3.5 years part-time work experience; 67% reported eating out 2 or 3 times a week. As results did not differ significantly when data was analyzed separately by region, the data sets were joined for analyses reported here.

Four vignettes were designed to manipulate description of observed behavior (complain vs.

inform) and gender of observed consumer (male or female). Each subject read one of the four: "You are having dinner with friends in a nice restaurant. You notice a man (woman) about 25 years old at the next table. He (she) is complaining to (informing) the waiter, 'My steak was served cold.' Based only on this incident, list 5 adjectives to describe this person." As a check on the salience of the words "complain" or "inform," subjects were asked to summarize the incident on the following page without looking back. Over 80% of the "complain" group used the word "complain" in their summaries; over 78% of the "inform" group did not.

Adjectives were coded into three categories, selected on the basis of literature search and pretests. *Valence* was intended to capture evaluative aspects of the adjective based on ordinary standards in the American culture. For example, the adjectives "good" and "cost-conscious" have positive valences, while adjectives "bad" and "ugly" have negative valences. The *social skills* category was intended to differentiate adherence to social norms from disruptive behavior; thus "cooperative" and "self-confident" suggest a socially skilled individual, while "rude" and "overbearing" carry connotations of ineptitude or disruptiveness. These categories overlap but are not identical; for example, "timid" suggests a lack of social skill but has a neutral or valence; "admirable" people are approved but not necessarily socially skilled. A final category, *effort* was intended to elicit connotations of overcoming obstacles, such as "hard-working," while adjectives coded effortless include "calm" or "peaceable."

Adjectives were evaluated by two coders working independently. Intercoder reliability rate was 85%; coding differences were reconciled by a third party (the first author).

Results supported the first hypothesis--that those defined as informing would have more positive valence and social skills than those defined as informing. A chi-square test (complaint/ inform vs. high and low social skills) was significant (chi square = 5.30, $p < .02$); when complaint/inform was compared to positive and negative valence, chi-square = 6.245, $p < .01$. No significant differences were found for gender ($p > .65$ for both analyses). Over 75% of the adjectives were identified as "high effort," suggesting that people may not find it easy to provide negative feedback to a service provider, whether they label this feedback as complaining or informing.

Interaction effects were not significant. In direct contradition to hypotheses, male complainers tended to receive the fewest positive-valenced adjectives ($p < .08$) as well as the fewest adjectives connoting social skill ($p < .06$). However, the lack of significance suggests the need for further research to identify differences in meanings attached to male and female complaint behavior.

This study suggests that consumers may associate negative personal traits with the complainer identity and further suggests that consumers generate more negative attributions in response to the word "complain" than to the word "inform." This study carefully controlled the environment surrounding the complaint behavior in order to assess the impact of the difference in stimuli; as in most experimental treatments, this control was obtained at the cost of generating artificial conditions for consumer response. Study II attempted to uncover the complainer identity in real-life applications.

Study II: An Exploratory Study of Complaint Episodes

This study applied an experiential research approach to the area of complaint behavior. This approach has been applied to such consumer behaviors as impulse buying (Rook 1987) and materialism (Belk 1982). While Study I explored attributions people make about complainers, Study II explored the meanings people attach to the complainer identity and how those meanings are affected by anticipated observers' reactions to complaining behavior.

The data were collected using a questionnaire that asked a series of open-ended questions from 58 undergraduates enrolled at a Northeastern university. To increase salience of recent actual complaining, respondents were asked to remember a service incident in which they complained as well as one in which they chose not to complain. Among the questions asked, two were specifically intended to elicit the meanings which respondents attached to complaining. For the incident in which they complained, they were asked, "What do you think the person you complained to thought of you?" Additionally, respondents were asked to describe their general orientation toward complaining. Coding categories were established a priori based on pilot tests and a literature review. Coding was performed by the first author and a PhD student; coding interreliability was 95% with differences reconciled by coders.

Results of Study II

Asked to recollect instances of reporting negative feedback, 78% of subjects reported problems that involved interaction with the service provider, such as rudeness or speed of service, rather than such functional problems as badly cooked food or clothing ruined by dry cleaners. Fifty-seven percent of the incidents had short-term consequences; blame was attributed to the contact person by 23% of the respondents, to the establishment or management by 63%. Despite this attribution of blame, 41% chose to voice negative feedback to the contact person, 19% to the establishment. Seventy percent expected restitution as an outcome; 57% reported obtaining restitution as an outcome. Interestingly, no one reported anticipating negative consequences from complaining, but 11 respondents (22%) reported negative consequences such as, "he was irritated with me."

Respondents clearly were aware of providers' reactions to their complaints. Reactions were coded in multiple categories, so that a single answer could fall in more than one category. Twenty-eight respondents (50%) checked one or more negative category; 22 respondents (40%) checked one or more positive category. Fourteen respondents (25%) anticipated attributions of negative personal qualities, such as "stupid," 25% expected that providers would attribute disruptive attitudes, such as rudeness, to them; and 8, or 14%, believed providers were responding to them in terms of such status characteristics as "young," "college boy," or "brat." On the other hand, 34% of the respondents indicated that the provider seemed to grant legitimacy to their complaint; 5 (9%) indicated that provider doubted that the complaint was justified.

Coding of responses to the question about their orientation to complaining resulted in categorizing respondents into three well defined, nearly equal sized groups: those who reject the complainer role-identity, those who accepted the complainer role-identity and those who emphasized situation rather than self-definition as influencing the decision to complain. Coding categories indicating dissociation with complaining behavior included "dislikes complaining" and "empathy with the provider." and "rational." Responses in all three categories indicate a reluctance to complain and a distancing from the complainer label. The first two categories suggest inner-directed orientations, while those in the "rational" category complain reluctantly, but want to maintain an appearance to others of being calm and rational.

Categories associated with embracing the complainer identity included "likes to complain" and "consumerist orientation." Responses in the former category indicate an active embracing of a confrontational identity, while those in the latter define themselves as having a duty to complain for the the benefit of other consumers. Thus, different underlying motivations result in acceptance of the complainer identity. Those in the "situational" category indicated "cost-benefit" and other "situational" determinants as shaping their actions, rather than a stable self definition either embracing or rejecting a complainer identity.

A comparison of orientations to complaining with whether provider's imagined attributions were positive or negative revealed some interesting results (chi-square = 12.8. p =.047). Of the 19 respondents who reject the complainer identity nearly half reported either no complaining incident (2) or did not believe the provider attributed clearly positive or negative labels to them. Over forty percent reported negative attributions and only ten percent reported positive attributions. In comparison, of those embracing the complainer identity forty percent experienced positive attributions, 35 percent experienced negative attributions, while only 15 percent did not infer that the providers had made a positive or negative attribution. Nearly half of those whose orientation toward complaining is dependent on the situation thought providers made positive attributions of them, and just under 30 percent thought they made negative attributions.

Thus, orientation toward complaining appears to be related to the attributions which those who complain perceive others to make of their behavior. Whether this relationship can be explained by the different interactional approaches taken by those with different orientations toward complaining, or some other factors is yet to be explored.

Study II suggests individuals can be categorized on the basis of their orientation towards complaining and that these orientations parallel the dispositional versus intentional dimensions described earlier. People describe themselves in terms of either inherent dispositions that affect their behavior in a variety of situations--"In general I always (rarely) complain"-- or they described themselves as responding to situations, complaining in order to achieve goals of restitution.

Limitations

Kassin and Baron (1985) identify two limitations to attribution research which uses verbal self-report data as the dependent variable.

First, this method represents a modification of a "naturally- occurring process," by forcing subjects to invent responses, generating the Nisbett and Wilson (1977) effect; secondly, by ignoring nonverbal responses to observed behavior, the method understates competencies to extract information.

Limits to accuracy of self-attribution have also been identified in the literature. As discussed by Nisbett and Wilson (1977), the verbal explanatory system which provides access to internal states will rely on representativeness and availability heuristics (Tversky and Kahneman 1974) and will generate inferences about one's feelings based on plausibility or cultural acceptability (Wilson 1985; Hochschild 1979).

DISCUSSION

This study suggests that consumers may attach different meanings, often with negative connotations, to complaint behavior as well to the word "complain." Furthermore, observers seemed extremely salient to respondents.

When listing adjectives to describe complainers, respondents tended to make more negative attributions about people who were defined as complaining than about those were defined as informing the provider. They tended to generate action-oriented words, connoting effort, rather than passive descriptors. Furthermore, they seemed to see complaining behavior as disruptive, at best as an indicator of weak social skills. If people make negative attributions about others who complain, we would expect them to anticipate that their own complaining behavior would be subject to similar negative reactions from observers. In recalling their own complaints, subjects clearly expected providers to make attributions about themselves.

Finally, in evaluating their own complaining "styles," a number of people indicated that they did not want to be associated with complaining; they spontaneously wrote such phrases as,"In general, I don't complain." A number were particularly concerned with making a scene and appearing calm and rational to the provider, again suggesting the importance of observers' attributions.

On the other hand, some respondents actually embraced the complaining identity. This group requires further study, as it was not clear whether they (a) didn't care about observers' attributions; (b) enjoyed generating negative reactions as they played a rebel role, or (c) anticipated positive reactions to well-justified complaints. Based on these pilot results we are designing a study to understand the genesis of complaint orientations and how these orientations shape complaint episodes, others' attributions, and outcomes.

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Some Limits on the Potency of Word-Of-Mouth Information

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ABSTRACT

Past research documents the substantial impact of word-of-mouth (WOM) information on the product evaluations and purchase intentions of potential buyers, especially if the products are novel and unbranded. This study examines the potency of WOM information if the potential buyer expresses an evaluative position regarding the product prior to exposure to WOM information. Our results indicate that individuals' receptivity to both positive and negative WOM information is determined largely by its "fit" with their (prior) evaluative position. These results suggest that understanding the influence of WOM information on the acceptance or rejection of new products may be greatly improved by understanding the evaluative predispositions of potential buyers in conjunction with the valence of the WOM information.

SOME LIMITS ON THE POTENCY OF WORD-OF-MOUTH INFORMATION

There is a sizable body of evidence which suggests that word-of-mouth (WOM) information has a substantial impact on the product evaluations and purchase intentions of potential buyers (e.g., Brown and Reingen 1987; Katona and Mueller 1955; Weinberger and Dillon 1980). Furthermore, the influence of negative WOM information, compared to positive WOM information, has been found to be especially potent (Arndt 1967; Lutz 1975; Mahajan, Muller, and Kerin 1984; Mizerski 1982; Weinberger, Allen and Dillon 1981). What is not clear from past research, however, are the conditions under which potential buyers will be receptive or unreceptive to WOM information.

Even though there is a substantial amount of research documenting the pervasive influence of WOM information, some researchers have begun to question the narrow band of conditions under which those findings have been obtained (e.g., Scott and Tybout 1981; Weinberger, Allen and Dillon 1981). Typically, past research has attempted to model or examine the effect of WOM information on potential buyers for products that have no market history, are unbranded, or when the product category is novel. All of the above situations would minimize the role of the potential buyer's prior expectations or predisposition in determining his/her receptivity to the incoming WOM information. This narrow focus stands in contrast to the reality of a marketplace where, in the majority, products are line extensions or new brands within an existing product line and/or the company is known to the potential buyer (Heany 1983). In the latter case, many -- perhaps a majority -- of the potential buyers will have non-neutral feelings regarding the product and these predispositions may mediate their receptivity to information transmitted by previous buyers.

In recent research, Wilson and Peterson (1989) examined the impact of positive or negative WOM information for new products where the potential buyers had well-established positive or negative affective predispositions toward the products. They found that the WOM information was only accepted to the extent the valence of that information matched the affective predisposition of the receiver.

A substantial literature documents the mediating influence of the receiver's predisposition or prior expectations on receptivity to and interpretation of new information (e.g., Allport 1961; Bettman 1979; Crocker 1981; Einhorn and Hogarth 1986; John, Scott, and Bettman 1986; Kassin 1979; McGuire 1968; Metalsky and Abramson 1981; Neisser 1966; Nisbett and Ross 1980; Petty and Cacioppo 1979; Sherif, Sherif and Nebergall 1965). In general, incoming information that does not "fit" existing beliefs, expectancies, and/or affective predispositions tends to be distorted, transformed, discounted, or ignored by receivers. It is not always the case, however, that an individual's prior feelings or beliefs will dominate the treatment of new information (e.g., Bettman, John and Scott 1986). Thus, the challenge is to determine the conditions that enhance or attenuate the influence of new, incoming information, especially when it apparently conflicts with existing information, beliefs, or feelings.

In the area of covariation assessment, Alloy and Tabachnik (1984) have argued persuasively for the need to look at the interaction between prior expectations and currently available information to accurately predict outcomes. Specifically, they suggest that the stronger an individual's prior feelings, the more the feelings will dominate the interpretation and use of WOM information. Conversely, even strongly held prior expectations or beliefs can be overwhelmed by contradictory new information if it is sufficiently strong, salient, and /or if a substantial amount has been accumulated.

In the current research, we attempt to predict the impact of WOM information on product evaluations and purchase intentions by examining the joint influence of an individual's prior affective predisposition and WOM information. Similar to Wilson and Peterson (1989), we assumed the potency of positive or negative WOM information would generally be determined by its *fit* with the receiver's prior feelings. Thus, for example, individuals who have a positive predisposition toward a product will be unreceptive to negative information but very receptive to positive information; the mirror image should be true for individuals with a negative predisposition. Individuals with relatively neutral feelings should be receptive to both types of information. Thus, for example, contrary to past findings on the potency of negative information, we predict negative information will produce weaker effects than positive information if directed toward receivers who are favorably predisposed toward a product.

Unlike Wilson and Peterson (1989), however, we wanted to examine this relationship in a context where the affective predisposition was newly established and not well-founded. In addition, we wanted to parallel past WOM research where the product had no market history, was unbranded, or the product category was novel but where the potential buyer was asked to render an evaluative judgment about the product prior to the presentation of WOM information.

Specifically, subjects were given two brief product descriptions and asked if Brand A appeared to be a better value than Brand B or no different in value. We predicted that subjects who favored one brand over another would be very receptive to positive WOM information about that brand and unreceptive to negative WOM information (the opposite effect would be obtained for the non-favored brand). No difference was expected in receptivity to WOM information about the two brands if the subject had not indicated an evaluative position favoring one brand over the other. The primary purpose of this research was to determine if the impact on product evaluations and purchase intent in this context could be better understood by examining the joint influence of an individual's evaluative predisposition and WOM information compared to past research that has only examined the strength and valence of the WOM information.

METHOD

Sample. Data for this study were collected during August 1987 from a national consumer panel through a mail survey. The sample was selected from members of the panel to represent a cross-section of the adult population in the United States. The original sample size was 1,600. Responses were received from 998 persons, resulting in a response rate of 62.3 percent. Such a response rate is typical for a study using a national consumer panel and where data are collected by a mail survey not employing any follow-up contact.

To better reflect national population characteristics, sample data were weighted by sex and education of respondent. Slightly more than 52 percent of the weighted sample consisted of females, and 72 percent of the sample were married. Forty-nine percent of the weighted sample were age 50 and over; 64 percent had no college education; and 37 percent reported a (1985) household income of at least $30,000. The average household contained 2.7 people.

Survey Questionnaire. All subjects were first provided a brief, basic description of a new product category: digital tape recorders (DTR). They were told that DTRs were just being introduced into the marketplace and were expected to do well because of their superior sound reproduction compared to traditional tape recorders. Moreover, they were informed that a consumer testing service had rated 8 DTR brands and had recommended two brands (A and B) as best buys.

Brand A was described as quite expensive ($500) but it had received the highest ratings for quality of parts and construction. It also had the longest warranty (2 years). Although it was expensive, it received a "best buy" rating because of its high quality. *Brand B* had the lowest price ($250). Its sound quality was rated as good as Brand A but parts and construction were judged to be of only moderate quality. Its warranty was only for six months. Although the judged quality was only moderate, it received a "best buy" rating because of its low price.

Based on the above information subjects were asked to indicate which recorder appeared to be a *better value*. Subjects could either indicate Brand A, Brand B, or about the same. The purpose of this question was to get subjects to make an evaluative judgment about the recorders. We assumed this judgment would influence how subjects would interpret subsequent WOM information. That is, the rendering of an evaluative judgment would elicit an affective predisposition toward brands in the category which would determine the subject's receptivity to and interpretation of further information about the brands.

In the next part of the survey, subjects were presented with a WOM negative performance information manipulation. They were presented the following scenario:

> Suppose you found out your neighbor had purchased Brand [A or B] and that he had to take it back to the dealer after three months because of a hissing sound. He has had it back home for two weeks without further problems.

Half the subjects were told their neighbor had purchased Brand A and half were told Brand B. Subjects were then asked to indicate if the buyer's experience had *raised*, *lowered*, or had *no effect* on their perception of the value of Brand [A or B].

Finally, subjects were provided with the affective (positive or negative) evaluation manipulation of Brand A or B. Half of the subjects were told that the buyer "loved" his DTR and the other half were told the buyer "hated" his DTR. Subjects were then asked to indicate if that information made them *more likely*, *less likely*, or had *no effect* on their consideration of purchasing that particular brand.

RESULTS

To evaluate the impact of affective predisposition on receptivity to W-O-M information, three groups of respondents were formed on the basis of their value comparison judgments of Brand A *versus* Brand B. Of the 966 subjects who gave a response, 71.3% (689 subjects) indicated that Brand A was a better value than Brand B (labeled the *A>B* group). Only 7.9% (76 subjects) indicated Brand B was a better value than Brand A (*B>A* group). The remaining 20.8% (201 subjects) indicated that the brands were of about the same value (*A=B* group).

TABLE 1

Overall Responses for the Three Value Comparison Groups

Condition Response Measure	Value Comparison Group A>B	 A=B	 B>A	Overall
Negative Performance Information				
Percent Who Lower Value Rating	42%	41%	39%	41%
	(687)	(199)	(75)	(961)
Positive WOM Evaluation				
Percent *More* Likely to Purchase Brand	44%	35%	46%	42%
	(363)	(106)	(37)	(506)
Negative WOM Evaluation				
Percent *Less* Likely to Purchase Brand	55%	58%	58%	56%
	(323)	(93)	(39)	(455)

Note. Total number of respondents per cell appear in ( ).

Negative Performance Information. The fact that the buyer reported a performance problem with the brand purchased had a negative effect on perceived value of that brand for a fair number of respondents. As can be seen in Table 1, about 41% of all respondents lowered their value ratings of that brand. As expected, there were no differences among the three value comparison groups when brand type is not taken into account. But as can be seen in Figure A, however, the impact of such information for each group is quite different if brand type is examined. As predicted, subjects in the A>B group are much more likely to lower the value rating of Brand B than Brand A ($t = 9.37$; $p < .001$) while the opposite effect is observed for subjects in the B>A group ($t = 2.92$; $p < .005$). Although subjects in the A=B group were not expected to respond differentially as a function of brand, more subjects lowered their value rating for Brand A than for Brand B ($t = 2.17$; $p < .05$) in response to the negative performance information. This difference may be due to the fact that respondents had higher expectations about the performance reliability of Brand A than Brand B because much of the value of the former was derived from quality of its parts and construction. Therefore, a performance problem with Brand A elicited more uncertainty about its true quality than did a performance problem with Brand B.

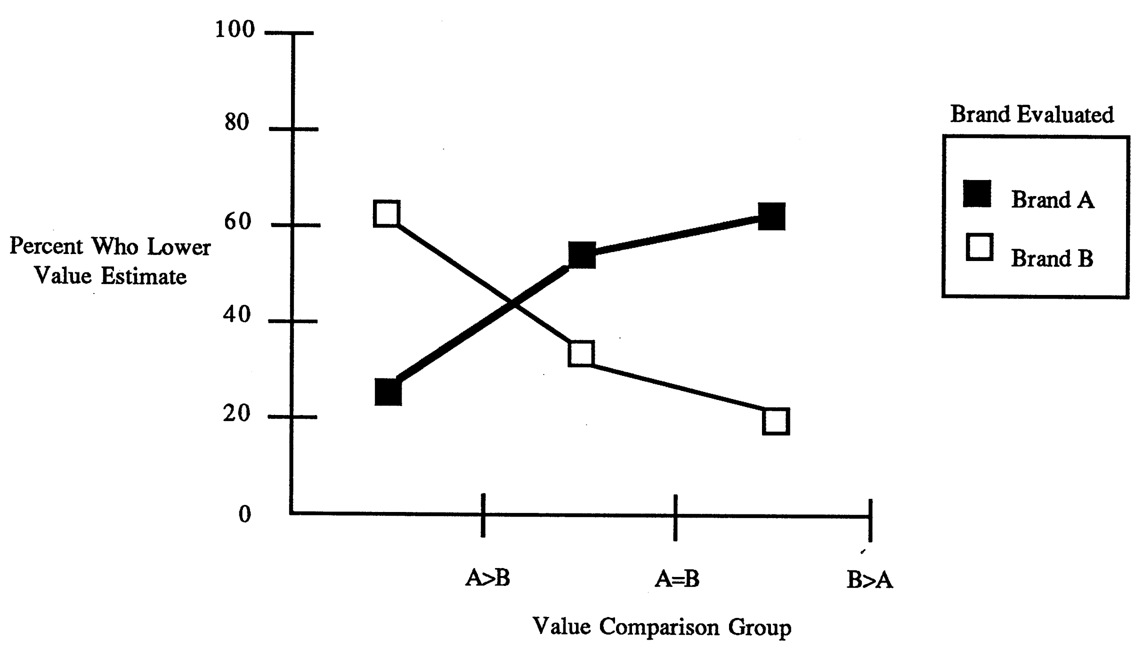
For comparison purposes, differences between the A>B and B>A group responses for the same brand were tested. Significant differences were obtained between the proportion of respondents in each group who lowered their value ratings for both Brand A ($t = 3.92$; $p < .001$) and Brand B ($t = 4.38$; $p < .001$). That is, relatively more A>B subjects than B>A subjects lowered their value rating of Brand B, while relatively more B>A subjects than A>B subjects lowered their value ratings for Brand A when faced with negative performance information.

Positive versus Negative WOM Evaluation Information. The overall impact of positive and negative WOM evaluations on purchase intention is presented in Table 1. In general, positive WOM information enhances the purchase intent of subjects while negative WOM information depresses purchase intent. As expected, negative WOM information affected the purchase intent of subjects more than did positive information.

When subjects' reactions to positive WOM information by brand are examined, a much different pattern of responses is observed. This is apparent from a comparison of the responses of the three value

FIGURE A

Percentages of Subjects Lowering Brand Evaluation Ratings After a Report of Negative Performance Information by Brand Type and Value Comparison Group



groups (see Figure B). As predicted, relatively more subjects in the A>B group were likely to increase their purchase intent if the owner provided a positive evaluation of Brand A than Brand B ($t=7.77$; $p<.001$). In contrast, subjects in the B>A group demonstrated a greater increase in purchase intent if the brand given a positive evaluation was B rather than Brand A, although the effect does not reach statistical significance ($t=1.55$). Brand differences were not expected for the A=B group and there appears to be no effect.

The increase in purchase intent for Brand A following the presentation of positive WOM was higher for subjects in the A>B group than subjects in the B>A group ($t=2.63$; $p<.01$). In contrast, B>A group members indicated a greater increase in purchase intent than A>B group members when Brand B was the brand of interest. These effects are consistent with our predictions.

In general, negative WOM had a very powerful impact on lowering purchase intent of the brand toward which the comments were directed. But, as predicted, negative WOM had more impact on purchase intentions for Brand B than Brand A within the A>B group ($t=2.55$; $p<.05$), whereas no differential impact for brand was observed for members of the A=B group. Contrary to our prediction, however, members of the B>A group were equally affected by negative WOM for both brands A and B.

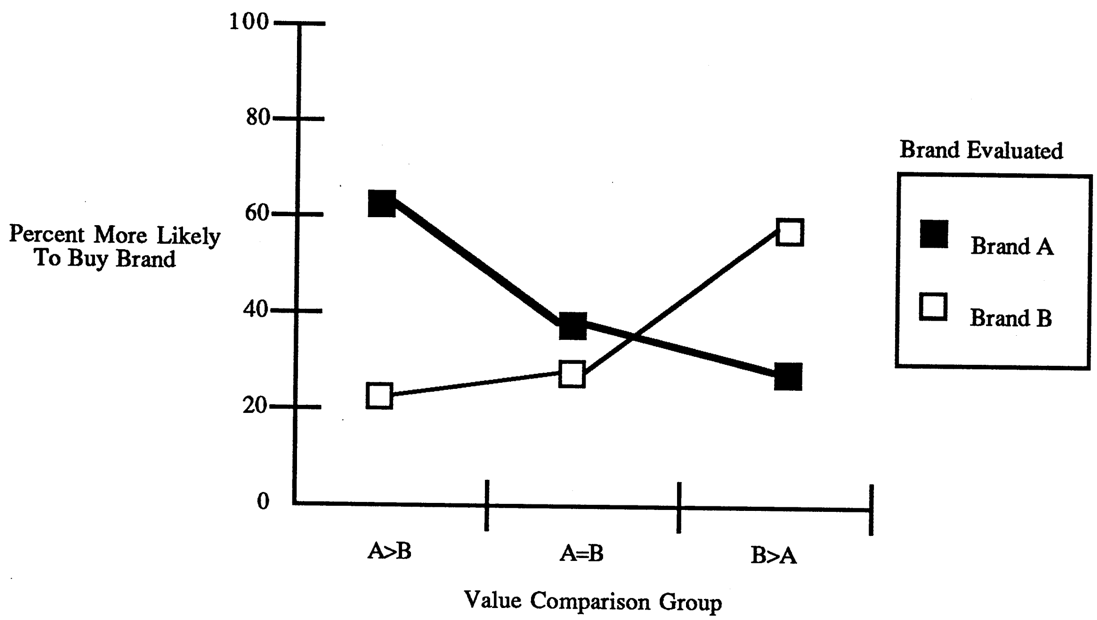
Another way to examine the differential effects of positive *versus* negative WOM information is to compare the net difference for each group between how many subjects were *more* likely to purchase the brand given positive evaluations minus how many subjects were *less* likely to purchase the brand given negative evaluations. These results are provided in Table 2. As can be seen in the table, positive WOM appears to be equally potent as negative WOM in those situations where the subjects encountering the information took an initially positive evaluative position toward the brand (i.e., respectively, Brand A: A>B group and Brand B: B>A group). In the absence of a positive commitment to the product (Brand A: B>A and A=B group; Brand B: A>B and A=B group), however, the unfavorable impact of negative WOM information on purchase intent was quite dramatic.

DISCUSSION AND CONCLUSION

In general, the research findings suggest the influence of word-of-mouth information on product evaluations and purchase intentions of potential buyers is much more complex than has heretofore been reported. Past research has documented the powerful influence of WOM information, especially if that information is unfavorable. There appear to be forces, however, that influence both the reception and retention of WOM information beyond the simple content, strength, or valence of such information. A better understanding of such forces should lead to more

FIGURE B

Percentages of Subjects Reporting Higher Purchase Intent After a Positive Owner Evaluation by Brand Type and Value Comparison Group



accurate predictions of the net influence of WOM information on potential buyers' purchase behavior.

Consistent with predictions, receptivity to positive or negative WOM information was influenced by evaluative feelings toward the product, even though the product had no market history, was unbranded, and the product category was relatively novel. The results indicate clearly that once an individual assumes an evaluative position toward a product, he/she will begin to filter information about that product. To the extent the information "fits" the evaluative position, it will be accepted. These results suggest that predicting WOM influence on acceptance of new products or services may be greatly improved by understanding the evaluative predispositions of potential buyers as well as the valence of the WOM information.

Wilson and Peterson (1989) found that receptivity to positive or negative WOM information was almost completely dependent on whether the valence of that information matched the receiver's affective predisposition toward the product. The present results parallel to a great extent those findings. One major difference, however, is worth noting. In their research, subjects expressed very strong feelings (positive or negative) about the products being considered (the products were new car models by well known nameplates). In fact, subjects with a positive predisposition *increased* their purchase intent when faced with negative performance and affective WOM information regarding the target product. In the present research, subjects were impacted by negative WOM information even when they had taken a positive evaluative position on the brand. This result seems reasonable given that the evaluative position assumed by most subjects was based on *minimal* information and their position had been established only briefly before counter information was encountered.

Overall the results suggest that the amount of time may be quite brief, following the introduction of new products, that information about those new products will be processed by potential buyers in a relatively unbiased fashion. It appears that the influence of WOM information, although quite powerful, may be severely curtailed to the extent it runs counter to the individual's feelings toward the product. Obviously, the present findings call into question the validity of virtually all contemporary innovation/diffusion models in marketing (cf., Mahajan and Wind 1986) that assume a given level of receptivity of all potential buyers towards the positive and negative WOM information they encounter. Our findings suggest that innovation/diffusion rates for new products might be better understood and predicted by taking into account the receptivity of the receiver to WOM information in addition to measuring the valence, strength, and/or amount of WOM information transmitted.

Almost two decades ago, Robertson (1971) argued that, in spite of its recognized importance, personal influence was one of the most "elusive"

FIGURE C

Percentages of Subjects Reporting Lower Purchase Intent After a Negative Owner Evaluation by Brand Type and Value Comparison Group

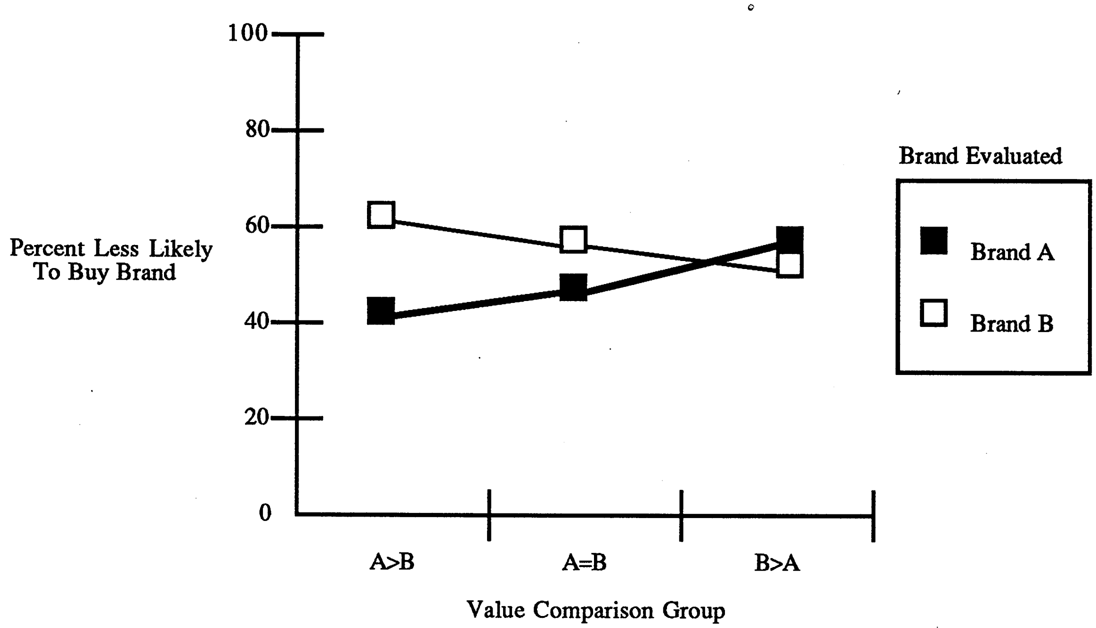


TABLE 2

Net Difference between Positive *Versus* Negative W-O-M Evaluation Effects on Purchase Intent for Value Comparison Groups x Brand Type

WOM Evaluation	Brand A			Brand B		
Change in Purchase Intent	A>B	A=B	B>A	A>B	A=B	B>A
Positive WOM						
More Likely to Purchase	65%	40%	32%	24%	32%	57%
Negative WOM						
Less Likely to Purchase	48%	55%	60%	62%	61%	57%
Net Difference	+17%	-15%	-28%	-38%	-29%	00%

Note. Percentages represent the number of respondents who raised/lowered their likelihood of purchase intent.

concepts in the consumer behavior literature, primarily due to a lack of research activity in the area. While considerable research findings have accumulated in the interim, there are still significant gaps in our knowledge. The present results suggest the influence of word-of-mouth information cannot be fully understood without considering how it interacts with the receiver's evaluative predisposition toward the product.

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Research in Consumer Complaining and Word-of-Mouth Activities Discussant's Comments

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The three papers regarding complaining and word-of-mouth activities each address different yet equally important issues in this area of research. The first, by Brown and Beltramini, discusses an attempt to conduct research in a more naturalistic setting than has been true in past studies. The Goodwin and Spiggle paper takes a look at how one's attributions of others' complaining, coupled with self-definitions, may affect actual behavior. Finally, the Wilson and Peterson paper investigates how predispositions toward products may affect receptivity to word-of-mouth information.

Brown and Beltramini's paper, "Consumer Complaining and Word-of-Mouth Activities: Does Problem Salience Matter?", offers field evidence which shows how high involvement may affect responses regarding complaining and word-of-mouth (WOM) behavior. Previous research relied heavily on retrospective self-reporting which, the authors argue, may provide inaccurate responses. Additionally, such self-reports are normally based on unique, individual experiences.

Brown and Beltramini have filled a gap in this research area by conducting their study during a real episode of gas service disruption. Due to the fact that there were differing levels of service disruption, it was possible to study the impact of problem severity on complaining behavior. In fact, three main variables and one moderator were thought to influence complaining and/or WOM activities. The three variables studied were:

- problem severity,
- attribution of controllability of the cause of the problem,
- perceived management responsiveness.

The moderator was perceived inconvenience.

The researchers found that as problem severity increased so did complaining and both existence and extent of WOM. Also impacting existence of WOM was inconvenience (as opposed to performing a moderator role as predicted). Inconvenience also directly influenced extent of WOM, as did attribution of controllability. However, inconvenience did moderate between problem severity and complaining, as originally thought.

Finally, perceived management responsiveness influenced complaining, but in the opposite direction from what was hypothesized. This surprising finding implies that the less responsive management may be, the more one is apt to complain. Previous research has found conflicting results. The explanation offered is that temporally salient problems may lead to affective responses while retrospection would allow for cognitive analysis.

Limitations of this study are listed, including lack of strict control (inherent in naturalistic settings), inability to randomize problem severity, and the difficulty of systematic manipulation of the independent variables. However, despite these problems, this research offers valuable insights which could not have been obtained from traditional retrospective self-reporting.

"Consumer Complaining: Attributions and Identities", by Goodwin and Spiggle, actually consists of two studies. The first was aimed at attributions of others' complaining behavior, while the second was concerned with consumers' self-definitions. In the first study, two major questions were asked. One, does attitude toward an individual exhibiting a specific behavior differ depending on how the behavior is labeled? Two, does the individual's gender influence how the behavior is perceived?

Four conditions were set up to answer these questions. Respondents were asked to describe a man (woman) who complained (informed) in a given situation. No gender difference was found (contrary to predictions), but positive vs. negative behavior labeling was quite significant. These results imply that consumers do attribute negative personality traits to those perceived as complainers, but not to those perceived as informers.

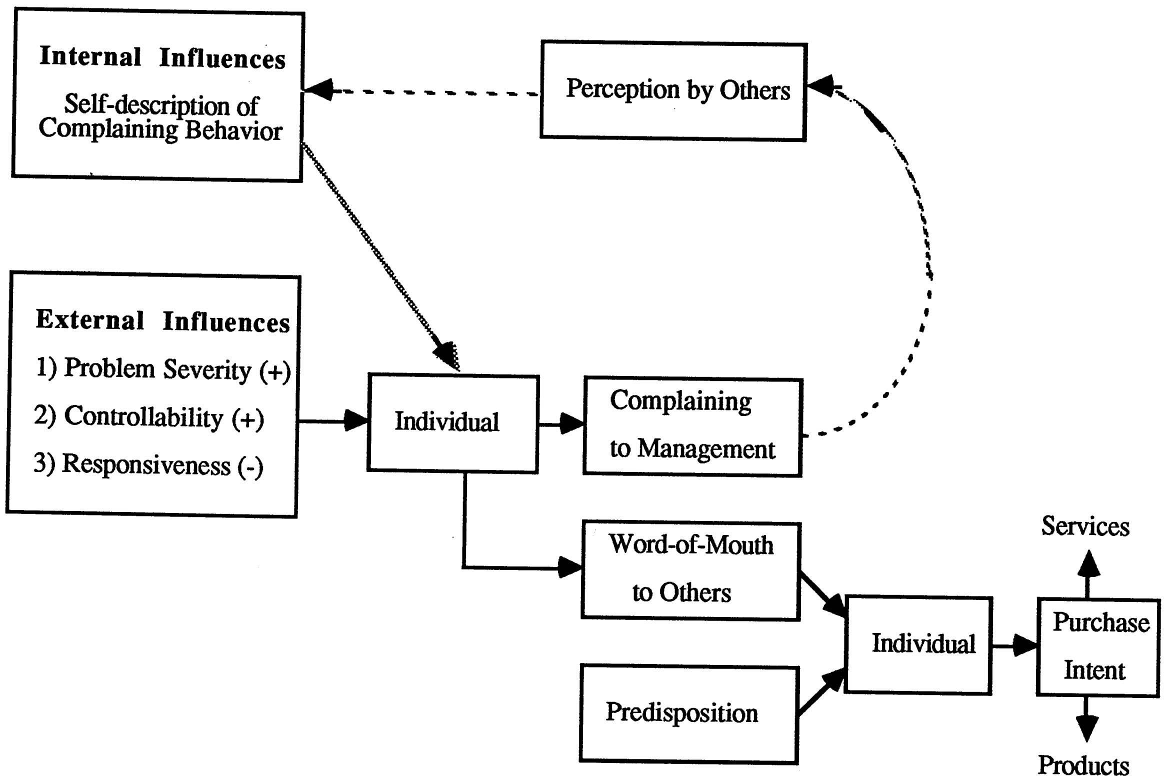
In the second study, questionnaires were distributed which were designed to determine respondents' general orientation to complaining, including how they would describe their own personality in this regard. Three distinct groups emerged:

- those who reject the complainer role,
- those who embrace the complainer role,
- those who emphasize situational determinants.

Limitations for these two studies include artificial conditions in the first and inaccuracies from self-reporting in the second. However, this area of research is quite promising. Furthermore, a number of additional questions could be studied, yielding more beneficial information. Goodwin and Spiggle mention that those who embrace a complaining identity should be studied further. They suggest that such individuals could be rebellious, apathetic, or convinced that complaining is well-justified behavior. Another explanation for this attitude could be that one wishes to avoid being perceived as weak or afraid to speak up. Finally, it would be quite interesting to see similar studies conducted for word-of-mouth behavior to see if the same results would occur.

The third paper, "Some Limits on the Potency of Word-of-Mouth Information", by Wilson and Peterson, is concerned with individuals' receptivity to information based on predisposition toward a product. Previous research had found that WOM information could have heavy influence on product evaluations and

FIGURE 1



purchase intentions. However, the authors felt that prior expectations a potential buyer may have toward a given product may limit the potency of such information.

The design for this study included evaluative judgments of two brands of a product both prior to and after the presentation of WOM information. The product evaluated (digital tape recorders) was specifically chosen because of its relative novelty to ensure that predisposition toward the two brands would be fairly unstable.

It was hypothesized that individuals with a positive evaluation of a product would be very receptive to positive WOM and unreceptive to negative WOM (vice-versa for those individuals with a negative evaluation), whereas neutral predisposition would lead to equal levels of receptivity for either positive or negative WOM.

At the risk of overgeneralizing, suffice it to say that the results were consistent with the predictions. Those who initially preferred Brand A over Brand B were highly influenced by both positive WOM information for Brand A and negative WOM information for Brand B. For those who originally favored Brand B the exact opposite relationship held true. And for those who had indicated no preference, WOM information had no significant impact. Another finding was that, in general, negative WOM had more influence than positive WOM.

The researchers concluded that evaluative predispositions toward products effectively acted as "filters" through which word-of-mouth information flowed. Despite the many gaps which exist in this area of inquiry, this paper provides additional answers to how individuals process WOM information. Another interesting question would be to investigate how these findings may tie in to service offerings, as opposed to being limited to products.

The following diagram (Figure 1) shows how these three papers are related.

Brown and Beltramini deal with external influences such as problem severity, attribution of controllability, and management responsiveness. These influences impact an individual's behavior, determining whether complaining to management will be the most beneficial route to pursue (the other alternative being negative word-of-mouth activities).

In the Goodwin and Spiggle paper, two issues are addressed. First, complaining behavior is perceived negatively by others. Secondly, how you believe you will be perceived by others, coupled with your own self-definition, ultimately impacts upon actual behavior.

Finally, Wilson and Peterson explore how word-of-mouth information, both positive and negative, interacts with an individual's evaluative predisposition toward a product to affect purchase intent.

Although the diagram is an oversimplification of the processes involved, it is intended to clearly show how many variables are involved in this area of research and how they may interact. Furthermore, as this is taken from only three studies, it is obvious that there are many more questions which remain to be answered. Both complaining and word-of-mouth activities are complex, somewhat elusive behaviors to explain. These papers offer additional insights, but there is much more research to be undertaken in the ongoing effort to understand such behavior.

Need for Cognition and Attitude Persistence

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ABSTRACT

The attitudes of individuals exposed to a television advertisement were assessed immediately after viewing and two days later. Based on predictions derived from the Elaboration Likelihood Model, it was predicted the attitudes of individuals scoring high in need for cognition would be more persistent over time than would quantitatively similar attitudes formed by individuals scoring low in need for cognition. Theoretical and applied implications for the study of attitude persistence are discussed.

INTRODUCTION

A review of attitude change studies and theories reveals that although a large emphasis has been placed on the processes that lead to initial attitude formation and change (see Insko, 1967; Kiesler, Collins, & Miller, 1969; McGuire, 1969; 1985, Smith, 1982; Petty & Cacioppo, 1981), few studies or theories have addressed the characteristics of attitudes once formed or changed. A theoretical understanding of why some attitude changes are more likely to last over time and/or be more predictive of behavior would seem to have important implications for any discipline seeking to better understand and predict behavior. The area of consumer behavior provides a good example.

The examination of how advertisements influence the attitudes and behaviors of consumers is a fascinating and inherently complex area of study. The determination of the kinds of factors likely to enhance the durability of positive responses to an initial advertisement would seem to be an important area of research. From a practical perspective, marketers have for some time been interested in determining the effects of advertising--if for no better reason than to simply determine the amount of money a firm should spend on advertising. This interest led to a large number of econometric studies on the duration of advertising effects on sales (e.g., Clarke, 1976). Although the econometric approaches suggest that advertisements do have some effect over time at the aggregate level of analysis, such approaches provide little insight as to the psychological processes at the individual level that may mediate the observed effects. A theoretical understanding of the means by which some attitudes toward products might be maintained over time would seem especially useful. A potential benefit of such research is that one may be able to discern the degree to which various promotion or persuasion strategies lead to the formation of more or less durable attitudes--ultimately leading to increased levels of accuracy in attitude-behavior prediction.

Aside from the econometric studies, few studies have examined the delayed effects of advertisements. Most research on advertising effectivness has focused on attitude and recall measures obtained at one point in time. As a result of this focus, previous research does not appear to have considered the possibility that even though the same advertisement may lead to similar initial levels of effectiveness for two different groups of consumers, the manner in which the attitudes were formed may have been quite different. That is, attitudes that appear identical by common measurement techniques might have very different implications with regard to their ability to last over time. An important goal of the present research is to gain a basic theoretical understanding of how the durability of attitudes formed by exposure to advertisements may be differentially affected by a theoretically relevant dispositional factor. We believe that such an understanding would contribute not only to a greatly enhanced ability of practitioners to create more effective advertisements and promotional campaigns, but would also further our basic understanding of the persuasion process and how advertisements work.

THEORETICAL FRAMEWORK

Petty and Cacioppo's (1981,1986) Elaboration Likelihood Model provides a general framework for organizing, categorizing, and understanding the effectiveness of persuasive communications. According to the ELM, persuasion can be characterized as the result of the relative operation of one of two distinct routes to persuasion. One route to persuasion--the central route--occurs following an individual's careful and thoughtful consideration of arguments presented in support of a position. In order for attitude change to take place via the "central route," individuals need to possess both the motivation and ability to effortfully evaluate message arguments. The other route to persuasion--the peripheral route--occurs when motivation or ability to process a message are low and individuals base their judgements on the presence of a simple cue in the persuasion context (see Petty and Cacioppo, 1986 for a complete review).

Importantly, previous research stemming from the ELM framework has shown that situational factors such as the personal relevance of an issue can influence the extent of message processing and the route to persuasion. For example, a study by Petty, Cacioppo, and Schumann (1983) demonstrated that under low relevance conditions, individual's attitudes were most affected by the celebrity status of the product endorsers. In contrast, the quality of product arguments were a more important determinant of the attitudes of individuals exposed to the advertisements under high relevance conditions (see also Petty, Cacioppo, and Goldman, 1981; Petty and Cacioppo, 1984).

An explicit prediction made by the ELM is that attitude changes via the central route should be more persistent (i.e., last longer over time) than quantitatively similar changes via the peripheral route

(Petty and Cacioppo, 1986). Existing support for the ELM prediction of differential persistence comes from a study in which a situational manipulation of personal relevance on the issue of senior comprehensive exams influenced the route to persuasion. In that study, Petty, Cacioppo, Haugtvedt, and Heesacker (1986) reported that the attitudes formed by individuals under high relevance conditions showed greater temporal persistence than did the attitudes of individuals formed under low relevance conditions.

THE PRESENT STUDY

In addition to situational manipulations, the effects of motivation to process information on the attitude change process can also be examined from an individual difference perspective (Cacioppo and Petty, 1982). Along these lines, a recent *Advances in Consumer Research* paper by Haugtvedt, Petty, Cacioppo, and Steidley (1988) describes how the individual difference variable of need for cognition--a measure of the extent to which individuals enjoy thinking--might be useful in understanding how different aspects of advertisements may influence the formation of attitudes toward a consumer product. In their research, Haugtvedt et. al. found that individuals scoring high in need for cognition were more influenced by the quality of arguments contained in an advertisement than were individuals low in need for cognition. Results of a separate study showed that individuals low in need for cognition were more influenced by the attractiveness of the endorsers than were individuals high in need for cognition. Because of the conceptual relationship of the situational factor of personal relevance and the individual difference factor of need for cognition, the purpose of the present study was to examine the persistence of attitudes formed by individuals low vs. high in need for cognition.

METHOD

Forty six undergraduates at a large midwestern university participated in the experiment for extra credit in an introductory marketing course. Upon entering the laboratory, subjects were told that the purpose of the study was to obtain ratings of some video advertisements. They were further told that because of the large number of ads to be rated, they would have to attend a second session two days later. Subjects participated in groups of up to six in private cubicles that restricted visual contact. Because subjects listened to the television via headphones throughout the session, verbal contact was also restricted. The advertisements were of local broadcast quality and were presented in the context of a thirty-minute television show on the history of the American Indian. In all, twelve advertisements were presented to the subjects. Evaluation of the ads took place during a 4 minute blank following the presentation of each advertising pod.

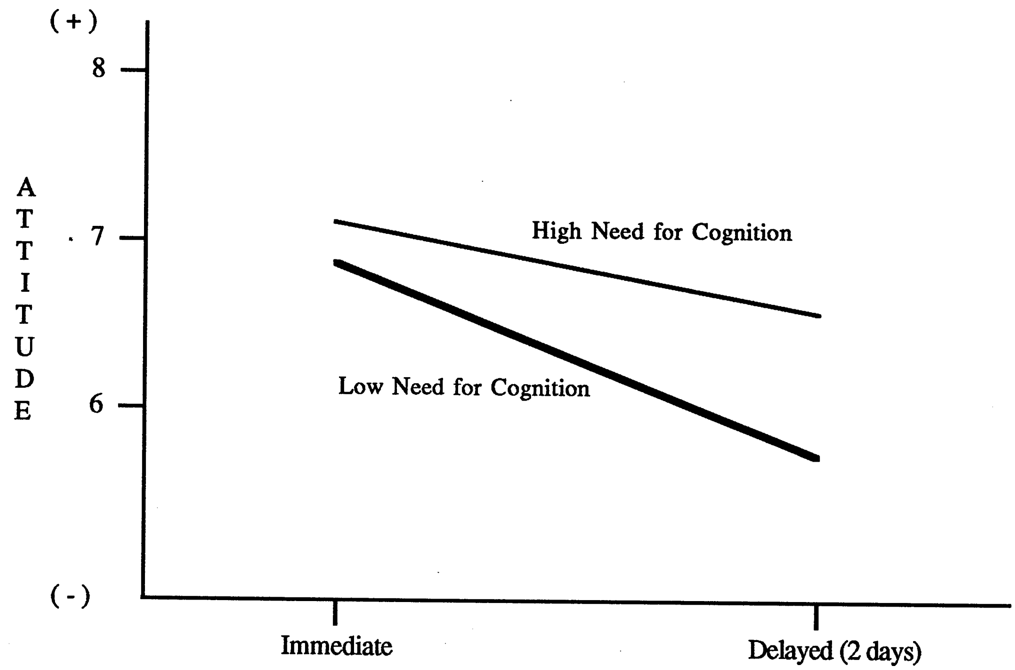
While all of the ads in the study could potentially serve as a test of the general issue of attitude persistence, only the advertisement for an unknown brand of telephone answering machine was developed specifically for this study to insure that it contained sufficiently strong arguments and positive peripheral cues. In this specially tested one minute ad, a telephone answering machine was depicted and a long list of features were displayed on the television screen while an announcer described the features. Various visuals were interspersed during the ad to emphasize the machine's features. Based on previous research (Petty & Cacioppo, 1984; Haugtvedt, Petty, & Cacioppo, 1986; Haugtvedt, et al., 1988) and pretesting, it was expected that the sheer amount of information presented to subjects would serve as a positive persuasion cue for individuals low in need for cognition. On the other hand, it was predicted that the quality of product attributes would be a more important determinant of the attitudes formed by individuals high in need for cognition (see Haugtvedt, et al., 1988; Cacioppo, Petty, & Morris, 1983).

RESULTS

Subjects completed virtually identical rating forms for all of the advertisements viewed. As a common part of rating form, subjects were first asked to express their opinions about the product portrayed in the ad ostensibly because "opinions about the product might influence the rating of the advertisement." The majority of the questionnaire then consisted of questions developed to maintain the cover story of an ad evaluation study. The initial attitude measure consisted of the extent to which subjects agreed with the statements 1) the Messenger is a good answering machine; 2) the Messenger has desirable features; 3) the Messenger answering machine is appealing to me. The statements were rated on three 9 point disagree-agree scales. Two days after initial exposure to the advertisements subjects returned to the laboratory expecting to rate more advertisements. Instead, they were given a questionnaire regarding their opinions of the advertised products presented in the earlier session. Attitude measures in the second session consisted of statements similar to those used in the first session. In addition, subjects were asked to recall as much information as they could about the answering machine in the earlier advertisement. Finally, subjects completed the need for cognition instrument (Cacioppo, Petty, and Kao, 1984), were debriefed and dismissed. Individuals were categorized as high or low in need for cognition via a median split. A 2 (low vs. high need for cognition) X 2 (immediate vs. delayed attitude measurement) mixed design ANOVA revealed the predicted interaction F (1,44 = 6.34, $p<.01$). As can be seen in figure 1 below, although the attitudes of low and high need for cognition individuals were very comparable immediately after the presentation of the advertisement, attitudes of high need for cognition individuals decayed less over a two day period than did the attitudes of low need for cognition individuals.

No significant differences were revealed between low and high need for cognition individuals with regard to recall of product attributes in the second session. Importantly, there was no statistically

FIGURE 1



significant difference between high and low need for cognition individuals in response to the question of "how important or personally relevant was the product or service presented in the ad to you?"

DISCUSSION

In order to study the issue of attitude persistence, the present study utilized the individual difference variable of need for cognition as an operationalization of the motivation to process information construct. As predicted, the results parallel the results of the Petty, Cacioppo, Haugtvedt, and Heesacker (1986) study in which a situational manipulation was used. The results of the present study also provide an important extension of the Haugtvedt, Petty, Cacioppo, & Steidley (1988) studies by examining the newly formed attitudes of low and high need for cognition individuals over time. The present research points out explicitly that even though two individuals may express similar attitudes immediately after exposure to an advertisement, their attitudes may be quite different after the passage of time. Importantly, by understanding how the initial attitudes may have been formed or changed, one is able to make predictions regarding the kinds of individuals or the kinds of initial attitude formation settings that are likely to be associated with greater attitude persistence.

According to the ELM, attitudes of low vs. high need for cognition individuals should also differ in their ability to predict behavior. In the only study to date on the issue of need for cognition and attitude-behavior consistency, Cacioppo, Petty, Kao, & Rodriguez (1986) obtained the attitudes and voting intentions of university students eight weeks prior to the 1984 presidential election. As expected, the attitudes and voting intentions of high need for cognition individuals were significantly more predictive of actual voting behavior than were the attitudes and voting intentions of low need for cognition individuals. It should be noted, however, that the Cacioppo et al. study did not control for the nature of initial attitude change (i.e., no persuasive messages were presented). The study presented here is the first to demonstrate the differential persistence of *newly* formed or changed attitudes of low vs. high need for cognition individuals. However, according to the ELM, similar predictions regarding attitude behavior consistency would also be made for newly formed or changed attitudes via the central vs. peripheral routes. Future research is planned to address this question.

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The Relationship Between Need for Cognition and Other Individual Difference Variables: A Two-Dimensional Framework

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ABSTRACT

A two-dimensional framework which includes arousal seeking (high versus low) and internal/external orientation is developed to hypothesize relationships between need for cognition and other individual difference variables studied in consumer behavior. Results provide marginal support for this framework.

INTRODUCTION

Recently, the need for cognition has captured the interest of many consumer researchers as an individual difference variable which can lend insight into the "how's and why's" of consumer information processing. Several of the reasons for this interest are that the concept offers strong face validity and it has led to important research findings. For example, argument quality has been found to be a more important determinant of persuasion for individuals high rather than low in need for cognition (Cacioppo, Petty, and Morris 1983). Similarly, a cue such as an attractive source had more influence on attitude change for those low (rather than high) in need for cognition (Petty and Cacioppo 1986).

Most studies of need for cognition, however, have investigated this variable as a singular construct in isolation. Our understanding of the role of need for cognition in information processing can be enhanced by examining how this construct fits into a larger nomological network of individual difference variables which are relevant to consumer behavior. For example, constructs such as extroversion and sensation seeking may share an *arousal seeking* dimension with need for cognition. Individual differences such as social character (inner-other directedness) may share an *internal/external* dimension with need for cognition.

This two dimensional framework (based on the arousal seeking and internal/external dimensions) may form an underlying structure of more *basic* personality dimensions upon which our understanding of many individual difference variables can be built. Arousal seeking, in this framework, is an individual difference variable indicating the level of experienced arousal which is most pleasing to the individual (see Berlyne 1971). Some individuals are motivated to seek high levels of arousal, while for others a low level is more desirable. Further, this arousal can come from either internally generated thought processes and affective reactions or from external stimuli. There are likely to be basic individual differences in the probabilities that the focus will be internal or external at any given time.

The central proposition of the present paper is that various combinations of these two postulated dimensions can be used to position many personality traits on the hypothesized two-dimensional space, thus adding parsimony to our understanding of these constructs. The arousal seeking and internal/external dimensions are also likely to be related to consumer information processing and the way consumers respond to marketing communications such as advertising. Thus, the goal of this paper is to examine the interrelationships between these individual difference variables and need for cognition within the postulated two-dimensional framework. This will enhance our understanding of need for cognition and will represent a step forward in establishing discriminant validity for this construct by examining need for cognition in a multitrait framework (Campbell and Fiske 1959).

In addition to the individual difference variables mentioned in the preceding paragraphs, this study includes color preference as an individual difference variable as well. Color preference was included for several reasons. First, color has important consumer behavior implications for advertising, packaging, and store design. Virtually every advertisement, package, and product is presented in color, yet little consumer research has been devoted to this variable. Secondly, previous research has examined the relationships between color preference and the other individual difference variables of interest in this study (with the exception of need for cognition). Finally, the stream of research investigating the need for cognition construct is grounded in Petty and Cacioppo's (1986) Elaboration Likelihood Model. In this model, centrally processed information vs. peripheral cues are important variables in determining communication effectiveness. Color is a subtle, yet important, peripheral cue and physiological research has indicated that color affects us in powerful ways (Wilson 1966).

In summary, the purpose of this study is to examine need for cognition as part of a multitrait nomological network of individual difference variables which are relevant to consumer behavior. The traits included in this investigation are need for cognition, extroversion, social character, sensation seeking, and color preference. Each of these variables has been studied as separate constructs by consumer researchers. Perhaps our understanding of the influence of individual differences has reached a point where a meaningful, parsimonious framework is needed. If such common themes do exist among these constructs, we can use the dimensions to tie together previous findings and advance our understanding of consumer behavior at the individual level.

BACKGROUND AND HYPOTHESIZED RELATIONSHIPS

Based on the proposed framework, hypotheses regarding the interrelationships between the individual difference constructs will be developed. Due to the large amount of prior research on each of these topics all relevant findings cannot be presented. Thus, only those findings which directly impact hypothesis development are reported.

Need for Cognition: Need for cognition is described by Cacioppo and Petty (1986, p. 48) as an individual's "tendency to engage in and enjoy effortful cognitive endeavors." As described previously, the need for cognition construct has been found to enhance our understanding of consumer behavior, especially regarding the processing of advertising information (Cacioppo, Petty, and Morris 1983; Cacippo and Petty 1986).

For the purposes of the present study, and consistent with prior conceptualizations of this construct, high need for cognition can be described as an internal tendency to prefer greater arousal in terms of thought activity generated through the processing of information. Low need for cognition, conversely, involves an aversion to unnecessary thought activity and information processing. The focus of the need for cognition construct is on thought activity which is generated *internally*. High need for cognition is also related to high arousal seeking; the cognitive activity generated through thinking is a form of arousal. The high need for cognition individual enjoys this internally generated arousal.

Extroversion: The extroversion/introversion variable has received little attention from consumer researchers. However, this individual difference variable is likely to be related to responsiveness to advertising messages which emphasize social versus individualistic appeals, etc. For example, the extrovert is probably more responsive than the introvert to advertising which emphasizes social situations or socially motivated behaviors. The work of Eysenck and Eysenck (1967) relates this variable to an arousal seeking dimension. They state that, "introverts are habitually in a state of greater arousal than extroverts, and consequently they show lower sensory thresholds, and greater reactions to sensory stimulation." (Eysenck and Eysenck 1967 p. 384).

Thus, introverts can be described as individuals who tend *not to seek* additional arousal, and are internally focused. Extroverts, conversely, tend to seek arousal, and are externally focused. The "greater arousal" of the introvert which Eysenck and Eysenck hypothesize could be construed as internally generated cognitive activity, as would be found in the high need for cognition individual. This line of reasoning leads to hypothesis 1A, that introversion will be related to a high need for cognition because these two constructs share a communality on an internal/external dimension. On the other hand, when examining the arousal seeking dimension one could generate an hypothesis in the opposite direction. That is, both the extroversion and high need for cognition traits would share a high arousal seeking need and we would predict a strong positive relationship between extroversion and need for cognition (H1B).

A third possibility is that these two tendencies will balance or cancel each other out and, therefore, lead to hypothesis 1C. These competing hypotheses are summarized below:

H1A: There will be a negative relationship between extroversion and the need for cognition.

H1B: There will be a positive relationship between extroversion and need for cognition.

H1C: There will be no relationship between extroversion and need for cognition.

Sensation Seeking: Sensation seeking can be described as a tendency to seek greater arousal, often through *external* sources (see Zuckerman 1979). This construct has been investigated by several consumer researchers, and is sometimes refered to as optimum stimulation level (OSL) in the consumer literature. Raju (1980, p. 274) summarizes this stream of research as follows:

> These findings suggest that OSL is positively correlated with various exploratory tendencies in the consumer context, such as adopting new products, switching brands, and seeking information out of curiosity. Optimum stimulation level is also likely to correlate positively with risk-taking behavior in consumers.

How is this construct likely to be related to need for cognition, if at all? While the image of "thinker" may at first seem different from that of a high sensation-seeking individual (an "adventure-seeker"), these two constructs do share a communality on the arousal seeking dimension. They differ, of course, on their internal-external focus.

Hypothesis development regarding the relationship between need for cognition and sensation seeking could thus encounter alternative lines of reasoning based on which of these two dimensions is believed to be most important. Most of the previous work in this area has emphasized the arousal seeking dimension to a greater degree than the internal/external focus dimension. Thus, the following hypothesis is offered:

H2: There will be a significant positive relationship between degree of sensation seeking and degree of need for cognition.

The relationship between sensation seeking and extroversion has been examined in prior research (Farley and Farley 1967). These researchers found a significant positive correlation between extroversion and sensation seeking. As with extroversion, sensation seeking is clearly an externally focused, arousal seeking construct. Because of the closely shared characteristics of these variables, a relatively strong relationship between them is expected.

H3: There will be a significant positive correlation between degree of sensation seeking and degree of extroversion.

Social Character: Social character refers to the tendency to be either inner- or other-directed in seeking standards for appropriate behavior (Kassarjian 1962). This construct has been found to be related to preferences for various types of advertising appeals, with inner-directed and other-directed individuals expressing preference for appeals consistent with their orientation (Kassarjian 1965). In addition, Donnelly and Ivancevich (1974) found that early purchasers of a highly visible durable good were significantly more inner-directed than later purchasers.

The inner-other aspect of the social character construct is similar to the internal/external dimension of need for cognition described previously. The communality in this case relates to the *inner* focus of high need for cognition. An inner-directed, individualistic consumer is a "thinker" in much the same sense as a consumer high in need for cognition. Social character, as conceptualized in the literature, does not address the low/high arousal seeking dimension. Thus, it is hypothesized:

H4: There will be a positive relationship between degree of inner-directedness and degree of need for cognition.

Social character may also be related to extroversion. Certainly the external focus of the extrovert shares a common dimension with the other- directed aspect of social character. Thus, it is hypothesized that:

H5: There will be a significant relationship between degree of other-directedness and extroversion, with extroverts tending to be more other-directed and introverts tending to be more inner-directed.

Hypothesis development regarding the relationship between social character and sensation seeking follows a similar line of reasoning as that just described. The two constructs share a communality on an internal/external dimension, but do not appear to be related in terms of arousal seeking.

H6: There will be a positive relationship between degree of other-directedness and degree of sensation seeking.

Color Preference: If one examines the color spectrum as produced by a rainbow or a prism, the colors are arranged according to wavelength. The ordering of colors (from long to short wavelength) is: red, yellow, green, blue, violet. Red and yellow are considered *warm* colors, while green, blue, an violet are *cool* colors. Several investigators have found that warm and cool colors have different psychological properties (Bjerstedt 1960; Schaie and Heiss 1964; Sharpe 1974). For example, Bellizzi, Crowley and Hasty (1983) found that consumer perceptions of a retail store environment were significantly affected by the background color of the store. In addition, results of several studies have shown that warm and cool colors have different physiological properties, with warm colors being more *arousing* and cool colors having a generally *calming* physiological effect (Gerard 1957; Wilson 1966; Nakshian 1964; Clynes and Kohn 1968).

How might these physiological reactions to color translate into *color preference*? Addressing this phenomenon on a more general level, Mehrabian and Russell (1974) state that, "Higher arousal seekers seek more arousing stimulation, and, understandably, more arousing situations are more pleasing to them, whereas the reverse is true for low-arousal seekers" (pp. 181-182).

Applying this arousal-seeking approach to color preference, high- arousal seekers would be expected to prefer the more arousing warm colors, such as red and yellow. Conversely, low arousal seekers could be expected to prefer the more calming cool colors, such as green and blue. There is also some evidence which suggests that externally-focused consumers will tend to prefer warm colors. Robinson (1975) tested the relationship using the Eysenck Personality Inventory (1966), and found a significant correlation between color preference and Extroversion E scores. Color preferences were in the expected direction as described above. Thus, in the present study an attempt will be made to replicate the following hypothesis:

H7: There will be a significant positive correlation between degree of preference for warm colors and degree of extroversion.

Further, based upon the arousal properties of warm and cool colors, and the arousal-seeking aspect of need for cognition, one could hypothesize that high need for cognition would be associated with a preference for the more arousing warm colors. This line of reasoning implicitly assumes that the arousal seeking dimension is more important than the internal/external dimension. The work of Robinson (1975) and Eysenck and Eysenck (1967), however, could lead to the alternative hypothesis that those high in need for cognition will prefer cool colors. High need for cognition indiviudals have an *inner* focus, in the sense that their cognitive activity is often generated internally. Perhaps, like introverts (Robinson 1975), they will prefer cool colors. This type of finding could indicate that the internal/external dimension is especially important in understanding need for cognition. Analogously, those with a high need for cognition may have a sufficient level of internally generated arousal (Eysenck and Eysenck 1967) without the "added" arousal produced by warm colored stimuli, and thus may express a preference for cool colors.

An alternative possibility is that these tendencies will balance each other out, resulting in no relationship between color preference and need for cognition. Because of the two alternative relationships just described, the following competing hypotheses are posited:

H8A: There will be a positive relationship between preference for warmer colors and need for cognition.

H8B: There will be a positive relationship between preference for cooler colors and need for cognition.

H8C: There will be no relationship between color preference and need for cognition.

Nelson, Pelech, and Foster (1984), using Zuckerman's Sensation Seeking Scale (1979), found that high sensation seekers preferred red while lower sensation seekers preferred blue. Based upon the dimensions developed for the present study, high sensation seeking and a preference for warm colors (such as red) share the "high arousal seeking" dimension. Because of the arousal seeking communality shared by these two constructs, it is hypothesized that the results of the present study will replicate those of Nelson, Pelech, and Foster (1984), as follows:

H9: There will be a positive relationship between degree of preference for warm colors and degree of sensation seeking.

Finally, it is hypothesized that:

H10: There will be a positive relationship between degree of preference for warm colors and degree of other-directedness.

This hypothesis is based upon communalities shared by these two constructs on the internal/external dimension, as evidenced in the findings of Robinson (1975).

SUMMARY

In summary, it is hypothesized that the individual difference variables described in this section are interrelated on the dimensions of low/high arousal seeking and internal/external focus. Figure 1 illustrates the two dimensional framework and the placement of the individual difference variables included in the study within this two-dimensional framework.

Although the dimensions (axes) are presented orthogonally in Figure 1, the authors do not wish to imply that these dimensions are strictly orthogonal. They are, however, assumed to be fairly independent.

METHODS

Subjects: Ninety-six junior and senior students from an upper-level business class completed the individual difference measures. These subjects received extra credit for participating in the study.

FIGURE 1

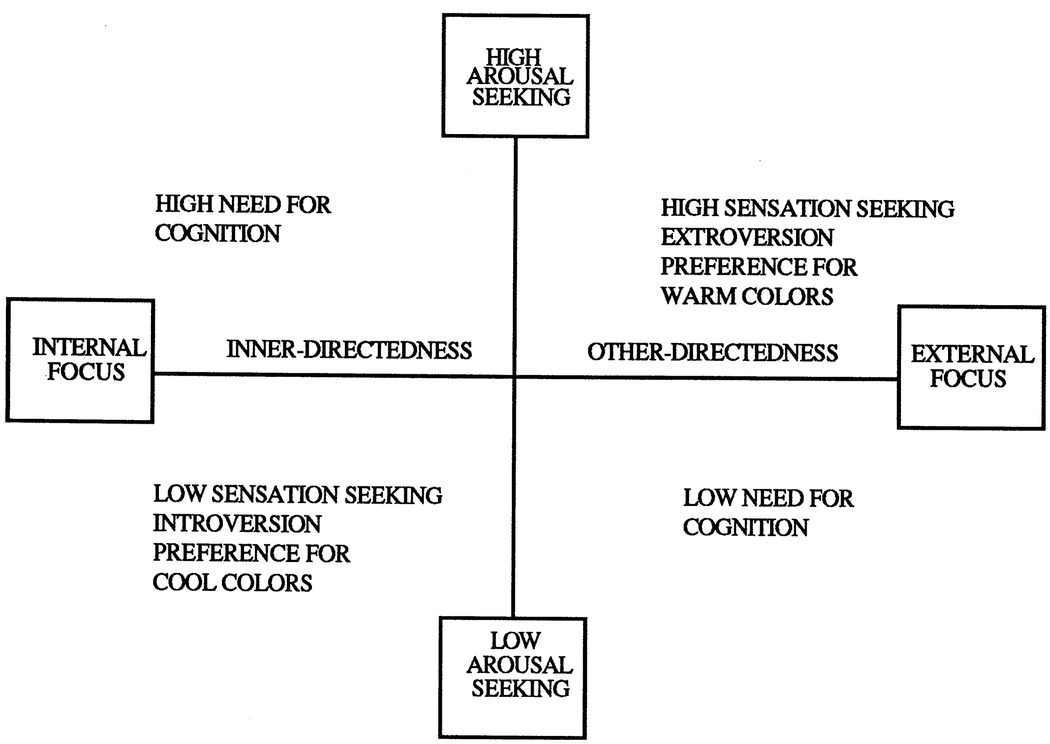

TABLE 1

VARIABLE	INSTRUMENT
Sensation Seeking	Sensation Seeking Scale (Zuckerman 1979)
Introversion/Extroversion	Eysenck Personality Inventory (Eysenck 1966)
Inner-Other Directedness	I-O Social Preference Scale (Kassarjian 1962)
Need for Cognition	18-Item Need for Cognition Scale (Cacioppo, Petty, & Kao 1984)

FIGURE 2

CORRELATIONS AMONG INDIVIDUAL DIFFERENCE VARIABLES

	Extroversion	Sensation Seeking	Social Character (Inner-Directedness)	Color Preference (Cool Colors)
Need for Cognition	.03 (p = .37)	.19 (p = .03)	.19 (p = .03)	.20 (p = .02)
Extroversion	---	.45 (p = .001)	-.05 (p = .31)	-.08 (p = .22)
Sensation Seeking	---	---	-.18 (p = .04)	-.04 (p = .35)
Social Character (Inner-directedness)	---	---	---	.18 (p = .04)

Procedure: Subjects who expressed interest in the study were given a packet of questionnaires to complete at their leisure. The packet contained all measures except color preference. Subjects returned the completed questionnaires approximately one week later, upon arriving at an experimental session during which color preference was measured. Subjects were debriefed during a later class period.

Measures: This study employed the following measures (Table 1), all of which have been previously validated by other researchers. The reader is referred to the original sources of the measures for further information regarding validation procedures.

Color preference was measured by a series of paired comparison questions. Subjects were presented with all possible pairs (six total) of fully saturated red, yellow, green, and blue slides, and asked to indicate which color in each pair they preferred. Order of slide presentation was randomized across eight subject groups to avoid order-bias effects. Based upon these responses, color preference for each subject was induced. An interval scale was developed for coding color preference, based on the wavelength of each experimental color.

RESULTS AND DISCUSSION

The findings of the study are summarized in Figure 2. This matrix shows the correlations found between each pair of individual difference variables, and the probability of significance associated with each correlation. There were competing hypotheses regarding the relationship between need for cognition and extroversion. Hypothesis 1C was supported, indicating no relationship between these constructs (r=.03). Among the competing hypotheses addressing the relationship between need for cognition and color preference, H8B was supported. Individuals higher in need for cognition tended for prefer cooler colors (r=.20). All of the correlations associated with the eight remaining directional hypotheses are in the predicted direction. Of these eight, five are significant at the .05 level. The strongest correlation was found between sensation seeking and extroversion (r=.45). Also, need for cognition was signicantly related to sensation seeking (r=.19) and social character (r=.19). Finally, social character (inner-directedness) was negatively related to sensation seeking (r= -.18) and positively related to preference for cool colors (r= .18).

It is important to note, however, the correlations as a whole are quite low and there are several possible explanations for these findings. First, the possibility exists that each of the variables measured in the present study are independent and distinct constructs. That is, each of these constructs may tap a different aspect of an individual's psyche. An implication which might follow from this notion is that all of these variables together could provide a more complete explanation of consumer behavior than any one in isolation. Each construct may represent "one piece of the larger pie". This may further explain the low correlations when personality variables have been studied in isolation in consumer behavior studies. Perhaps a more comprehensive assessment of personality is needed before this factor will explain a significant portion of the variance in consumer behavior phenomena.

A second possibility, was that the student sample, with a relatively young average age, may consist of individuals whose personality traits have not yet fully developed or become as stable as they will be later in life. We might expect to find somewhat higher correlations using a sample of middle-aged subjects, for example.

Nevertheless, the correlations were consistent in directionality with all specific predictions made by utilizing the proposed two-dimensional framework. This may suggest that frameworks such as this may prove useful in tying together seemingly unrelated constructs.

The possibility also exists that constructs examined in the present study can be related in terms of other dimensions which have not yet been studied. Perhaps the addition of a third dimension or the examining of two extremely different dimensions may uncover patterns that the present framework was unable to. The present study also has important implications for the study of need for cognition.

First, based upon the results of this study, it appears that need for cognition is generally not related to introversion/extroversion. This implies that advertisements which are designed to appeal to the high need for cognition consumer can be developed with or without social cues incorporated into the message. A high need for cognition consumer appears to be just as likely to be introverted as to be extroverted.

Second, the findings regarding social character shed further light on decisions regarding advertising message appeal based on the consumer's degree of need for cognition. Those high in need for cognition were found to have a slight tendency to be more inner-directed. Based upon Kassarjian's (1965) findings regarding differential preferences for advertising themes among inner- vs. other-directed consumers, inner-directed (individualistic) appeals may be slightly more effective in persuading the high need for cognition consumer, as these appeals were preferred by inner-directed consumers. However, due to the size of the correlation found in the present study, future research is needed before a sound conclusion can be drawn.

Third, a slightly positive correlation between need for cognition and sensation seeking was found. Given previous findings (Raju 1980) that sensation seeking is positively correlated with consumer exploration tendencies such as new product adoption, information seeking, and brand switching, further research might explore the relationship between these types of behaviors and need for cognition.

Finally, individuals high in need for cognition were found to have a slight tendency to prefer cool colors, compared to those low in need for cognition. This would suggest that advertisements which are designed to appeal to high need for cognition consumers utilize cooler colors such as blue and green. Again, future research is needed to explore this possibility.

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A Temporal and Lifestyle Typology To Model Consumers' Smoking Behavior

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ABSTRACT

This paper delineates and empirically examines consumers' cigarette smoking behavior. Fundamental elements from psychographics are integrated with demographic variables and time preference concepts to form the basis for a smoking typology. The data provide evidence to the effect that smoking behavior should be viewed as a decision-making process involving economic-like choices along certain psychographic determinants.

INTRODUCTION

According to the U.S. Surgeon General, cigarette smoking is "the chief, single avoidable cause of death in our society, and the most important public health issue of our time" (in Feinleib 1979). Smoking accounts for 25 percent of all cancer deaths in the U.S. It is estimated that 85 percent of lung cancer cases in countries like France and Israel are due to cigarette smoking.

Smoking is a complex phenomenon which stems from a variety of behavioral, personality and social factors (Lichtenstein 1982). Some of the studies that have been undertaken to reveal the causes of smoking and smoking intensity examine demographic characteristics (e.g. McAlister et al. 1984), personality traits (e.g. Loken 1982), and various economic factors (e.g. Gafni and Torrance 1984). These studies have yielded sometimes contradictory findings concerning both the decision to smoke and the determinants of smoking intensity (Barer et al. 1984).

Most health experts agree that lifestyle factors are major determinants of health behavior. They also agree on the importance of education and promotion campaigns in modifying lifestyle in health-enhancing directions. Despite increasing epidemiological support for the interrelationship between lifestyle and health, and despite the seriousness of the smoking problem and the many anti-smoking campaigns, consumer researchers have generally made scant contribution to this social marketing issue (Fox and Kotler 1981). Except for a few descriptive papers, recent literature reviews (e.g., Fuchs 1986) reveal that the consumer behavior literature has had little to offer in the way of guidance to public policy and marketing decisions involving the myraid aspects of preventive campaigns.

The present study was designed to extend consumer research on the cigarette smoking problem in two ways: first, by empirically examining the influence of psychographic, economic (time preference) and demographic characteristics on smoking behavior; and second, by offering a practical typology as an aid to the understanding of smoking behavior. The advantage of such a typology is in the identification of different types of smokers, including those that can and cannot be influenced by anti-smoking campaigns.

FACTORS ASSOCIATED WITH SMOKING

From an economic perspective many human health behaviors have one common characteristic - they involve trade-offs between current costs and future benefits. The cost may be the loss of immediate pleasure from a cigarette. The expected benefits typically take the form of a reduction in the probability of morbidity and mortality from one or more diseases (lung cancer, chronic bronchitis, emphysema, or heart disease) sometime in the future.

On the other hand, smoking is also the response of some people to stress and to peer pressure (Corty 1983; Loken 1982). Once these dangerous responses are transformed from short-term coping reactions into lifestyle or psychographic patterns they become formidable risk factors.

The concepts of "time preference" and "psychographics" are well-known and distinct concepts in the study of consumers' preferences for products. Each of these concepts has also been applied separately in the general health-care field. In this section we review and apply these concepts to smoking behavior.

Time Preference

The concept of time preference relates to the timing of an outcome. The *rate* of time preference is the marginal rate of substitution between consumption in any two periods. Consider a specific amount of $\bar{h}$ of the outcome which can be received now or received later. There are three possibilities (see figure 1).

The acceptance of a current cost for a future benefit constitutes an investment. If individuals differ in their willingness or ability to undertake investment it means that they have different time preferences (Stigler and Becker 1977). Positive time preference exists if a gain is preferred earlier rather than later. This is consistent with the concept in economic theory which suggests that individuals may value future gains less than present gains, implying that future gains should be discounted (Olson & Bailey 1981). Similarly, a future health gain has to be discounted to determine its equivalent present value.

Fuchs (1982) showed that variations in individual time preferences help to explain variations in health behavior among individuals. Such differences might, therefore, help to explain also variations in smoking behavior.

Assume a two-period world and let r denote the discount rate. Suppose utility in each period depends upon consumption of products (P). Utility in the first period is also a function of some activity S_1 (cigarette

FIGURE 1

$$\bar{h} \text{ received now } \begin{pmatrix} \gtrsim \\ \sim \\ < \end{pmatrix} \bar{h} \text{ received later} \leftrightarrow \begin{bmatrix} \text{positive rate of time preference} \\ \text{no time preference} \\ \text{negative rate of time prererence} \end{bmatrix}$$

smoking) which affects health (H) and therefore utility in period two.

$$U_1 = U_1(P_1, S_1)$$

$$U_2 = U_2(P_2, H_2) \quad \text{where } H_2 = H(S_1)$$

A wealth-compensated increase in r will alter the allocation of wealth between P_1 and P_2. But if the marginal utility of S_2 depends on the quantity of P_1 (and the marginal utility of H_2 depends on the quantity of P_2), the changes in r will also affect S_1 (and H_2). If P_1 and S_1 (and P_2 and H_2) are substitutes, an increase in r will lead to an increase in S_1 and a decrease in H_2. On the other hand, a decrease in r will lead to a decrease in S_1 and an increase in H_2. Thus, the more the individual is willing to forego present gratification (that is, the lower is his subjective discount rate), the more health (life expectancy) he will accumulate and the higher will be his late absolute health.

It is postulated here that an individual chooses an amount of smoking/non-smoking behavior which will maximize the present value of his lifetime health and this will depend on his subjective rate of time preference.

Measurement of Time Preference

In recent years there have been several attempts to measure time preference through household survey techniques. The objectives of the investigators have varied greatly, but the general approach has been similar: the respondent is confronted with a hypothetical situation involving different sums of money at different points in time and is asked to express a preference which will implicitly reveal a rate of time discount. Fuchs (1982), for example, used a series of questions asking the respondent to choose between a sum of money now and a larger sum at a specific point in the future, e.g., "Would you choose $1,500 now or $4,000 in five years?" The amount and the time period varied, as did the interest rate implicit in each question. This dichotomous choice type of question was used because it was shown by Fuchs to be simpler for the respondents than the open-ended or cascade-type questions used in other studies.

In another investigation, Maital and Maital (1978) reviewed some of the economic and psychological literature on time preference and reported the results of a survey of 515 Israeli adults. They studied the role of time preference in the intergenerational transmission of income inequality. They asked one cascade question involving a choice between a sum of money now and higher sums one year from now. A similar question in which gift certificates for a week's shopping at a supermarket were substituted for money was asked in an attempt to measure the real as opposed to the nominal implicit rate of interest. The results of their investigation led them to conclude that both the rate of time discount and the immediate value of behavior are inverse measures of a person's tendency to delay gratification.

Consumer Psychographics

Psychographic data analysis has become a full-fledged activity in consumer behavior research (see Wells and Mehrotra 1977 for a review). The basic premise of research on health psychographics is that the more we know about people's lifestyle, the more effectively we can communicate with them and educate them for a healthier way of life.

Psychographics as a construct permits one to think about the consumer as a total person and how consumption patterns, health matters and various activities fit into his or her daily living pattern (Hornik and Schlinger 1982). In its broadest context, the concept of consumer psychographics has been defined by Wells (1975) as a quantitative research tool intended to place consumers on psychological - as distinct from demographic - dimensions (p.197). This all-encompassing definition accurately reflects the current practice of psychographic research, which has included diverse categories of variables, such as Activities, Interests, and Opinions (often denoted as an AIO battery), personality traits, lifestyle measures, and attitude measures.

In order to assess the contribution of consumer psychographics to the understanding of the consumption of cigarettes, two major guidelines were considered:

1. The psychographic elements should be based on current relevant theories and findings of consumer behavior. Of particular interest is the theoretical descriptive work on healthy/unhealthy lifestyles (Barer et al., 1984; Regional Office for Health Education, 1986).

2. Regardless of the breadth of the psychographic definition, a comprehensive explanation of smoking/non-smoking behavior requires examination of the relationship between psychographic and other possible

determinants of behavior, such as temporal orientation and demographic characteristics. Operationally, one should, therefore, examine the incremental explanatory power of psychographics rather than viewing psychographics as a sufficient determinant of smoking behavior.

METHOD

As suggested earlier, the primary objective of this study was to offer a conceptual framework relating time preference, psychographic and demographic profiles to smoking behavior. Based on the theoretical discussion it is suggested that smoking behavior is a function of the value individuals ascribe to the present and the future, their activities, interests and opinions, and their demographic characteristics. This model is rooted in neoclassical economic theory but also derives from more recent marketing concepts of consumer psychographics.

Data Base

Data were drawn from a health survey conductd during May-June 1986 in Israel. Personal interviews were conducted with 612 individuals residing in all parts of the country. Respondents were selected randomly from voting registries. The sample was restricted to adults aged 20 or more, and interviewers were instructed to obtain an approximately equal distribution of male and female respondents.

Instrument

The research instrument used was a pretested 78-item questionnaire divided into three major sections. The first section of the questionnaire included a battery of psychograpic variables; the second - time preference measures; and the third section consisted of demographic items. The questionnaire required about forty minutes to complete. As an incentive respondents were offered either a small gift or the opportunity to enter a sweepstake.

Dependent Variables

The subjects were classified by smoking status and consumption intensity (Corty 1983; Loken 1982); cigar or pipe smokers were excluded. Included in the category of "smokers" were consumers who indicated that they had smoked cigarettes during the previous year. "Non-smokers" were those who reported no history of smoking. "Ex-smokers" were those who had smoked cigarettes previously but had not smoked during the year preceding the survey. Information about smoking intensity was also obtained from current smokers, including the number of cigarettes smoked per day and the number of years the respondent had smoked regularly.

Independent Variables

Three sets of explanatory variables to smoking behavior were used:

1. Time Preference: Fuchs' (1982) time preference measurement procedure, as recently further modified by Thomas and Ward (1984), was used. Subjects were offered eight hypothetical choices between a sum of money available now (X_0) and another sum available at time t in the future (X_t). In each choice, the subject was given two of the quantities, X_0, X_t and t, and was asked to set the third quantity such that he or she would be indifferent to the two options. For example, "4000 I.S. now, or 10,000 I.S. in 5 years; _________". The responses to the eight questions were averaged for each subject and an index of the rate of time preference was obtained. In addition to the implicit interest-rate series of questions, a cascade-type question with an explicit interest rate (beginning at 8% and rising to 50%) was used: "Suppose you won a money prize of 20,000 I.S. from "Lotto" and were offered the choice of taking the money or leaving it with them for a year. How much interest would they have to pay you in order for you to agree to leave the money with "Lotto" (Cascade - stop reading when choice mentioned)."

2. Psychograpic Profiles: In the present study, psychographics is defined by a broad battery of items relating, for example, to cognitive style - way consumer thinks; coping style - way person meets stress; relating style - way person handles interpersonal relationships; temporal style - consumer's time orientation; health style - way person avoids poor health. Respondents were asked to indicate agreement with 63 psychographic statements each relating to one of 14 pretested lifestyle scales. Agreement with individual statements was expressed at one of six levels, ranging from "definitely disagree" to "definitely agree". The pretest of the lifestyle scales involved interviewing 120 households in a suburb of Tel Aviv. Forty five scales (factors) with 255 statements were explored. These factors account for 64.8 percent of the total variance. Out of the 45 factors 14 (of 63 statements) were retained, according to criteria of meaningfulness, relevance to health or smoking and (with one exception) representation by three or more items with loading of 0.40 or greater. These retained orthogonal factors, which account for 44.7 percent of the variance, are shown in Table 1.

Table 1 contains the names of the psychographic factors, the number of statements per factor and the associated Spearman-Brown corrected split-half coefficients; a sample statement (and its factor loading) is also provided for each scale. As expressed by the split-half coefficients and stable factor structure, the scales demonstrate moderately acceptable reliability and construct validity.

3. Demographic Variables: The demographic variables were selected on the basis of previous work by Feinleib (1979) and McAlister et al.

TABLE 1

PSYCHOGRAPHIC PROFILES

Factor	Sample Statement	Split-half	No. of Statements	Factor Loading
Diet Conscious	I try not to eat foods that are high on cholesterol	.76	6	.61
Health Anxiety	I worry a lot about my health.	.87	7	.78
Future Oriented	The successes of tomorrow are the fruits of yesterday's efforts.	.69	5	.67
Active Sports	When it comes to sports, I'm a participant, not a spectator.	.75	7	.59
Indulger	When I see something I like, I want to buy it right away.	.87	4	.78
Environmentalist	I am tired of hearing all the complaints about pollution in our cities.	.70	5	.52
Present Oriented	Let us live today, nobody knows what the future will bring.	.73	3	.62
Self-confidence	I think I have more self-confidence than most people.	.69	4	.65
Personal Hygiene	I do not feel clean without a daily bath or shower.	.89	2	.84
Heavy Drinker	I drink more than I should.	.86	6	.81
The Drudge	I never felt better in my life than I do now.	.67	3	.53
Quiet Family Person	I am very content to spend all my free time with my family.	.71	4	.75
Depressed	I often feel depressed.	.83	4	.86
Risk Aversive	I never bet money.	.77	3	.65

(1984) which suggested they might be relevant to smoking behavior. The following six demographic and socioeconomic variableswere used: sex of respondent, employment status, age, occupation, education, and monthly family income.

RESULTS

Multiple regression analyses were conducted to assess the relationship of the three sets of explanatory variables to smoking behavior and smoking intensity, and cross-validated using a holdout sample. The cross-validated results suggested highly stable regression equations, and, therefore, for presentation purposes, the results are for the total sample. Three sets of regression analyses were run:

1. Demographic characteristics alone.

2. Demographic plus psychographic characteristics.

3. The same run as in the second stage, plus the time-preference measures.

TABLE 2

THE CONTRIBUTION OF DEMOGRAPHIC, PSYCHOGRAPHIC, AND TIME PREFERENCE VARIABLES IN EXPLAINING SMOKING BEHAVIOR

	Regression Equation		
Explanatory Variables	Demographics only	Demographics and Psychograpics	Demographics, Psychographics and Time Preference
DEMOGRAPHICS			
Age	-.10	-.08	-.07
Sex	.17*	.14	.12
Education	-.06	-.07	-.04
Occupation	-.17*	-.17*	-.12
Income	.11	.04	.04
Employment	-.21*	-.19*	-.13
PSYCHOGRAPHICS			
Diet Conscious		-.11	-.10
Health Anxiety		-.19*	-.17*
Future Oriented		-.14	-.11
Active Sports		-.22*	-.20*
Indulger		.18*	.13
Environmentalist		-.08	-.07
Present Oriented		.23*	.16
Self-confidence		-.06	-.06
Personal Hygiene		-.08	.06
Heavy Drinker		.20*	.18*
The Drudge		.07	.06
Quiet Family Person		-.09	-.09
Depressed		.17*	.15
Risk Aversive		.14	.08
TIME PREFERENCE			
Implicit rate			-.18*
Explicit rate			-.07
Adjusted R^2	.19	.33	.41
IMPROVEMENT IN R^2		+.14	+.07

*Significant Variables at the 0.05 level.

The results of these multiple regression analyses (Table 2) suggest that the inclusion of the individual psychographic characteristics improves considerably the predictive efficiency of smoking behavior. The R^2 increases from 0.19 for demographic characteristics alone to 0.33 for demographic characteristics plus psychographic data. This finding is consistent with previous research relating psychographics to various consumer behavior issues (e.g., Ahmed and Jackson 1979).

Statistically, lifestyle should account for more variance than demographics in smoking behavior because substantially more lifestyle variables are included in the regressions. However, there is no way to estimate how much more variance lifestyle should explain, because as variables are added to a regression equation the explained variance is apt to increase at a decreasing rate. Thus one cannot assume that the ratio of R^2s for psychographics versus demographics should be in direct proportion to the number of measures of each.

While demographics and lifestyle contribute to the understanding of consumer behavior, the nature of the two constructs is very different. First, demographic and lifestyle data may correlate, but also supplement, one another (Lee and Ferber 1977). Second, there are many more potential, independent psychographic dimensions than demographic ones. This is an inherent difference that reflects the richness of the psychographic construct (Kassarjian 1971) and is its *raison d'etre*.

The increase in explained variance obtained by adding the time preference measures to the demographic and psychographic data is fairly moderate and not as large as in other studies investigating the explanatory power of time preference in health behavior (e.g., Fuchs 1982). This indicates that the explanatory powers of the psychographic and time preference variables are not independent. Nevertheless, it is the incremental gain in explanatory power that is of interest. The time preference variables improves R^2 to 0.41.

Examination of Specific Variables

Demographic Variables: The strongest variable to enter the demographic - only equation, as indicated by the standardized regression coefficients, is employment, followed by the sex of the respondent and occupation status. The highest percentage of smokers was found among the unemployed and those in administrative or managerial occupations. It was found that males smoke more than females and that income is positively correlated with cigarette smoking, but not at a significant rate. This supports previous studies which found that smoking is more a function of stress than wealth (Lichtenstein 1982).

Psychographic Variables: Adding the psychographic variables to the demographic variables improves the explained variance by more than 73 percent. Table 2 shows significant partial correlations between several psychographic factors and the smoking measures. The two factors that have the most significant relationship with smoking are "present oriented" and "active sports" (actually, non-active sports). The higher the value of present time (and the lower the value of future time), the more positive and intensive the smoking behavior. This, in addition to the significant link between the "indulger" factor to smoking, reflects the immediate gratifiers' way of life, which places emphasis on instant satisfaction and hedonistic activities.

It was found that people who do not engage in active sports and are heavy drinkers are more inclined to be smokers. It seems that individuals who generally do not maintain a healthy way of life also tend to smoke. Also, individuals who worry about their health are more able to control their smoking. Finally, as expected, a significant relationship was found between the consumption of cigarettes and feelings of depression.

Time Preference: Although the time preference measures do not have the expected predictive power for smoking behavior, the results do confirm the expectation that cigarette smoking does increase with higher implicit interest rates. These results generally support the proposition that heavy smokers have a higher preference for immediate satisfaction whereas ex-smokers and non-smokers have a higher preference for delayed satisfaction.

DISCUSSION AND CONCLUSIONS

In view of the widely recognized health risks accompanying cigarette smoking, prime importance is attached to understanding the factors influencing smoking behavior. Our data suggest that smoking behavior is related to time preference and to time orientation. Other things being equal, subjects with a high discount rate are likely to prefer the immediate satisfaction of smoking more than subjects with a low discount rate. Also, individuals with a present-time orientation are more likely to smoke than individuals more preoccupied with the future. In order words, high discount rates of time and high present orientation are associated with a tendency to smoke.

There seems to be a strong link between individual lifestyle and smoking. Cigarettes are consumed to meet different personal needs and gratifications. This is particularly evident in the case of the non-active, unemployed and depressed. On the other hand, individuals who are more health conscious and physically active refrain from smoking.

In general, the psychographic dimensions provided a more meaningful and valid measurement of smoking behavior than the other two sets of variables. At the same time, the temporal concept helps to understand that individuals also elaborate on economic-like choices in smoking, according to their time preference. The relatively small contribution of time preference leads, however, to the hypothesis that smoking not only contains an element of economic rational choices but is also a part of the individual's way of life. Time preference should, therefore, be viewed as complementary to psychographics in predicting smoking behavior.

Even if not immediately evident, it appears that a logical step from the current literature is to more deliberately incorporate time-preference measures into lifestyle research. The term "lifestyle" in consumer behavior is normally used to characterize a set of consumer decisions relating to the acquisition of goods and services. In reality, the decisions in question are also based on time preferences among the various activities, something that might more accurately be described as "timestyle", a term already suggested by Feldman and Hornik (1981). Since the concept of time preference has not been particularly evident in consumer behavior research, this extension seems especially timely.

Implications

"Most of the bad things that happen to people are at present beyond the reach of medicine " (Wildavsky 1977). Both marketing and public policy makers could benefit from an understanding of the significant temporal and lifestyle factors which encourage smoking. Thus efforts directed toward disease prevention and health promotion can extend beyond the traditional medical-care system to include institutional measures to promote and modify individual lifestyles.

If consumers can, *ex ante*, be segmented into smoking status groups based on their lifestyle and causal epidemiological evidence, then evidence linking various lifestyles to health-care costs could be used to construct differential health insurance premiums. Alternatively, prevention programs could incorporate strategies to increase belief in the lifestyle-smoking-illness link and the efficacy of a change in lifestyle involving reduction of cigarette consumption.

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Individual Differences in Consumer Attitudes and Behavior

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The three papers in this session each deal with the role of individual difference variables in consumer responses. These papers, to be discussed below, take diverse approaches to investigating individual differences and have a variety of implications for future research in this area.

A discussion of these papers could focus on any number of issues. Because my primary research interests involve information processing and persuasion, what I find to be of particular interest in these papers are their implications for the role of individual differences in message processing and attitude change. I hope I shall be forgiven for dwelling more on these implications than on others.

RESEARCH GOALS

Before discussing the findings of the present papers, it is worthwhile to consider the goals of their respective research programs. The interesting thing about these three papers as a set is that, while they all focus on individual differences in consumer behavior, they could not be more different in their theoretical and operational approaches. Each is driven by a different research goal.

Haugtvedt and Petty's research takes a theory-driven approach. The goal is to test predictions about attitude persistence made by the Elaboration Likelihood Model (ELM, Petty & Cacioppo, 1981, 1986a). This approach incorporates the individual difference construct of need for cognition (Cacioppo & Petty, 1982; Cohen, 1957; Cohen, Stotland & Wolfe, 1955) into a process model (ELM) concerned with the likelihood that one will cognitively elaborate on a message as it is received. Within this model, individuals' need for cognition is seen as one of a number of factors influencing one's *motivation* to elaborate on a message.

By embedding their research on need for cognition into this broad theoretical framework, Haugtvedt and Petty's findings provide a conceptual replication of findings regarding personal relevance (Petty, Cacioppo, Haugtvedt & Heesacker, 1986), another factor that influences one's motivation to elaborate and, thus, the persistence of one's attitudes. This replication provides further support for predictions derived from ELM (although the model is hardly lacking in empirical support; see Petty & Cacioppo, 1986a, 1986b, for reviews). More importantly, the context provided by other ELM research supports Haugtvedt and Petty's contention that it is the *degree of cognitive elaboration* of messages that mediates the present effects of need for cognition on the persistence of persuasion. Thus, besides demonstrating that need for cognition is associated with a particular outcome (attitude persistence), their theory-driven approach contributes to an understanding of the processes that underlie both need for cognition and attitude persistence.

Crowley and Hoyer's research also investigates the need for cognition dimension, but it takes a rather different approach. This research is construct-centered. The primary goal is to explore the need for cognition construct itself and attempt to identify its key underlying dimensions, as well as the dimensions that underlie other individual difference constructs.

This research is less concerned with demonstrating the relation between individuals' need for cognition and various outcomes (e.g., their information processing strategies). Instead, Crowley and Hoyer's goal is to establish a broad "nomological network" of consumer-relevant individual difference factors by identifying their common dimensions. If successful, such an approach could be a valuable first step toward theory-building in the area of personality and consumer behavior. It would also introduce some parsimony and order to the diverse set of individual difference factors that are often applied independently to the understanding of consumer behavior.

The study by Hornik provides an interesting contrast to the research goals described above. Hornik's research is phenomenon-driven. It focuses on the complex and important social phenomenon of smoking, attempting to identify factors that can shed light on the determinants of smoking behavior. Individual differences are of interest in this research enterprise only to the extent that they can assist in understanding and dealing with this phenomenon.

Thus, the goal of Hornik's research is to arrive at a typology that differentiates smokers from nonsmokers and/or identifies different types of smokers. Ultimately, such an individual differences typology could increase the effectiveness of anti-smoking interventions by guiding the designing and targeting of interventions to those individuals who are most likely to be influenced by them.

In sum, the papers in this session illustrate the diversity of theoretical and operational approaches to studying individual differences, and the variety of research goals that can be served by these approaches. Each of these goals -- testing a theory, fleshing out a construct, or understanding a phenomenon -- is important. And each set of results has implications for understanding the role of individual differences in consumer behavior.

IMPLICATIONS OF THE PRESENT FINDINGS

Need for Cognition and Attitude Persistence (Haugtvedt & Petty)

As the authors point out, persuasion theories and research have addressed a wide range of factors that can elicit initial attitude change. However, comparatively little theoretical or empirical attention

[1]Gratitude is expressed to Thomas C. O'Guinn, Steven J. Sherman, and Louisa M. Slowiaczek for their helpful comments.

has been paid to the temporal stability of attitudes. We know relatively little about what makes attitudes persist -- either in terms of individual difference factors or any other factors.

One important contribution of the present study, then, is its demonstration that individuals' need for cognition predicts the stability of their newly-formed attitudes. Individuals scoring high in need for cognition exhibited greater attitudinal persistence than individuals low in need for cognition. This fits in well with research indicating that the existing political attitudes of individuals high in need for cognition were more predictive of their voting behavior than the attitudes of individuals low in need for cognition (Cacioppo, Petty, Kao & Rodriguez, 1986).

Apparently, the reason for the present findings regarding message-based persuasion is that individuals high in need for cognition were more motivated to evaluate effortfully the arguments in the message, and thus tended to take the "central route" to persuasion (Petty & Cacioppo, 1986a). In fact, previous research has shown that individuals scoring high in need for cognition tend to be more influenced by the quality of messages arguments than individuals low in need for cognition (Cacioppo, Petty & Morris, 1983; Haugtvedt, Petty, Cacioppo & Steidley, 1987). Other research (Petty, Cacioppo, Haugtvedt & Heesacker, 1986) has shown that attitudes formed via this central route tend to be more enduring than attitudes formed via the "peripheral route" -- that is, attitudes based on simple cues in the persuasion context. Thus, individuals scoring high in need for cognition apparently formed their brand attitudes via the central route and, consistent with ELM predictions and research, these attitudes were more persistent over time.

As the above discussion indicates, one advantage of the need for cognition construct is that it postulates individual differences at the process level. That is, the need for cognition construct goes beyond a focus on the individual's chronic goals, interests or skills to describe how the individual processes social and consumer information. This specification of process allows for definitive predictions to be made about the relation of need for cognition to other outcomes that are influenced by the amount of elaboration in information processing. Also, it allows the construct to be fitted into an existing model (ELM) that specifies the effects of cognitive elaboration on message-based persuasion.

Studies such as this one have provided important information about some of the processing implications of need for cognition. However, there is still a great deal we do not know about what people who are high versus low in need for cognition do with attitude-relevant information, and about the nature of the mental representations relevant to their attitudes. Future research on need for cognition should focus on pinpointing some of the process implications of "enjoying effortful cognitive activity."

For example, future research could explore the relation between need for cognition and attitude accessibility. Since individuals who are high in need for cognition tend to form their attitudes based on a greater degree of cognitive elaboration and effort, one might expect them to form stronger associations in memory between attitude objects (e.g., products) and their evaluations of them. This associative strength would heighten the accessibility of their attitudes from memory (Fazio, 1986). If in fact individuals who are high in need for cognition have attitudes that are highly accessible, then this would provide a more specific process explanation for the persistence of their attitudes: An attitude that is highly accessible is likely to be spontaneously activated from memory upon observation of the attitude object. Once activated, the attitude influences one's immediate perceptions of the attitude object through a process of selective perception. In this manner, the attitude serves as a guide for behavior (Fazio, 1986). A number of studies have convincingly demonstrated that the accessibility of attitudes in memory is associated with the stability of those attitudes and the degree to which they guide behavior (e.g., Fazio & Williams, 1986; see also Fazio, 1986, and Fazio & Roskos-Ewoldsen, in press, for reviews). It would be useful to determine the extent to which the attitude accessibility of individuals who are high in need for cognition contributes to the temporal persistence of their attitudes.

An alternative, although certainly not competing, hypothesis is that attitudes that are based on extensive elaboration are more persistent because they are held with greater confidence. Individual differences in the certainty with which attitudes are held would also be useful to explore, and may shed additional light on the relation between need for cognition and attitudinal persistence (although there is some indication that individuals who are high in need for cognition do not necessarily display greater confidence in their existing attitudes -- see Cacioppo, et al., 1986).

Future research on the relation of need for cognition and attitude persistence could also investigate the implications of the enjoyment of effortful cognitive activity for cognitive processes that occur after attitude formation. For example, are individuals who are high as opposed to low in need for cognition more likely to access and ruminate about their attitudes after they are formed? Although this may not have occurred in the context of the present study (for attitudes toward answering machines), are there conditions under which such rumination would occur? If so then this mere thought, to the extent that it involves uniformly positive or uniformly negative beliefs, could cause the attitudes of individuals high in need for cognition to polarize over time rather than remain stable (see Tesser, 1978, for research on the effects of mere thought on attitude polarization).

Resistance to counter-persuasion may be another form of attitudinal persistence that is conferred by a high need for cognition. Future research could address whether the elaborated thinking underlying the attitudes of high need for cognition individuals provides them with a more effective set of counterarguments with which to resist subsequent counter-attitudinal messages (e.g., ads for competing brands).

Need for Cognition and Other Individual Differences (Crowley & Hoyer)

This paper attempts to identify some of the key dimensions that underlie the need for cognition by determining how this construct fits into a larger network of individual differences. On the whole, this study provides some insights into the relations among disparate personality characteristics and into the common dimensions that underlie some of them. However, its contribution is limited by its choice of underlying dimensions to investigate, and by its somewhat arbitrary selection of personality factors to represent them.

The major difficulty is that the particular dimensions chosen for study (arousal seeking and internal/external focus), at least as conceptualized here, do not appear to be central to the need for cognition construct. One can see this in the low correlations obtained between need for cognition and each of the other individual difference factors representing those underlying dimensions. The strongest correlation involving need for cognition emerged with the color preference variable ($r=-.20$), accounting for only 4% of the variance. Interestingly, this significant correlation was not one that was originally predicted.

Also, previous research on need for cognition does not point to arousal seeking as a key dimension underlying this construct. The general picture that emerges from the need for cognition research reviewed above (e.g., Cacioppo and Petty, 1982; Cacioppo, Petty, Kao & Rodriguez, 1986) does not portray the high need for cognition individual as an "arousal seeker" relative to individuals who are low in need for cognition. True, persons who are high in need for cognition tend to engage in (and perhaps to be aroused by) effortful cognitive tasks. But that does not mean that they seek *more* arousal than others do -- only that they seek it in different ways.

The specific set of personality factors chosen to represent these underlying dimensions was also somewhat problematic. For example, although these factors are potentially relevant to consumer behavior, they were not necessarily chosen with one underlying dimension in mind. Factors like extraversion and color preference were expected to relate to both the internal/external dimension and the arousal seeking dimension. This made the authors' task of deriving hypotheses much more difficult, and sometimes led them to predict null results on the basis of complex sets of assumptions about the underlying dimensions cancelling each other out. These assumptions may well be valid, but one cannot confidently draw conclusions about them based on null findings. In future research, it would be best to select personality factors that are expected to relate to only one of the underlying dimensions being investigated. In that way, clearer predictions can be made about what these factors should and should not covary with (i.e., convergent and discriminant validity can be demonstrated more convincingly).

These issues notwithstanding, Crowley and Hoyer's study offers some interesting findings about the interrelationships of various personality constructs (e.g., sensation seeking with other-directedness and with extraversion; inner-directedness with need for cognition). In particular, the finding that individuals who are high in need for cognition have a significant preference for cool colors is intriguing. Such findings suggest that it would be worth pursuing further research on the dimensions that need for cognition shares with other individual difference constructs. The results could have important new implications for the design of advertising messages targeted to those who are high versus low in need for cognition.

Temporal and Lifestyle Factors in Smoking Behavior (Hornik)

Hornik presents an analysis of cigarette smoking behavior that incorporates a range of individual differences -- demographic as well as personality factors. His study identifies a number of individual differences that predict one's likelihood of smoking and the intensity of that smoking behavior. The primary focus of this study is the dimension of "time preference" (e.g., Fuchs, 1982). This factor is based on economic assumptions about the ways in which consumers assess the trade-offs between current costs and future benefits.

Individuals are assumed to differ in their evaluations of such trade-offs -- that is, in the extent to which they discount future gains and favor immediate rewards. This appears relevant to the social psychological literature on individual differences in delay of gratification (e.g., Funder, Block & Block, 1983; Funder & Harris, 1986; Mischel, 1984; Mischel, Shoda & Peake, 1988). It would be useful to know the relationship between these two personality factors, since individual differences in temporal orientation are certainly important to consumer behavior. One can imagine a time preference analysis being profitably applied to many types of consumer decisions (e.g., the willingness to assume long-term debts in exchange for goods that provide immediate gratification).

However, there are a number of potential difficulties with applying a time preference analysis to smoking behavior. According to Hornik, consumers' decisions to smoke or not to smoke are based in part on their comparative appraisals of the present gains associated with smoking ("immediate pleasure from a cigarette") and the future gains associated with not smoking (improved health). One of the difficulties with this analysis is that it assumes a consensus about the desirability of smoking. But does this apply to nonsmokers? It is hard to imagine that nonsmokers view themselves as foregoing immediate pleasures by choosing not to smoke. The act of smoking may in fact be quite unpleasant for these individuals. Thus, their abstinence may not imply a delay of gratification at all.

Another difficulty involves the postulate that "an individual *chooses* an amount of smoking/nonsmoking behavior" based on a rational analysis of the trade-offs involved. The assumption here is that smoking is a volitional decision, much like selecting an investment plan or choosing a refrigerator. But this is certainly not the case for many individuals (heavy smokers), for whom smoking has become addictive. And even though heavy smokers may be more acutely aware of the future health gains that they are foregoing by continuing to smoke (particularly if they are beginning to suffer from bronchitis, emphysema, etc.), they are less free to act on those concerns than casual smokers are.

Despite these difficulties, time preference analyses can shed light on the determinants of some smoking behaviors. The assumptions discussed above are only problematic when using individuals' time orientation to try to predict the behaviors of certain groups. If, as in the case of the present study, the participants range from nonsmokers to heavy smokers, the relevance of these individuals' time preferences may be relatively minor. Thus, it is not surprising that, in this study, time preference accounted for only a 7% increment in the variance explained by demographic and psychographic variables alone.

With a different sample, the predictive power of a time preference factor may emerge much more strongly. If the sample consisted of, say, "casual" smokers and ex-smokers, individual differences in time orientation may account for more of the variance in their smoking behavior. Also, among heavy smokers, time preferences may serve as good predictors of individuals' intentions to quit smoking. These possibilities are worth pursuing in future research on the role of time preferences in smoking behavior.

As Hornik points out, a better understanding of the temporal and lifestyle factors associated with smoking could benefit health promotion efforts. In that regard, one of the interesting aspects of the time preference factor is its straightforward implications for the design and targeting of anti-smoking campaigns. One implication is that, if individuals who choose to smoke tend to be highly present-oriented, campaigns directed at them may be more effective if they stress the *present* costs of smoking (e.g., shortness of breath, high price of cigarettes, social ostracism) rather than its future costs (impaired health). Similarly, messages stressing the immediate rewards involved in quitting (greater stamina, saving money, clean-smelling clothes and hair) may be more persuasive for these individuals than ads focusing on future gains (e.g., increased life expectancy). The persuasion implications of such individual differences are among the many interesting directions for future research emerging from this session.

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Misperceptions of Time in the Sales Transaction

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ABSTRACT

Consumers and sales associates estimated transaction time in a retail environment. Consumers overestimated and sales associates underestimated transaction times. As a result, on a practical level, delivering timely and effective customer service is probably impaired by misperceptions of time. On a broader level, time perception may be a more significant variable in consumer behavior than witnessed by the scant literature focusing on this issue.

While time perception has been extensively studied within psychology and called an important variable for marketing and for understanding consumer behavior (Gross, 1987; Graham, 1981) very few studies have focused on time perception in the consumer context.

Time is valuable simply because it is scare and inelastic. Goods and services carry time properties and these properties have important marketing implications. Engel, Blackwell, and Miniard (1986) define time-using goods as goods which require the use of time with the product (e.g., watching TV) and time saving goods as those which provide additional discretionary time. More and more marketers are using consumer's desire to save time as a marketing tool as Americans seem to be willing to spend increasing amounts of money in order to gain time. Fast food restaurants and convenience stores have flourished and many product purchases, such as microwaves are made because consumers want to buy time. These trends are believed to be increasing due to the increasing time poverty that consumers will find themselves under (Jacoby, Szybillo & Berning, 1976; Sheth, 1983). As a result, the importance of time in the consumer process may be increasing (Gross, 1987).

Time can also be viewed as a risk of product/service choice and the degree of risk consumers perceive can influence purchase strategy. Aside from the more well defined, physical, financial, social, psychological risks, Schiffman and Kanuk (1987) define time risk as the risk that time spent in product search is wasted if the product does not perform as expected.

Time perception has mostly been viewed in a cross-cultural, non-consumer context. In this work, time perception in one culture affects behavior in interesting ways. For example, in one of the most cited examples of problems resulting from cross cultural differences, Hall (1966) uses the example of a foreign executive keeping an American visitor waiting 45 minutes and thinking nothing of it. To the foreigner this wait is insignificant, while the American, who considers this to be an extraordinary inconvenience, is fuming.

Of the three categories of time-paid time, obligated time, and discretionary time (Voss, 1967), it is only from discretionary time that consumers can find flexibility. Shopping may fall within this discretionary category. Indeed, when consumers are under time pressure, department stores have been shown to lose consumers to stores perceived as time savers - mass merchandisers and discount stores (Mattson, 1982). If time is valuable for consumers in shopping, than one aspect of good customer service is that once a customer has made a decision to make a purchase, retailers must complete the transaction quickly. The consumers' time is valuable and they have other priorities. Retailers must provide the sales systems, training, and sales associates to process the transaction promptly, without hassle (Sheth, 1983). Indeed according to the Burgoyne National Study of Supermarkets (1980), slow check-outs was tied with high prices as the number one complaint of supermarket shoppers.

In a study of line waiting in retail stores, Hornik (1984) found that individuals overestimate waiting time. As consumers overestimate their wait, retailers face a dilemma in serving and transacting business with consumers. For what in an objective measure of time might be effective customer service, in the subjective perception of the consumer who overestimates the time of the transaction process, it will not be.

This problem may be exacerbated further by an underestimation of time of transaction from the sales associate point of view. While Hornik (1984) measured the overestimation of time of the passive consumer as they wait in line, Hornik did not look at the perception of that same transaction from the point of view of the more active party - the sales associate. According to Cottle (1976), individuals overestimate passive durations and underestimate active durations. Thus in the sales transaction in a retail environment, the active sales associate may be underestimating the same time duration that the consumer is overestimating.

In this study, the actual time duration of a sales transaction was assessed with the perceived duration of the consumer and the sales associate in a retail environment. Similar to Hornik, it was predicted that consumers would consistently overestimate the duration of transaction. Going beyond Hornik, it was predicted that sales associates would consistently underestimate the same duration of transaction.

METHOD

The procedure used was modeled after Hornik (1984). The data was collected from 110 shoppers on line in retail stores. Respondents were intercepted at any of 68 stores in a small regional shopping center. Two pairs of interviewers were used for this study. Intercepts occurred throughout the week at all times of

TABLE 1

Mean Estimated and Actual Transaction Time

Actual Transaction Time	4.7 minutes
Consumers Perception	5.6 minutes
Associates Perception	3.2 minutes

TABLE 2

	# correct	# underestimating	# overestimating
Consumer	11 (10%)	14 (13%)	85 (77%)
Sales Associate	14 (13%)	92 (84%)	4 (03%)

the day. Interviewers were instructed to walk through the stores in the mall and select adult consumers who walk up to the cash register or counter (restaurants excluded). Every third customer to be found in this manner was to be included in the study. For each subject the length of time was recorded from the moment the individual entered the line or stopped walking at the counter. After leaving the counter/line each subject was approached and asked to indicate the amount of time they think it took the server to complete the transaction after they got to the counter/register (to the nearest minute). At the same time that the customer was approached the second interviewer went up to the sales clerk and at the first opportunity asked the clerk to estimate the amount of time it took to take care of the previous customer. There were twelve opportunities lost because the clerk immediately engaged another customer and could not be asked the question in a reasonable amount of time. These individuals were replaced in the sample. No sales clerk was approached more than once in the study and 62 stores had at least one consumer approached.

RESULTS

As predicted, consumers overestimated transaction time and sales associates underestimated transaction time, F(df=2,327)=32.18, p<.05 (see Table 1). Tukey tests showed consumers to significantly overestimate and associates significantly underestimate transaction time (p's<.05). Because males represented only 25% of the subject population in this study analyses assessing differences between male and female consumers may not be valid yet even though the transaction time of male and female consumers were equal males were found to marginally significantly (p's<.10) underestimate the estimate of female subjects: although males and females overestimated the transaction time, males perceived the transaction to be quicker than females. Hornik (1984) found no gender differences in estimation. Further, sales associates (who were all female in this study), similarly perceived the transaction with male consumers to be quicker than the transaction with female consumers (p<.10).

A chi-square completed on the number of associates and consumers to be correct, overestimate and underestimate the transaction time reinforces the findings above. While only a small and nearly equal percentage of consumers (10%) and sales associates (13%) correctly perceived transaction time, the percent of those over and underestimating the correct time was dependent on whether one was a sales associate or consumer, X^2=132 (df=2),p<.05 (see Table 2).

Although place in line (first, second, third, etc. was not treated in any systematic manner (except to select consumers in the manner described independent of place in line) 33 of the 110 subjects were second or more in line (21 second, 7 third, 1 fourth, and 1 fifth). These categories were combined to complete an analysis of time estimation as a result of being the first or second in line. Analysis of this data showed place in line to significantly affect actual time of transaction (p<.05): time to transact with the first consumer was, to no surprise, longer than to transact with the second on line. Consumers and sales associates were also sensitive to place on line for estimates of the length of transaction from both were significantly greater when second in line than when first (p's<.05).

CONCLUSION

Consumers have a tendency to overestimate waiting time. This replicates previous work by Hornik (1984) and suggests that delivering timely customer service is not as simple as reducing transaction time. Moreover, the problem is greatly exacerbated by the finding that while consumers are overestimating transaction time, sales associates are underestimating that time.

Beyond the practical, retail implications of these misperceptions of time, this study addresses an important and neglected area of consumer research - time and time perception. It is clear that this study is limited in scope and in methodology. It goes without saying that it would be interesting to better control type of line (like Horhik), gender of consumer and sales associate, length of line, length of actual time (as examples) as independent variables. Only by systematically investigating these issues will a clear and valid picture started by this study emerge.

More importantly, the empirical literature on time and time perception has for the most part been disappointing in light of the proclaimed importance of time and time perception in understanding aspects of the consumer process (Graham, 1981). There has been relatively little in what seems to be an interesting and fertile area of study.

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Consumers' Reactions to Waiting: When Delays Affect the Perception of Service Quality

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ABSTRACT

In two experimental studies we tested the prediction derived from Lewin's field theory that consumers who encounter a delay during the pre-process and post-process phase of a restaurant visit will evaluate the service provided more negatively than customers who experience a delay during the in-process phase. We further predicted that the degree of uncertainty about the length of the delay and an individual's need state would influence his or her perception of a delay and evaluation of the restaurant service. Results of experiment 1 strongly supported the point of delay hypothesis. In experiment 2, we found an interaction of need state and point of delay. The certainty hypothesis did not receive empirical support.

Waiting can be time-consuming, annoying, and incredibly frustrating. Just imagine how many hours you spent last year in check-out lines in hotels, or how restless you got waiting in line for theater tickets or waiting to be seated in a restaurant. Perhaps you can also recall other occasions that were less inconvenient or situations when waiting was, in fact, a pleasant delay. Depending on the context, a delay may be experienced as an enjoyable pastime or as an inexcusable imposition. It may pass quickly or it may seem to last forever. How do consumers respond to different waiting situations? What are the determinants of their psychological reactions to such situations? Can a delay influence consumers' overall evaluation of a product or service?

Waiting is a complex phenomenon to which a consumer often reacts in an emotional way. Waiting is often psychologically painful, because it causes us to renounce more productive and rewarding ways of using our time and because it may increase the investment that we have to make to obtain a product or service. Waiting may also be costly in and of itself as we become aware of the passage of time. In other words, there are both extrinsic disadvantages of waiting (e.g., profitable alternatives foregone) and intrinsic costs (Schwartz, 1975).

The study of waiting and delays is relevant, in particular, to services marketing. Unlike consumer goods, many of which are produced in remote factories and stored in warehouses before they are delivered for sale, services cannot be inventoried. Services extend over time and, in most cases, they are produced, delivered, and consumed during a single encounter. Therefore delays undermine the efficiency with which these systems conduct their businesses; in turn, delays may affect consumers' perception of the quality of a service as well as their overall evaluation of the service.

Although many delays are caused by inefficiencies in the service delivery process, waiting in some service situations seems to be almost unavoidable. For example, consumers often do not arrive at a restaurant at equal interval sequences but rather in a less predictable fashion. Moreover, some individuals may encroach upon the service time of others and cause them to wait. Managers may have difficulties regulating such waiting situations. Yet even in those situations, a service provider may be able to decrease the negative impact of such delays if he or she has some knowledge of the situational factors that influence consumers' reactions to delay. By uncovering the factors that influence psychological reactions to waiting and the contexts in which those factors occur, managers can have a significant impact upon consumers' satisfaction with the service encounter.

Maister (1985) has proposed several situational effects on consumers' perception of waiting. Among others, he suggested the following four propositions: (1) Unoccupied time feels longer than occupied time; (2) preprocess waits feel longer than in-process waits; (3) uncertain waits are longer than known, finite waits; (4) unexplained waits are longer than explained waits.

Maister's assertions are intuitively plausible but none of them has been tested empirically. Nor have Maister or any other researcher made an attempt to relate these propositions to a broader theoretical framework. In our research, we related Maister's propositions to a prominent social-psychological theory, namely Kurt Lewin's (1943) field theory. Despite its integrative power as a general framework for the study of consumer behavior related phenomena, field theory has been largely ignored in the marketing literature (Kassarjian 1973). In two experiments we tested the above propositions on waiting in the context of a service encounter in a restaurant. A restaurant setting was selected because the phases of the service process in a restaurant are relatively distinct and occur successively; moreover, they cover the experience of the whole service.

An individual's visit to a restaurant may be divided into three relatively distinct phases: a pre-process phase from a customer's arrival at the restaurant until he or she orders the meal; an in-process phase that includes placing orders and consuming the meal, and a post-process phase from paying the bill until the customer leaves the restaurant. During each of these phases, there is a "natural intermission" that customers expect to encounter. However, what happens if this natural intermission extends beyond customers' expectations and causes a delay?

Following Lewin's field theory, we predicted that delays at different phases of the restaurant visit will have differential effects on customers' reactions. We further predicted that the degree of uncertainty about the length of the delay and an individual's need state would influence his or her perception of a delay and evaluation of the restaurant service.

According to Kurt Lewin's field theory, an individual's behavior (including his or her cognitions and feelings) is the result of the psychological forces acting upon the individual at a given time (Lewin, 1943). Psychological forces correspond to a relation between at least two regions of the individual's life space. They depend upon the strength of the individual's needs (internal forces) and upon the nature of the region (external forces and barriers). According to Lewin, changes in an individual's feelings, cognitions and behavior are the result of changes in the constellation of the psychological forces acting upon the individual.

The closer an individual is to a goal, the more pressing the forces are toward the goal. On the other hand, when the individual gets into the region of the goal, the pressure is relieved. Thus, a barrier (e. g., a delay) occurring during the pre-process phase should be experienced as more unpleasant by the individual than a delay occurring during the in-process phase. In the restaurant situation, a delay may, of course, also occur during the post-process phase. For example, after consumption a customer may wish to leave but still has to wait for the bill. According to Lewin, in the post-process phase an activity becomes satiated, and the customer, perhaps already striving for other goals, is motivated to terminate the activity. As a consequence, the customer will become upset if the termination of the process is blocked (Karsten, 1976). Just think about your natural tendency to rush toward the exit after an airplane has reached the gate. At this point, the flight is over and you are motivated to terminate the process because other goals are on your mind. Thus, field theory would predict that a delay occurring during the post-process phase will be as unpleasant as one occurring during the pre-process phase and will definitely be worse than a delay occuring in-process (Karsten, 1976). These predictions derived from field theory are closely related to Maister's propositions 1 and 2.

Field theory also makes predictions about the effect of uncertainty on the dynamics of forces (Lewin, 1946). According to Lewin, being in an unstructured surrounding is an unpleasant experience, because it is not clear whether a certain action will lead to or away from a goal. Consequently, a high level of uncertainty should increase the negative effect of a barrier on the way to the goal--a prediction that is very similar to Maister's propositions 3 and 4.

Beyond Maister's propositions, Lewin's (1943) field theory proposes that different levels of need create forces of different strength and, as a consequence, more or less pressure toward the goal. Thus a delay occuring when an individual is very hungry should be more unpleasant than when an individual is less hungry.

In sum, based on Lewin's field theory we derived the following predictions which are consistent with Maister's propositions: (1) Pre-process and post-process delays will be perceived as more inconvenient, frustrating and inappropriate than in-process delays; moreover, the quality of the service will be rated lower and the consumer will be less likely to return to the restaurant for another visit. (2) Under conditions of high uncertainty about the length of the delay, the delay will be perceived as more negative than under conditions of low uncertainty. (3) Individuals will perceive a delay as more negative if they are in a high need state (very hungry) than in a low need state. Predictions 1 and 2 were tested in experiment 1, and predictions 1 and 3 were tested in experiment 2.

EXPERIMENT 1

Method

Subjects were 113 undergraduates (53 males, 60 females), enrolled in a marketing course at the School of Hotel Administration at Cornell University. The study, conducted at the end of a regular class session, was presented as a study on service delivery processes. Subjects were asked to read a scenario of a restaurant visit. Subsequently, they indicated on five nine-point scales (1) how they would rate the quality of the service provided by the restaurant on this occasion ("very low quality - very high quality"); (2) how likely it is that they would come back to the restaurant ("very unlikely - very likely") and (3) how inconvenient ("not at all inconvenient - very convenient"), frustrating ("not at all frustrating - very frustrating") and inappropriate ("not at all inappropriate - very inappropriate) the delay was. The latter three dependent variables were scored in a reverse direction.

The experiment took the form of a 3 x 2 factorial design. "Point of delay" (pre-process, in-process, post-process) was crossed with "levels of uncertainty" (high/low). A between-subjects design was selected to avoid demand characteristics. Subjects were randomly assigned to one of the six experimental conditions.

Other factors that may possibly influence subjects' responses were controlled. Specifically, the physical comfort provided during the delay, the social surrounding during waiting, the cost of alternative time allocation, the amount of excuse and explanation provided, and the individual's need state were held constant (as much as possible) in the different scenarios. In each scenario, after the delay had occurred, the service person apologized for the delay and provided the service.

Great care was taken to ensure the ecological validity of the scenarios. In a pretest, subjects' expectations about normal intermission times were assessed for the three phases and specified accordingly in the scenarios. The waiting time exceeded the expected intermission time by the same amount in each scenario.

The basic situation provided to all subjects was the following:

Beginning of scenario
It is Saturday evening. You and your friend have decided to have dinner with another couple. You have selected an elegant, yet reasonably priced restaurant serving French cuisine. You have made reservations for 7 p.m. The four of you had a beer at a nearby bar and arrive at the restaurant at 7 p.m.

In the following parts of the scenarios, the two independent variables were operationalized. In order to operationalize "point of delay," the delay occurred at different points in the different scenarios. In the Low Uncertainty condition, the service person explicitly stated how long the delay would take. The following scenarios were used in the the Low Uncertainty condition. (In the High Uncertainty conditions the length of the delay was left unspecified.)

Pre-process delay
The hostess greets you, acknowledges your reservation and asks you to have a seat in a nice waiting room. She asks you if you would like to have a drink or wine, but you decide to wait. You expect that you may have to wait for about ten minutes. After ten minutes the hostess returns and apologizes that, for some unforeseen reason, your table will not be available for another 20 minutes. After 20 minutes, she returns to tell you that your table is ready. The evening proceeds quite pleasantly; the food and the wine are good, and the service is nice and well-paced.

In process delay
The hostess greets you and acknowledges your reservation. She walks you to your table and presents you with your menus. The waiter comes to take your order about ten minutes later. You order a bottle of wine which you wish to have served with the main entree. You expect your appetizers to be served within the next ten minutes, but after ten minutes you still have to wait. After another 20 minutes the waiter returns to serve the appetizers; he apologizes and explains that the delay has happened for some unforeseen reason. The evening proceeds quite pleasantly; the food and the wine are good, and the service is nice and well-paced.

Post process delay
The hostess greets you, acknowledges your reservation and walks you to your table. Your orders are taken and the dinner is served. The food and the wine are good and the service is nice throughout the course of the meal. You ask for your bill and expect to receive the bill within the next ten minutes, but after ten minutes you still have to wait. After another 20 minutes the waiter returns with your bill; he apologizes and explains that the delay has happened for some unforeseen reason. You pay and leave the restaurant.

Results

Because the five dependent measures were significantly intercorrelated, a factor analysis was conducted to reduce the number of dependent variables. Only one factor had an eigenvalue bigger than 1 (eigenvalue = 3.0) and explained 61% of the variance. The loadings of each variable on the factor exceeded .70. The factor could easily be interpreted as "overall evaluation of the restaurant service." Each subject's factor score was computed and used as the dependent variable.

The means of the factor scores for subjects in each experimental condition are shown in Table 1; higher means indicate a more positive evaluation. A 3x2 ANOVA was conducted on the factor scores. The main effect of certainty and the interaction effect were not significant. However, as predicted, "point of delay" produced a significant main effect ($F[1,100]=6.41$, $p < .01$). In order to test our specific predictions that in-process delays are perceived as less negative than both pre-process and post-process delays, two orthogonal contrasts were computed. The contrasts revealed that, as predicted, there was a significant difference between in-process and the other two delays ($M = 0.42$ vs. $M = -.01$ and $M = -.38$) ($F[1,100] = 10.00$, $p< .01$) but no significant difference between pre-process and post-process.

In sum, experiment 1 provided strong support for our predictions concerning customers' reactions to delays that occur during different phases of a restaurant visit. Subjects were more upset when the delay occurred before they ordered their meals or once they had asked for the check than when the delay occurred in the middle of the dining experience.

EXPERIMENT 2

Method

The same subjects as in experiment 1 participated in experiment 2. The dependent variables were identical to the ones used in experiment 1. In experiment 2, "process phase" was limited to pre-process and in-process; the two levels of need were operationalized as absence or presence of hunger. The study took the form of a 2x2 orthogonal design and subjects were randomly assigned to one of the four experimental conditions. In order to provide some variety to our subjects, the basic scenario was slightly changed.

Beginning of scenario
You and your friends have been working all morning on a group project and after three hours of intense work, the group decides to have lunch at a "pizza place" close to campus.

In the following sentence "need level" was operationalized.

TABLE 1

Mean evaluation scores as a function of point of delay and degree of uncertainty

	Point of delay		
Degree of uncertainty	Pre-process	In-process	Post-process
Low	-0.18 (n = 12)	0.15 (n = 17)	-0.42 (n = 19)
High	0.09 (n = 20)	0.66 (n = 19)	-0.35 (n = 19)
Marginals	-0.01	0.42	-0.38

Low Need
Having had breakfast at 7 a.m. and a snack at 10:30, you are not really hungry, but you decide to come along.

High Need
In the High Need condition subjects read:
Having had breakfast at 7a.m. and nothing since then, you are very hungry.

The scenarios continued in the following way:

Pre-process delay
The restaurant is busy at lunch hour, but there are always some tables available. You sit down at one of them. Usually, it takes about a five-minutes wait before the waiter comes to take your order. Today, five minutes have passed and you end up waiting another ten minutes before the waiter comes. He apologizes and explains that some unforeseen reason has caused the delay. He takes your orders. The food is good and served without any further delay.

In-process delay
The restaurant is busy at lunch hour but there are always some tables available. You sit down at one of them. The waiter arrives and takes your orders. Usually, it takes about a 15-minutes wait to be served. Today, 15 minutes have passed and you end up waiting another ten minutes before the pizza is served. The waiter apologizes and explains that some unforeseen reason has caused the delay. The food is good and no further delay occurs.

Results

Like in experiment 1, the five dependent measures were significantly intercorrelated and a factor analysis was conducted. Based on a scree plot, the one-factor solution was selected. The factor explained 61% of the variance, and the loadings of each variable on the factor exceeded .6. The factor could again be interpreted as "overall evaluation of the restaurant service."

Table 2 shows the mean evaluation scores in the four experimental conditions. A 2x2 ANOVA conducted on the factor scores revealed one significant effect: an interaction of "need state" and "phase when the delay occurs" ($F[1,100] = 3.90$, $p = .05$). As Table 2 shows, in the Low Need condition, the restaurant was evaluated more negatively when the delay occurred in-process rather than pre-process ($M = -.13$ vs. $M = .23$). In the High Need condition the effect was reversed; the restaurant was evaluated more negatively when the delay occurred before rather than after ordering the food ($M = -.26$ vs $M = .16$).

FINAL DISCUSSION

Following Lewin's field theory, we predicted that delays at different phases of a restaurant visit will have differential effects on customers' reactions. We further predicted that the degree of uncertainty about the length of the delay and an individual's need state would influence his or her perception of a delay and the evaluation of the restaurant service.

In study 1, we found strong support for our first hypothesis. The same length of a delay had different consequences depending upon when it happened. Our results have clear implications for restaurant management. Restaurant managers should arrange their business (e.g., through scheduling of reservations, employment of personnel etc.) so that their customers will not be annoyed at the beginning or end of their restaurant visit. Customers, on the other hand, seem to be more understanding when the actual dinner is delayed.

Contrary to our predictions, we found no significant uncertainty effect. The fact that consumers were given explicit information or no information about the potential length of the delay did not make a

TABLE 2

Mean evaluation scores as a function of point of delay and need level

Need level	Point of delay: Pre-process	Point of delay: In-process
Low	0.23 (n = 23)	-0.13 (n = 29)
High	-0.24 (n = 25)	0.16 (n = 27)

difference. One reason for this negative result may be the fact that subjects may have had some difficulty putting themselves, through mental simulation, in a condition of high versus low uncertainty. This problem points to the need to verify the results of our simulation study in an actual restaurant setting.

In contrast to Lewin's prediction of a main effect for need state, we found an interesting cross-over interaction between need state and point of delay in experiment 2. Our results make sense when interpreted in the specific context of hunger. A hungry person may perceive ordering as a subgoal toward need satisfaction and be more upset when even this subgoal is blocked by a barrier. On the other hand, a person who is not hungry when he or she arrives at a restaurant may get his or her palate stimulated only after having read the menu and may then get upset if the meal does not arrive during the expected time frame.

There is not only a need to replicate our studies in a field setting, but also to extend our results to other service encounters. Although a restaurant setting seemed to be ideal for testing our hypotheses, it may be that our results do not generalize to other services (e.g., an airline trip, a theater performance) in which the phases are more temporally separated. In those cases, delay during one phase (e.g., while purchasing tickets) may have local effects only and may not influence the total service experience.

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Social Distance Within the Service Encounter: Does the Consumer Want to be Your Friend?

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ABSTRACT

This paper investigates formality as a dimension of the service encounter which can influence consumer perceptions of service quality. An empirical study of consumer preferences for formality and social distance in a variety of service situations is presented. The results indicate that a consumer's perception of the provider's social status affects that consumer's preference for a friendly (less-distanced) relationship, which will, in turn, affect the consumer's evaluation of service quality.

Introduction

A consumer may cash a check at a new bank, eat dinner at an unfamiliar restaurant, have a tooth filled by a new dentist, or buy car insurance from a new agent. Will the consumer want to develop a friendship or remain strangers? How will the consumer respond when the provider, trying to create a friendly relationship, greets him/her with a friendly, "Hi John [or Jill]!" This paper suggests that the provider's attempts to create or reduce social distance can influence the consumer's perception of service quality.

Marketers have become increasingly concerned with the role relationship between provider and consumer (Solomon et al. 1985), and with the "human contact" aspect of the service encounter as a basis for creating perceptions of service quality (Bateson and Langeard 1981). Such attributes as courtesy and friendliness have been identified as critical in establishing consumer quality perceptions (Parasuraman et al., 1985). However, consumers as well as providers may agree that bank tellers, physicians and gas station attendants should be polite and friendly, but may disagree on whether the style of the encounter communicates these qualities.

This paper investigates formality as a dimension of the service encounter which can influence perceptions of quality. Specifically, we examine a particular behavior designed to express formality as opposed to familiarity: addressing a service patron by his/her first name. Numerous articles and letters in the popular press (e.g., Nemy 1987; Norgren 1986; Yardley 1985; Middleton 1984) suggest that this aspect of the service encounter is extremely salient to the consumer. Space allocated to letters on this topic in a medical journal (Natkins 1982; Fenichel 1976; Wilking 1974) suggests that service providers are also concerned. Therefore, the topic seems timely and important for marketers whose firms include a service component.

This paper presents an empirical study of consumer preferences for formality and distance in a variety of service situations. We suggest that consumer perception of a provider's status will influence his/her preference for a friendly, as opposed to formal, relationship. If the friendly relationship is preferred, a consumer will be more likely to respond positively when the service provider uses his/her first name.

Social Distance

Houston and Gassenheimer (1987) note the influence of the "social distance dimension" on exchanges. The authors suggest that family relationships exemplify minimal social distance, leading to more generalized reciprocity, while criminal-victim relationships represent the opposite pole.

Close relationships, these authors suggest, offer the parties a choice of non-role "transactions" as well as allocation of "giver" and "taker" roles between the parties. Services which encourage intimacy may come to resemble close relationships; thus, providers of services which require physical touch, such as dentists, nurses and hair stylists, may be enacting "giver" roles to clients who take on more passive roles.

Individuals in a close or "primary" relationship (Cooley 1909; Robertson 1974) react with spontaneity to each other as "whole persons;" by contrast, people in non-primary relationships respond with more routinized behaviors to role-related aspects of their partners. In a service context, a customer's relationship with a waiter or gas station attendant may be constrained by roles and minimally influenced by individuals occupying those roles, while the same customer's relationship with a dentist, hair stylist or psychotherapist may be more spontaneous and responsive to changes in the role-occupant. Moreover, in closer role relationships, the consumer may expect to be known as an individual rather than an anonymous face.

This concept of social distance has been incorporated in social psychological theories which address a variety of dyadic role relationships. Levinger and Snoek (1972) identify three "levels of relatedness" which are applicable to "human pairs of all sorts:" the "zero contact" level, preceding interaction; the "surface contact" level, incorporating role-related behaviors; and "mutual" relationships, where role partners identify one another as unique individuals, emotionally invest in the relationship and engage in mutual non-essential self-disclosure. Empirical studies of role relationships have also identified social distance as an element of dyadic encounters. Wish et al. (1976), studying dimensions of role relationships, identified one dimension labeled "socioemotional and informal" (family and close friend roles) at one pole and "task-oriented and formal" (interview/job applicant and business rival roles) at the other. Marwell and Hage (1970) labeled a similar dimension "intimacy."

Status vs. Solidarity Expressed by Form of Address

Brown (1965) specifically associates the social distance dimension with form of address. He refers to social distance as a "solidarity norm," which may conflict with "status norms" also governing form of address; "persons of inferior status...may be as solidary as the old family retainer or a younger brother and as remote as the waiter in a strange restaurant (p. 59)." The "status semantic" of the nineteenth century, Brown suggests, has been replaced by a "solidarity semantic" in the twentieth. Empirical studies tend to emphasize status rather than solidarity as a correlate of form of address choice. Brown and Ford (1961) found that age and occupational or organizational status accounted for non-reciprocal naming (i.e., one person is addressed by first name, the other by last name), with status dominant over age; thus, a young corporate executive would first-name an older janitor, reflecting American emphasis on achievement. Slobin et al. (1968), found similar status effects in an insurance company. Thus, as Brown (1965) suggests, form of address may have replaced status-based pronouns (e.g., "thou" vs. "ye") in contemporary language.

Both social distance and status have been identified as influences on forms of address used in professional and educational settings. Rubin (1980) noted that female professors were more commonly addressed by first name than male professors; while females might have lower status, the students also reported greater closeness with professors addressed by first name.

A survey of mental health professionals (Senger 1984) found inconsistent use of clients' first names, with a minority of providers (15%) favoring non-reciprocal naming, i.e., client uses therapist's last name and title but is addressed by his/her first name. Senger concluded that this ambivalence about naming may reflect therapists' ambivalence about balancing informality and closeness with "formality, respect and distance." Similarly, Selzer (1960) cautioned that first name usage may encourage psychotherapy patients to "regress" to a more childlike state or create a "chatty" rather than helpful environment. Although these therapist-authors do not seem to be aware of Brown (1965) and Brown and Ford (1961) they implicitly identify the conflict between solidarity and status, which translates to balancing the need for professional distance with the need to set a friendly tone conducive to disclosure.

Hypotheses

The consumer-provider relationship within a service encounter can range from a superficial contact between two strangers to a relationship in which the parties have a personal friendship extending beyond the service encounter (Loevinger and Snoek 1972). Attraction theory suggests that people prefer to be friends with people who are similar to one another and substantial research suggests that friendship rarely occurs between people who differ widely in status. Additionally, physical contact creates an intimacy and closeness similar to that of the "old family retainer" identified in Brown (1965), encouraging an emphasis on solidarity rather than status. Therefore,

> H1. Consumers will express preference for a more intimate or "solidary" relationship with service providers when (a) the provider's status is similar to their own and (b) the service requires physical contact between provider and consumer.

Brown (1965) noted that positive responses to first name usage were associated with solidarity or closeness in the relationship. Empirical studies in psychotherapeutic settings (Selzer 1960; Senger 1984) also associate first-naming with closeness and intimacy. Therefore, we would expect that

> H2. The more a consumer expresses a preference for a friendly, as opposed to superficial, relationship with a service provider, the more likely s/he will report positive perceptions of service quality following the provider's use of his/her first name.

Brown (1965) noted that status considerations as well as solidarity influence form of address. Moreover, a number of empirical studies (e.g., Rubin 1980; Little and Gelles 1975; Brown and Ford 1961) suggest that higher status "others" may generate less discomfort from forced closeness created by first-name usage than lower-status "others." Therefore,

> H3. Consumers will display less irritation and evaluate service quality more highly when they are first-named by higher-status, rather than lower-status, providers.

Age tends to be associated with deference in many segments of society. Additionally, Rubin (1980) found students were less reluctant to first-name younger faculty members than older faculty. Therefore:

> H4: Consumers will display less irritation and evaluate service quality more highly when the provider is in an older age group than when the provider is perceived as belonging to a younger age group.

Method

For this pilot study, 98 questionnaires were collected from a convenience sample of graduate and undergraduate students. Average age of the sample was 25.8 years, ranging from 20 to 51. Seventy-five percent were single, 21% married, and 3% were divorced; 53% were male. The questionnaire itself was based on two pilot studies involving faculty members at University of Connecticut and Georgia State University.

Service Provider Characteristics: Status and Age

Services were selected to represent high, low and medium status as estimated by Duncan (1961) and by a single-item measure in which subjects were asked to estimate providers' as well as their own status on a scale of 1 to 7 (7="high status"). Kluegel et al. (1977) support the measurement of status as a unidimensional construct. Table 1 suggests that respondents' perceptions resemble the rankings which Duncan computed by multiple measures. Within each category, high and low touch providers were chosen when possible.

Lawyer and dentist were selected as high-status providers; casualty (car and property) insurance agents, bank tellers and nurses were included in the middle status category; and the "low status" category was represented by gas station attendants and waiters. A low-status, high-touch category familiar to the subject population could not be identified; therefore, status rankings and friendship preferences were also obtained for the hair stylist (middle to low status) category. Over half the respondents reported using all service categories at least once within the last five years, except legal services (33% usage).

Influence of provider's age was assessed by distributing two versions of the questionnaire asking respondents to imagine the provider's age as either 25 or 45.

Dependent Measures

Two dependent measures were obtained: irritation with provider arising from uninvited first-name usage and an evaluation of quality following first-name usage.

Subjects were asked to use a 3-item semantic differential scale (appropriate-inappropriate, irritating-pleasing, and inoffensive-offensive) to indicate irritation with providers who, as strangers to the consumer, had obtained their first names from credit cards, deposit slips or appointment records. Scale items for each service loaded on a single factor, accounting for 76% (waiter) to 91% (insurance agent) of the variance; overall alpha coefficient was 92%. As these scales appear to measure a single construct, sums of the three item scores were entered in further analysis. A listing of scores for each service provider (Table 2) suggests a relationship with status rankings.

To measure service quality, respondents were asked to imagine that they had been asked by the provider in the previous settings to rate the service they had received, based on four qualities: "organized," "sincere," "caring," and "efficient." These qualities represent aspects of dimensions identified in Parasuraman et al. (1985) and were among those utilized to evaluate quality of bank service encounters (Surprenant and Solomon 1987). While "efficient" and "organized" were expected to emerge as a separate dimension from "sincere" and "caring," these four items were perceived as a single dimension by subjects in this study for all but "waiter" service, in which 2 dimensions emerged. The quality evaluation items were summed for the subsequent analysis. A listing of evaluations of the various service providers (Table 3) shows a relationship with status, similar to the irritation scores.

Preference for friendship, or closeness, with particular providers (henceforth called the PFF scale) was measured using a single Likert-type item for each service. Subjects were asked to indicate the degree of friendliness they would like to have for each service provider, ranging from impersonal ("deal with someone who doesn't know me") to "close friends with frequent social contact." Degrees of closeness were designed to resemble the levels of relatedness suggested by Levinger and Snoek (1972). Friendship preference scores (Table 4) show some relationship to status, but also are influenced by the presence or absence of physical contact during the service encounter.

Covariates: Individual Difference Variables

Two scales were created to identify individual attitudes toward first-name usage and preference for dealing with a provider "who is also a friend."

A scale to assess general attitudes toward first-name usage (henceforth called the GAFN scale) consisted of six items designed to capture the solidarity and status dimensions: respect associated with use of last names and creation of a more personal service relationship associated with use of first names. Additionally, two items were included to associate perceived quality with form of address preferences. A factor analysis of these six items uncovered these two dimensions.

A second scale (Preference for Close Relationship or PCR scale) asked respondents to indicate agreement with five positively-oriented expectations about dealing with a service provider who is also a friend, such as more enjoyable visits, better service and ease of problem-solving. These scale items loaded on one factor which accounted for 63% of the variance (alpha coefficient = .85).

As a third measure of individual differences, the individuation scale (Maslach et al. 1985) was administered. This scale attempts to measure the degree to which individuals feel comfortable differentiating themselves from "other people and objects" by asking respondents to indicate willingness to enact a variety of behaviors, from "giving a lecture to a large audience" to "presenting a personal opinion on a controversial issue to a group of strangers."

Individuals who prefer to be "individuated" in a variety of situations may be more likely to prefer dealing with providers who know them as friends. Psychological experimenters often create the "individuation" by referring to someone by name, as opposed to anonymity assciated with deindividuation. The use of a first name may communicate even distinction more than a last name with "Mr." or "Ms." Therefore, people who like to individuate themselves may be more likely to prefer a first-name relationship as well.

TESTS OF HYPOTHESES

Hypothesis I was tested using a regression equation with "preference for provider friendship"

TABLE 1

Perceived Status of Service Providers

Service	Perceived	Difference from "Own" Status
Dentist	6.10	1.51
Lawyer	6.03	1.46
Nurse	4.46	0.14
Insurance Agent	3.94	0.71
Bank Teller	3.46	-1.12
Hair Stylist	3.14	-1.44
Waiter	2.74	-1.87
Gas Station	1.81	-2.81

TABLE 2

Irritation Following First-Name Usage

Dentist	7.24	Bank Teller	14.47
Nurse	8.54	Waiter	15.10
Ins Agent	12.73	Gas Station	16.08
Lawyer	13.29		

TABLE 3

Evaluation of Quality following First-Name Usage

Nurse	20.07	Waiter	14.81
Dentist	20.42	Bank Teller	14.55
Lawyer	16.47	Gas Station	13.47
Ins Agent	16.00		

TABLE 4

Friendship Preferences

Lawyer	3.18	Nurse	2.64
Hair Stylist	3.21	Bank Teller	2.34
Dentist	3.12	Waiter	2.07
Ins Agent	2.81	Gas Station	1.79

TABLE 5

Predictors of Preference for Friendliness With Service Providers

Variable	Regression Coefficient
Intercept	1.84 (a)
Generalized Friendship Preference	0.02 (a)
Respondent Gender (1)	0.31 (a)
Perceived Difference Between Own Status and Provider's Status	-0.17 (a)
Physical Contact During Service Delivery (2)	0.15 (b)

(1) Male = 1, Female = 0
(2) Physical contact = 1, no contact = 0.

(a) Significant at $p < .0001$ (b) Significant at $p < .042$.

(PFF scale) as the dependent variable; independent variables included general preference for close relationships with the provider (PCR scale), difference between provider's and own status, respondent gender, and a dummy variable to indicate whether the service delivery requires touch.

Results (Table 5) suggest that respondents prefer to relate as friends rather than strangers or acquaintances when they perceive their social status to be similar to the provider's. Two services included in the study, dentist and nurse, involve physical contact as part of service delivery. Results here suggest that people prefer to deal with people they know when a service involves touching ($p < .04$). Interaction between status level and physical contact was not significant in this study. Respondents desiring closer relationships also tend to score higher on the scale testing generalized preference for friendship with service providers.

Although a specific hypothesis was not developed for demographics, males tended to prefer closer relationships than females. Further investigation would be necessary to explain this finding.

To test Hypotheses II and III, the seven service roles tested were grouped into the 3 categories utilized for their section: high (mean perceived status = 6.05), middle (mean perceived status = 3.95), and low (mean perceived status = 2.28). Mean values of the irritation and quality evaluation scores for these categories were significantly different from one another ($p < .05$), as estimated by Scheffe tests of multiple comparisons.

Irritation and perceived quality scores were entered as dependent variables. Covariates included provider's age (either 25 or 45), and individual difference variables: individuation score, general attitude toward first-naming and preference for dealing with the service category on a friendly basis.

Univariate analyses found all variables significantly associated with irritation at first name usage, and all but individuation significantly associated with quality evaluation (Table 6), Wilks' Lambda = .91, ($p < .02$).

Thus, respondents seem to distinguish levels of social distance identified by Levinger and Snoek (1972). However, regardless of preference for friendship, respondents were more willing to be addressed on a first-name basis by providers who (a) have higher status, and (b) are older rather than younger.

Results also suggest that people who like to be individuated (i.e., differentiated from other people and objects) feel significantly ($p < .0002$) less irritated when addressed by first name in a service encounter, but individuation does not seem to affect quality evaluation following first-name usage.

Summary of Findings

Respondents preferred to (a) develop a friendly relationship with providers whose status was similar to their own and (b) allow higher-status providers to use their first names. However, the intimacy generated by physical contact also seems to lessen the social distance between consumer and provider (Table 4). Although the interaction was insignificant in this study, future studies should be designed to address the relative importance of physical contact; a relationship between touch and status has been suggested by social psychologists (e.g., Henley 1977; Schlenker 1980).

This study also identified preference segments among consumers with respect to social distance. Significant individual differences included both demographic and psychographic variables. This result suggests the existence of preference segments among consumers, and the potential for negative perceptions of quality when consumers are treated identically.

An additional area of interest is a recasting of the model in a structural equation framework (Jorekog

TABLE 6

Relation of Irritation and Quality Evaluation To Provider and Respondent Attributes

Dependent Variable = Quality Evaluation	F	P
Provider's status	34.06	.0001
Provider's age (questionnaire version)	19.63	.0001
Depth of friendship preferred	25.34	.0001
Respondent's general preference for first-naming	92.25	.0001
Individuation	2.90	.0892

$F = 47.40$, $R^2 = .30$

Dependent variable = Irritation	F	P
Provider's status	63.21	.0001
Provider's age (questionnaire version)	16.06	.0001
Depth of friendship preferred	29.87.0001	
Respondent's general preference for first-naming	97.98	.0001
Individuation	13.65	.0002

$F = 86.05$, $R^2 = .43$

Wilks' lambda = .98, p < .02

and Sorbom 1984; Hayduk 1987). Within a LISREL format, general preference for friendship (PFF) is posited to be an exogenous latent variable. Irritation and quality evaluation preference for specific service friendship are modeled as endogenous variables within the LISREL framework. Additionally, an experimental approach in which respondents are exposed to only one treatment will avoid distortion of results associated with directed focusing on form of address. A follow-up study is planned to test these hypothesized constructs and their relationships.

DISCUSSION AND IMPLICATIONS

Haas and Deseran (1981) observe that, "American ideology is egalitarian...we conceal real differences in power behind a facade of equality." This study suggests that consumers may be aware of those differences as they deal with service providers, although they may not consciously associate those differences with status. During debriefings, several subjects expressed discomfort with drawing distinctions among service providers. In earlier pilot studies conducted with faculty through campus mail, a few people wrote on the form, "I do not believe in status differences;" however, results of surveys from student and faculty samples in two different states suggests that people not only make status evaluations, but also agree with one another in ranking service provider occupations.

The results here support Brown's (1965) framework of status and solidarity. The influence of first-name usage on evaluations of service quality seems related to the provider's perceived social status, as well as such status-related attributes as age. At the same time, some consumers do seem to prefer a more informal, friendly relationship with providers whose status is similar to theirs or somewhat higher. When the nature of the service requires physical contact, the consumer may prefer to be friends with the provider, regardless of status.

In defining the preferred style of a relationship, respondents seem to be influenced more by the nature of the service and the service provider than by their own individual differences. Therefore, segments may not be identifiable for providers to offer differential treatment. However, understanding the consumer's perception of the service category may help providers to delineate policies designed to elicit high quality ratings from consumers.

First, service providers cannot assume that consumers, clients or patients will respond positively when the contact provider addresses them by first name. There appears to be a sizable segment that will associate such use of first names with a lowering of service quality.

Second, providers should be aware that the specific type of service may affect a consumer's irritation with the use of his/her first name. High status providers, such as those in medical and dental settings, may choose to ask clients or consumers how they would like to be addressed. Providers of hotel, restaurant, airline and department store services may train employees to use either a last name or no name at all (perhaps only a "sir" or "ma'am"), as this study suggests that the use of first names will be poorly accepted by consumers in these settings. Furthermore, service marketers may want to be especially careful when an age discrepancy exists between consumer and provider.

Additionally, providers can train their personnel not to become too familiar with the customers, such as asking too many personal questions. Many consumers don't want to be more than a name and face to such providers as waiters and clerks; attempts at deeper relations may be perceived as intrusive rather than positive. On the other hand, consumers seem to want more personal relationships with medical providers. In this setting, more personal questions may be welcome, but this study should caution a provider to "test the waters" as some respondents indicated a preference for dealing with strangers.

Future research in this area can be directed toward the broader issue of social distance within a variety of marketing relationships. Applications may be found in retailing and industrial sales as well as a services marketing. While these relationships tend to appear very similar when compared with a full range of human relationships, this study suggests that important differences can be detected within the realm of marketing relationships.

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Psychological Reactance: Theory and Applications

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When you put your quarters in a softdrink machine, you would not like the machine to start flashing a large Coca Cola sign at you, complete with a flashing arrow that keeps moving to the button for Coke (Classical, of course). Or at least I don't think you would like that, even if you intended to obtain a Coke when you started to put your quarters in the machine. It was my belief that people would not like to be treated this way that led to the construction of reactance theory.

Having noted similar kinds of examples in life around me, I was impressed that people responded negatively to influence attempts that did not frustrate or even threaten to frustrate them, and sometimes the attempted influence was apparently in their own best interest. Eventually I went so far as to think that people would respond negatively to relatively impersonal influence attempts, as in the above example with a soft drink machine, and even to their own impulses and behavior.

What led me to this chain of conclusions, of course, was the idea fundamental to reactance theory, namely, that people become motivationally aroused by a threat to or elimination of a behavioral freedom. This motivational state is what is called psychological reactance. It impels the individual to restore the particular freedom that was threatened or taken away. It does not impel the individual to acquire just any freedom--only the one threatened or taken away will do.

You will note that I speak not of freedom in general but rather of specific behavioral freedoms. Examples would be the freedom to buy a Ford rather than a Toyota, the freedom to read Time magazine, and the freedom to attend this session rather than sleep late or to go sight seeing.

A reason for thinking in terms of specific behavioral freedoms is that one freedom can be threatened or lost without having any effect on the others. If, for example, I lose or misplace a book, my freedom to refer to or read that book is threatened or lost, but there is no effect on any of my other freedoms. A second reason for thinking in terms of specific freedoms is that some freedoms will be more important to the individual than will others, and, of course, people will differ regarding which freedoms are important to them. A third reason is that we can inspect specific freedoms to see if there is any logical or psychological relationship between them. It will sometimes happen that having one freedom will imply having another. For example, if a sportshirt is permissible attire at a certain restaurant, then presumably one is also free to wear a jacket and tie. A fourth and final reason for thinking of freedoms as specific is that the magnitude of reactance can be specified as increasing directly with both the number and proportion of freedoms that are threatened or eliminated.

Whatever freedom is threatened, whether it be the possession of a choice alternative or the adoption of a particular position on womens' rights, the resulting reactance leads to increased perceived attractiveness of that option. Thus, there may be two manifestations of the occurrence of reactance: actual attempts to restore freedom, and increased perceived attractiveness of the lost or threatened option.

That, in the shell of a macadamia nut, is the theory of psychological reactance. And like the nut, the theory, taken with a little salt, can be quite satisfying. It has led to the empirical demonstrations that, for example, a lost choice alternative tends to become more attractive, a forced attitudinal position tends to become less attractive, and a social influence attempt can easily boomerang. It has also led to the more surprising findings that choice alternatives tend to converge in their attractiveness as the choice point approaches, and that the introduction of a new, relatively attractive alternative, makes previous alternatives more attractive. While these findings are far from an exhaustive account of research results predicted by the theory, they are enough to give one some notion of the theory's usefulness.

Aside from the basic notion that people are motivated to restore specific behavioral freedoms that are threatened or taken away from them, the most innovative aspect of the theory, in my own opinion, is the implication principle. The implication principle is somewhat analogous to the principles of stimulus and response generalization that come from early research and theories on learning and performance--the work of Clark Hull, Kenneth Spence, and Neal Miller would be examples. But the implication principle is based on logical or psychological understanding rather than on stimulus or response similarity. It simply assumes that a threat to a particular freedom can frequently be seen as a threat to other freedoms. If the hotel management, for example, announced that you cannot bring coffee into the conference rooms, then you might conclude that no liquids are allowed in the conference rooms--not even bloody marys at 8:30 in the morning. Without doubt many implicational principles are culture bound, but it would be my contention that the general principle of logical or psychological implication always operates.

And so what if it does? What importance does the implicational principle have for the understanding of phenomena associated with psychological reactance, or more generally, for the understanding of behavior? Rather than attempt a formal analysis around the implication principle, I would like simply to point to a few settings in which an understanding of implications should be important to our understanding of behavior.

When a specific freedom has been threatened or eliminated, as when your spouse announces "I need the car tonight," at least two distinguishable types of implication are possible in regard to other freedoms. The first type of implied threat applies to the same freedom on future occasions. If, after announcing an intention to use the car, your spouse explains that a special emergency has arisen that requires use of the car, then you will understand that pre-empting car usage is not likely to recur. However, if there is no explanation, or if the explanation suggests your spouse wants to use the car on a whim or, worse, that your spouse will frequently want to use the car in the future, then your future freedoms to use the car are in great jeopardy.

The second type of implication is that other freedoms of the same general nature may be threatened. These would be freedoms such as watching your favorite TV program, spending one evening a week out with your friends, or going to bed early. The implied threat to these freedoms from the statement "I need the car tonight," is not necessarily direct, as would be the case if you needed the car in order to join your friends; rather, it can be indirect and would presumably apply to all freedoms of equal or less importance. If your spouse can say who uses the car at night, then your spouse may be able to say what program will be on the TV and whether or not you can spend the evening out with your friends. And if your spouse can decide who uses the car, then it is plausible that your spouse can decide about freedoms of lesser importance, such as who sees the editorial page first. Conversely, determining who gets the car may *not* imply a threat to a *more* important freedom, such as deciding to buy a new car or sell the house or get a divorce.

So the first type of implied threat is to the same freedom on future occasions, and the second type of implied threat is to freedoms of similar or less importance. And let us now ask why it should make any difference if there are implied threats to a few freedoms. Well, the answer to that question is first, that implied threats are likely to apply not to just a few freedoms but rather to a large number of freedoms. No serious research that I know of has been done on the notion of implication either within the framework of reactance theory or within the framework of another theory. I cannot say whether or not there may be limits on perceived implication. It is possible, for example, that you believe your spouse would gladly take away your freedoms to be with your same sex friends, but would never interfere with your time with the children. That is, there may be content areas that would tend to limit the freedoms affected by implied threat. In the absence of such a limit, or even if there were such a limit, the number of freedoms that could be threatened by arbitrarily reserving the car for the evening could be very large indeed. And then there are all the freedoms represented by possible future use of the car--one freedom each night for the coming year, some 365 freedoms threatened by implication! And if that is not staggering enough, just remember that the different kinds of freedoms that are of equal or less importance also may be threatened over future occasions. All in all, there could be some huge number of freedoms threatened by implication.

It is this implicational aspect that may give reactance theory some power to say something about the real world. It seems to be captured in the phrase, "If he does this to me, what *can't* he do?" That is, when one freedom is threatened or taken away, many many freedoms logically could be in danger, and they presumably will be perceived as threatened *unless there is an explicit and convincingly stated limit.*

What happens when a number of freedoms are threatened? Theoretically, there is a lot of reactance, or in other words, the individual's response is likely to be very strong. He or she will raise hell in order to restore freedom, and the threatened alternative will look very attractive indeed. My guess, and it is just a guess, is that all the reactance is focused on the explicitly threatened freedom. It is not spread out over all the freedoms that are threatened by implication. In fact, I doubt that people could easily articulate freedoms that are threatened by implication. It is more likely that they simply feel the threat is general rather than specific, and hence it could apply to any number of (unspecified) freedoms.

If it is true that people are generally unaware of freedoms that are threatened by implication, but they nevertheless respond as though those freedoms are really threatened, then their response will appear to be too strong for what has happened to them. They will be throwing tantrums as though it is the end of civilization if their specific freedom is not restored. Both the recipient of their response, and any uninvolved observer, will judge that they are "over-reacting." This discrepancy between the importance of the specific freedom that has been threatened and the magnitude of reactance could lead a person either to moderate his or her response, or it could lead a person to articulate the implied threats, which would maintain the strength of the original response. I presume it is the latter that is more likely to happen, though I have no good justification for this presumption.

Examples from the world about us come readily to mind. Two or three years ago when services at the Library of Congress were reduced because of the budget squeeze, users of the library screamed bloody murder. My guess is that while some users may have been inconvenienced, the real strength of their response came from the implied threat to all their uses of the library. After all, if certain services could be reduced, then what was to prevent those services from being eliminated altogether or other services from being reduced or eliminated?

Similarly, when the Coca-Cola company abandoned their standard recipe for Coke, the response of users was, of course, outrage. The threat was to present and future freedoms to obtain the familiar Coke.

These two examples, plus the hypothetical example of your spouse claiming the car for the night, illustrate one other important point about how freedoms are threatened by implication. The individual whose freedom is threatened must be embedded in a complex relationship with the perpetrator of the threat, and in order to have future freedoms threatened, the relationship must be enduring. People who live together, especially under the rules of marriage, are wonderful candidates for implied threats. But membership in organizations of most any kind supplies a ready source of implied threats. For example, an individual will tend to have many freedoms where she or he works, and one frequently expects to have a long term relationship with one's employer. A final, classic, example of potential implied threats to freedoms lies in one's relationship to local, state, and federal governments. Without going into the gory details, let me just remind you that a stop sign can be installed at an intersection where you don't have time to stop in the morning, your land can be seized to be part of a new state highway, and you can lose federal tax deductions for some business expenses. I'm sure you are all familiar with these problems.

The point I have been trying to make is that the magnitude of psychological reactance is greatly enhanced by implied threats to freedoms, and reactance theory may therefore be useful in understanding practical matters mainly where implied threats are involved. Otherwise, reactance effects frequently may be too miniscule to be of any consequence.

But I presume that for the purposes of this group it is not enough to gain new ideas about why you are so bothered by the cap's being left off the tube of toothpaste. Presumably, you would like to know what all this has to do with understanding consumer behavior. So let us consider how reactance theory applies to consumer behavior and let's start with what freedoms the consumer has.

Awareness that certain products or services exist creates freedoms, though in some cases these freedoms will be very weak. For example, even though I live in Lawrence, Kansas, I am aware that out there somewhere in the world there are French, Thais, and Nigerian restaurants. Do I believe I have the freedom to eat at such restaurants? Not really, not as long as I stay in Lawrence. But I know that I could venture forth, spending $100 or $200 for airfare, to obtain an interesting meal. That's a freedom, but not one that I wish to exercise very often.

From the consumer's point of view, there are great numbers of products and services available, usually for a price. Any factor such as price or unavailability that makes it difficult for the consumer to have the product or service reduces the extent to which that product or service is a freedom to the consumer. Nevertheless, a large price tag, such as for the purchase of a new car, makes the associated freedoms highly important to the consumer. If one cannot buy a different new car each month, then the single choice one makes must be the best possible. Because this kind of decision is infrequently made, there cannot be many future freedoms threatened by implication. But because of the importance of these freedoms, any implied threat would presumably arouse considerable reactance.

Again from the consumer's point of view, two different kinds of decisions can be involved in considering the available goods and services. The first is the decision that a particular type of product or service is needed. For example, this would be the decision to buy a new car, which may be made more or less independently from the decision about which car to buy. Where only one product or service of the desired kind is available, the consumer will have only two freedoms: (1) to have the service or product, or (2) not to have it.

The second decision, which of several similar products or services to select, involves the freedoms to have each product or service, and the freedoms to reject each. It will be obvious that the greater the number of similar products or services available, the greater will be the number of freedoms lost when a selection is made. The greater the number of freedoms lost, the greater should be the magnitude of reactance and consequent resistance to any particular selection. From this we can draw a couple of lessons about consumer behavior. First, the greater the number of products or services from which to choose, the more reluctant the consumer should be to select any given one. Second, the greater the number of products or services from which to choose, the greater will be the consumer's resistance to high pressure tactics to make a particular selection. Now let us see how implied threats, too, can play a role.

Given that the consumer starts out with the freedom to have each available alternative, almost any attempt to influence the consumer's decision is likely to create reactance and a counter-tendency. The amount of reactance and the strength of the counter-tendency, however, should be relatively small for most decisions that a consumer makes. If I am contemplating the soft drink section at my usual supermarket and someone approaches me to say "We are trying to get people to try Supercola, so the price of a sixpack is 50% off," I may well try Supercola. While some reactance is created by the influence attempt, it is not so much that it cancels out the attractiveness of a good buy.

Contrast that case with one in which I find that my usual supermarket has devoted 90% of its shelf space for soft drinks to its own house brand. Even though I can find the other brands that I am looking for, I cannot help noticing the attempt to influence my choice. Not only do I experience reactance, I feel a *lot* of it. Why do I feel so much? The reason that I feel so much reactance is because I choose not only soft drinks at this store, I also choose canned goods, pasta, frozen foods, and so forth. For each one of these choices that I make, there is the possibility that the supermarket is trying to influence me to select their house brand. Furthermore, because I shop at this store each week and expect to continue to do so, all my future choices as well may be subjected to influence attempts. You may be sure that I will not buy a house brand soft drink from this store. This is the obvious lesson about consumer behavior that we learn from reactance theory and its assertion about the effect of implied threats to freedoms.

In addition to the freedoms to have or reject particular products or services, consumers, I believe, think they have at least two other freedoms. Where a product or service is consumed regularly, the consumer expects it to be constant in character. I think the consumer believes it to be one of his freedoms that the character remain constant. The obvious example is that of the Coca-Cola recipe. It seems to me that much of the hue and cry occurred before anyone had a chance to try the new recipe. The problem was not the new taste but the arbitrary switch from the old taste. And if they do it once, they surely will do it again.

Second, and not too surprisingly, consumers come to believe they have the freedom to obtain the product or service, even if they don't regularly obtain it. Indeed, one of the most distressing things in my life is when I find that a product that I bought 10 years ago, and now want again, is no longer on the market. It could be seen as a form of censorship imposed by the private sector on the public, and no matter if the product was not profitable, if *that* item can be eliminated, will Wheaties be the next to go?

The more general picture is that consumers have a complex relationship with innumerable organizations or agencies, and any of these relationships is easily capable of threatening a consumer freedom and simultaneously implying threats to a number of additional freedoms. If your local newspaper stops carrying Doonesbury, your local public radio station stops carrying All Things Considered, or the TV network stops producing Hill Street Blues, not only is the specific freedom threatened or lost, there is the dim awareness that a number of other favorite items could just as easily be taken away. It is, I believe, the implied threats that make specific losses so motivating. Whether the attempt is to induce the consumer to take a particular product or service, to change or even improve an old product or service, or to eliminate an unprofitable product, to the extent that freedoms to have other products or services may be threatened by implication, consumer responses are likely to be negative.

Reactance Theory in Consumer Research: The Past, Present and Future

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The social psychological roots of reactance theory are reviewed followed by a discussion of the early consumer research that invoked reactance theory. More recent research is then discussed along with reasons why the theory has not received a great deal of attention in recent years. Finally a set of unresolved issues are presented which can serve to provide some guidance for those interested in conducting future research into reactance theory.

Reactance theory is a social psychological theory developed by Jack Brehm (Brehm 1966, 1972; Brehm, Stires, Sensenig and Shaban 1966; Hammock and Brehm 1966). The theory is concerned with how individuals react when their freedom to choose is restricted. According to the theory, when an individual's freedom to engage in a specific behavior is threatened, the threatened behavior becomes more attractive. For reactance to occur, the individual must have an expectation of free choice and the individual must perceive the freedom in question as being important (Clee and Wicklund 1980). In other words, "The consumer whose decision alternative is blocked (partially or wholly) by a barrier should become increasingly motivated to obtain that alternative"(Clee and Wicklund, 1980, p. 393.)In Brehm's (1972, p.1) words, "The basic idea of the theory is that a person is motivationally aroused any time he thinks one of his freedoms has been threatened or eliminated. This motivational arousal, ... moves a person to try to restore his freedom." According to Clee and Wicklund (1980), two conditions must be present for the operation of reactance theory: (l) an individual must expect a measure of freedom to act in the situation, and (2) some threat must arise which impinges upon that freedom. (A portion of this discussion is drawn from Clee and Wicklund, 1980 and Lessne and Notarantonio, 1988).

In one of the earliest laboratory investigations of reactance theory, Brehm et al. (1966) investigated the effects that product unavailability had on product attractiveness. Participants in the first session of the study listened to and evaluated four phonograph records. At the second session participants were told that they were going to listen to the same four records, evaluate them and choose one to keep. Prior to listening to the records during the second session, one group of participants was informed that one of the records was no longer available because it was missing from the shipment. In each case, the record that was reported as unavailable was the one that was rated as the participants' third choice. As reactance theory predicts, the third rated record increased in attractiveness as a result of becoming unavailable. Sixty-seven percent of those participants who had their third choice eliminated raised their evaluation. Only forty-three percent of those who did not have their third choice eliminated raised their evaluation.

The earliest study performed by a consumer researcher (Venkatesan 1966) was published in the same year that Brehm's (1966) seminal work, *A Theory of Psychological Reactance,* appeared. In this study, the focus was on group conformity behavior. In order to ascertain whether individuals demonstrate independence from the norm of the group, an experimental condition was created. In this condition, the three confederates not only indicated their choices, but they made sure that they were following the judgment of the previous confederate (not an independent judgment by itself). Thus, when freedom to choose was artifically restricted in this experimental condition, the subjects tended not to conform as much as evidenced in the "conformity condition."

Mazis, Settle and Leslie (1973) applied reactance theory in a field study investigating the effects of a ban on phosphate detergents in Miami. They found that Miami residents evaluated phosphate detergents more favorably than residents of Tampa where phosphate detergents were still available. This study is perhaps the most convincing in terms of demonstrating the theory's relevance to consumer research.

Lessne (1987) investigated whether retail advertisements which describe sales of limited duration (e.g. One Day Only, Three Days Only) are capable of increasing consumer demand. One of the key findings of the study is that an advertisement for a One Day Only sale results in greater purchase likelihood than advertisements for a Three Day Only sale, a Five Day Only sale and a sale of an unstated duration.

Lessne and Notarantonio (1988) investigated the effect of limits in retail advertisements (e.g. limit 2 per customer, limit 4 per customer). A key finding of this study is that limits are capable of increasing attraction to the advertised product (soda). Those in the limit 4 treatment group evidenced a greater intended purchase quantity as well as a stronger belief that "many will want to purchase this product after seeing this ad" than those who were exposed to a control ad which did not contain a limit statement.

In a strict sense, according to reactance theory, those who are exposed to an advertisement with a limit 2 statement should be more attracted than those exposed to a limit 4 statement. "The magnitude of reactance aroused by the introduction of a barrier is a direct function of the size of the barrier up to that point at which the barrier becomes too great to overcome."(Brehm, 1972, p. 17) Lessne and Notarantonio's (1988) findings indicate that the limit 4 statement resulted in a greater likelihood of buying and a stronger belief that many will want to purchase. Even though the limit 2 barrier was not "too great to overcome" participants in the study acted as if they perceived it as too restrictive. The "sour grapes" effect (Clee and Wicklund, 1980; Hammock and

Brehm, 1966) provides an explanation of this outcome by maintaining that objects which become unobtainable will be derogated by individuals. The sour grapes effect and the reactance effect are therefore countervailing forces. Lessne and Notarantonio's (1988) findings indicate that the sour grapes effect can be operational even if the object is not entirely unobtainable.

Lessne and Notarantonio (1988) also investigated whether the imposition of limits has a differential impact on individuals with different demographic backgrounds. Older individuals and those with higher incomes were found to be more positively affected by the limit 4 treatment than others. The importance of this finding is that certain market segments may be more "limit-influenced" than others.

UNRESOLVED ISSUES

There has been extremely little empirical reactance theory consumer research conducted since Mazis et al (1973) (cf Henion and Batsell, 1976; Lessne, 1987; Lessne and Notarantonio, 1988). As a result of this paucity of research we do not have a great deal of insight into how "translatable" reactance theory is to a consumer behavior context. It is not possible at the present time to know what modifications or extensions are necessary (if any) to apply the theory to the context of consumer behavior.

Perhaps one of the reasons why there has been so little empirical research in the context of consumer behavior may be that the theory is not seen as having managerial ramifications. An additional complicating factor is if that the theory can be appied to a manager's benefit, such an application may be deemed unethical. The findings of Lessne (1987) indicate that reactance theory may have managerial applications but such applications would indeed be considered unethical. Clearly corroboration of these findings would be managerially relevent; managers might be encouraged to advertise sales as lasting for a short duration to increase purchase likelihood.

Perhaps an argument can be made that advertising sales of short duration is indeed ethical because those who make such purchases will derive greater satisfaction from the purchased product *because* they purchased it during a sale of short duration. This outcome would still be cause for ethical concern if the consumers' increased level of satisfaction was due to the mistaken belief that the purchase made at a sale of short duration was a better value than a sale of longer duration. Indeed a preliminary analysis of advertisements for sales of short duration indicates that the length of the sale is not related to amount of savings.(Lessne 1988)

The countervailing nature of the reactance effect and the sour grapes effect makes reactance theory research all the more challenging. A message that is intended to cause reactance and therefore increase attraction may instead cause sour grapes and decreased attraction.

According to reactance theory, reactance appeals should increase consumers' attraction to the advertised product because such appeals threaten consumers' freedom. (Lessne 1988) Advertisements which describe sales of short duration or limited purchase quantities (e.g. Limit One per Customer) may be viewed as reactance appeals. This discussion raises a number of important unresolved issues with respect to reactance theory implications for consumer behavior research. Central to these issues is the reactance appeal construct. A reactance appeal is defined as a statement in an advertisement which is perceived as restricting consumers' behavior with respect to the advertised product.

The extent to which consumers feel their freedom threatened by a potential reactance appeal would provide an indication of the relative validity of the reactance appeal construct. Unfortunately, inclusion of a question on a survey instrument such as, "Please indicate the extent to which you felt your freedom was threatened by the advertisement", is not very plausible. In other words, it is very difficult to determine whether individuals are indeed experiencing reactance. This being the case, in a strict sense, it is impossible to determine whether reactance is operational or if a competing theory can satisfactorily explain this behavior (e.g. commodity theory Brock (1968)). Anyone who is contemplating performing research using reactance theory should realize that it will remain virtually impossible to unequivocally demonstrate that reactance is being aroused. Does this then mean that the theory should be abondoned? No, it just requires a shift in how the theory should be applied in consumer research.

It is our view that the driving force behind reactance theory applications for consumer research should *not* be the theory per se but the phenomenon under investigation. The theory should play a guiding role, but consumer behavior research will necessarily become very restricted if one maintains only a strict theory-testing perspective. This is true because the phenomena we are concerned with typically do not fit within the strict confines (assumptions) of the theory. Being entirely theory-driven would result in research into phenomena which are not necessarily important but rather phenemona which happen to fit closely with the theory whether or not the phenomena are important. The advocated position would result in reactance theory playing an important guiding role, possibly in conjunction with other relevant theories. The focus should be on the phenomena of interest not the theory.

The limited research in consumer behavior appears to demonstrate that reactance appeals may be capable of increasing product attraction, but it has not shed much light on the nature of the relationship (Lessne 1987,1988; Lessne and Notarantonio 1988). The relationship between a reactance appeal and product attraction may be mediated by a number of inferences made by the consumer, for example: 1. price inferences (e.g. the product must be a bargain), 2. scarcity inference. Lessne and Notarantonio (1988) provides some support for the notion that the reactance effect is not mediated by price inferences.

Reactance theory is also potentially capable of explaining the effects that a "hard sell" can have on consumer choice. For example, if a consumer perceives that a salesperson is pressuring him/her into the purchase of a specific product, reactance may be aroused. The reactance effect would motivate the consumer to reassert their freedom by *not* purchasing the promoted item.

The relative success of the Home Shopping Club (HSC) may be partially attributable to reactance. HSC markets products via a cable television show. Consumers can only purchase products by phoning in their order during the very brief period (5-15 minutes) when the product is being featured. This temporal barrier may serve to promote reactance and therefore result in increased attraction.

CONCLUSIONS

While there is not considerable empirical research in the application of reactance theory to the consumer behavior context, available evidence to date suggests that reactance theory would seem to be applicable to a limited set of conditions where consumers' freedom of choice is threatened. Such threats come from product unavailability or restrictions placed on the number of items one can purchase during a "sale" or restrictions imposed by limiting the duration of a "sale." While these conditions fit the requirements of reactance theory, experimental field studies have not been conducted which fully explore the utility of the theory to consumer behavior. What is suggested here is that the theory not be tested in the strict theory testing perspective but rather that the theory be used as a guiding framework in investigations of important phenomena.

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Computer Assisted Laboratory Research

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ABSTRACT

Though computers have been used extensively in consumer research for analysis, their uses in laboratory settings have been limited. The current paper discusses the use of computers in laboratory consumer research. Specifically it focuses on the use of computers to present the similus and/or record the response. Relevant topics such as analog-to-digital conversion are also discussed.

INTRODUCTION

Computers have been used extensively in consumer research for purposes such as gathering data, inputing data, analyzing data, and developing presentations of the results. However, their use in laboratory consumer research has been limited. Though some studies exist which have used computers in laboratory settings, overall, there is much greater potential for their use in such an environment. The current paper discusses the use of the computer in laboratory consumer research.

In such a laboratory setting, there are generally three elements (the three elements of the classic black box model): the stimulus, the subject, and the response. Since the computer is very seldom used as the subject (except in instances of simulation), it is usually associated with either the stimulus or the response. Thus, the computers greatest potential in laboratory consumer research is in either presenting the stimilus, measuring the response, or both presenting the stimilus and measuring the response. Each of these uses will be discussed individually.

STIMILUS PRESENTATION

The computer can be used to either present the stimilus directly (i.e. through a display on its monitor or through computer generated sound), or can be used to control other devices which are presenting the stimilus (e.g., VCRs, slide shows, audio equipment). There are two primary advantages of using the computer to present the stimili of an experiment. First computers afford greater accuracy in stimilus presentation, both in terms of timing and consistency across subjects. This reduces error variance that can result from slight variations in stimilus presentation from subject to subject and allows the researcher to make finer stimilus differences across experimental groups. The other major advantage is that the stimilus can be changed and/or randomized much more easily. Differences across groups can be obtained by simply programming the computer to either randomly or systematically present different stimuli to different groups.

Though stimilus presentation can be facilitated greatly through the use of computers, there are two major challeges to their use in this way. First, it is often difficult to keep from intimidating subjects. This is particularly true if subjects are drawn from a pool of individuals who do not typically interact with computers. My personal experience has been that this problem is minimal when using student subjects. A second related problem is that it is more difficult to create some degree of realism when the computer is presenting the stimuli. For example, people typically do not read package information from computers. Though package information acquisition research can be done through computers, it must always be remembered that consumers are not reading this information in the way that they normally do.

One other way that the computer can be useful for stimulus presentation is that it can be used to develop the stimulus. For example, one might be interested in studying the effectiveness of an advertisement based on the presence or absence of certain claims made in the advertisement and the interaction effects of these advertising claims. One might use a factoral design where each of four factors represented the presence or absence of a claim. In this instance, he or she would need to develop sixteen versions of the advertisements. With recent advances in word processing and desktop publishing, this becomes a relatively easy and straightforward task.

RESPONSE MEASUREMENT

Computers can also be used to measure the responses of the subjects. There are three primary advantages to their use in this manner. First, given that computers have an internal clock, it is much easier to make time a variable in the study. For example, responce latency has sometimes been used as a measure of the degree of cognitive processing. Such measures though difficult to obtain otherwise, are easy to obtain through the use of the computer. Second, "continuous" measures can be taken much more easily. For example, physiological responses such as skin resistance, brain wave activity, respiration, etc. are continuous. Through computerizing the data collection process, the recorded nature of these responses can approximate their true continuous nature. Third, when the computer is used to collect the data, this data is entered directly into the computer. Beyond *sometimes* making the data entry process easier, this has the advantage of reducing (or totally eliminating) any data entry mistakes. I emphasize sometimes because it has been my experience that it is often more difficult to program the computer to collect the data than it is to simply have a research assistant enter it directly into the computer.

Data aquisition techniques via the computer differ depending upon the requirements placed on the subjects and the continuity of the data.

Requirements on the Subjects

Based on the requirements on the subject, measured responses can either be cognitively mediated responses or psychophysiological responses. Cognitively mediated responses imply that consumers must, through thinking about the task, come up with the response that is then recorded by the computer. Though this is by far the most common way of data collection in consumer research, it is possible to collect responses that are not cognitively mediated but rather occur naturally. The majority of these responses are physiological in nature (eye movement, heart rate, brain waves, skin resistance, etc.). Though there are numerous potential problems with such physiological measures, in some settings, they may be much more appropriate than cognitively mediated responses.

Continuity of Data

The other way of catorgorizing the response is based on the continuity of the data gathered. Some data is continous across both time and intensity of response. Other data is not continous across either time or intensity of response. Data that is not continous across either time or intensity is much easier to collect. If the data is noncontinuous across time, then it is just a matter of measuring the intensity of the response at the specific time that the response was made. For example, if one were interested in excitation at the point of a response, then he or she might take some physiological measures at some reference point in time (e.g., before the study begins) and then take those measures again at the point of interest. Also, responses that are noncontinuous across intensity are much easier to collect. This implies that when intensity changes it changes in discrete increments. Thus one need only measure the time when the intensity changed and, perhaps the level that the intensity was changed from or to. Finally, if time is not an issue, then responses are also easy to obtain.

When measures are continuous across both time and intensity of response then data collection becomes more complicated. Somehow, the continuous nature of either the time or the response level must be changed. This can be done by either "holding time constant" or "holding the level of the response constant." "Analog to digital conversion" typically occurs when time is held constant. This is done through a technique called "sampling." This means that, at predetermined time intervals, measures of intensity of response are taken. For example, in a study that was recently conducted in my laboratory, subjects were asked to indicate affectivity in response to an advertisement in a way similar to the warmth monitor of Aaker, Stayman, and Hagerty (1986). Subjects responses were continuous across time. To convert these measures to data that were easier to record and analyze, we "sampled" their response every .5 seconds. Thus, though the intensity level remained continuous, there were only 120 measurements at specific times in a one minute testing

Alternatively, one could allow time to vary in a "continuous" manner and hold intensity or level of response constant. For example, one might have a predetermined response level threshold that when the subjects response either went above or below the time was recorded. One might also be able to take some continuous measure of response, and when some cumulative level was reached, then the time was recorded. There are numerous examples of these approaches in psychophysiological research, but their discussion is beyond the scope of the current paper.

STIMULUS PRESENTATION AND RESPONSE MEASUREMENT

Probably the most promising use of the computer in laboratory consumer research occurs when the computer is used to both present the stimulus and measure the response. In addition to having all the potential advantages discussed above, this also allows the researcher to set up an interactive laboratory setting where the presentation of the stimulus is contingent upon the previous response of the subject. For example, one might be able to use a program such as Hypercard on the Macintosh to develop a simulated shopping trip. Here, the consumer could first be presented with a set of stores from which to choose. Upon selecting a specific store, the consumer would be presented with a floor plan of that store. The specific floor plan would be dependent upon which store the consumer selected. The consumer would then be carried through the process, going from area of the store to area of the store, product to product, brand to brand, and back from store to store where each floor plan, section, brand, product, is presented to the subject based on the subject's previous responses. At any point in time, what the consumer would be looking at would be determined by the series of responses that preceded that particular point in time. This type of research setting is not significantly different from what actually occurs when a consumer goes on a shopping trip. What the consumer is looking at is determined, to a large extent, by previously made decisions. Thus, by allowing stimulus/response interaction, the computer can come closer to approaching the realism of an actual shopping trip.

Stimulus/response interaction can also be used to simplify the task for subjects. For example, in our laboratory we are currently working on a study where subjects indicate salient attributes in a choice setting and then these salient attributes are presented in a paired comparison rating task. After inputting the salient attributes, it is a relatively easy task to have the computer derive all of the paired comparisons and then present them to the subjects one pair at a time. Rather than having the subjects or the experimenter derive the pairs at the time of the study, all subjects need to do is input the salient attributes, and then the computer presents them with pairs to compare, one pair at a time. This has, in essence, taken a complex task and made it simple.

CONCLUSION

The current paper has not discussed all of the possible applications of the computer in labortory consumer research. However, it has discussed some of the major areas that have aided my research. It is hoped that this discussion will encourage researchers to try some of these techniques and to develop new innovative techniques of their own.

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Toward Development of a Model of the Mediating Effects of Household Geographic Mobility on Consumption, Patronage, and Social Status Mobility

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ABSTRACT

In the present article, geographic mobiles are considered in the contemporary social context. A Model of the Mediating Effects of Household Geographic Mobility on Consumption, Patronage, and Social Status Mobility is set forth and implications of effects are discussed. The model is described from both a macro and micro market segmentation perspective.

Introduction

Household geographic mobility affects consumer decisions at both the macro and micro level of demand. At the macro level, marketing managers are concerned with the implications for across product class demand effects. That is, the battle for the consumer's dollar may be between product classes rather than between brands within a product class. At the micro level, marketing managers are involved with brand strategies where demand is stable within product classes. This dual effect is related to effects which mobility status has on social class and social status. In other words, household geographic mobility might be theorized as both resulting from social class change, as well as causing a change in social status (see Figure 1).

Household Geographic Mobility Segments

Andreasen's (1966) theory of geographic mobility posited that mobility classes or segments of consumers had unique demographic and life-style characteristics. Andreasen's research efforts supported this theory with findings that long distance mobiles were different from other population members in certain but not all demographic and life-style characteristics. Because demographic and life-style characteristics are frequently used to construct scales of social class, it is reasonable to assume that mobility also may be related to social class.

Fisher (1986) construed *social class* as a function of occupation while arguing that *social status* related to family and community. Further this researcher suggested an interrelationship between the two: for example, a job promotion might cause a social class increase, producing a greater need for home/community related status. In this context, geographic mobility is apt to result.

Fisher's propositions 3 and 4 are instructive:

> Proposition 3: Goods may be said to take on the properties of status symbols if the purchase and use of them is indicative of membership in a particular status group. Furthermore, status symbols are efficacious only insofar as there are restrictive mechanisms associated with their appropriation that serve to limit their "fraudulent" use.

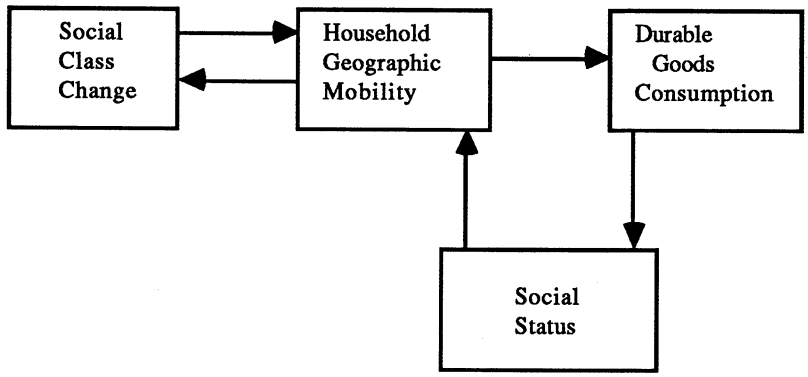
> Proposition 4: Just as consumption style can be used as a technique of exclusion, serving to maintain the privilege and status of those who belong, so too can consumption "finesse" or expertise provide a means of penetrating class and status barriers. In other words, consumption can be enlisted as a strategy to advance social class standing.

Just as product consumption generates status implications so does retail store patronage. For example, Dawson and Cavell (1986) Jain and Etgar (1976) and Hirschmann (1978) have all noted that consumers array a hierarchy of stores along the dimension of status. The question of whether mobility status affects retail patronage is less clear. Bell (1967) examined the effect of mobility class on retail patronage for ten types of retail outlets. Bell concluded that the number of potential suppliers visited and screened and the length of time it took to rebuild the retail sources of supply was affected by mobility status. On the other hand Dickson (1982) compared long distance mobile consumers to other consumers in a role-playing experiment and found that mobility had no effect on whether chain stores or local businesses were more likely to enjoy patronage.

The basic tenet of segmentation theory is that there be homogeneity within segments but heterogeneity between segments (Kotler 1988). A scale which classifies geographic mobiles, according to their consumption differences, may embody the effects of homogeneity of not ONLY consumption, but of social status and other demographic characteristics as well. While thee are a number of viable segmentation dimensions, (e.g., distances moved or before vs. after move house values), the authors will focus on the long distance vs. short distance criterion studied by Andreasen, Bell and others.

One good reason for such a segmentation scheme is that motives for long distance or inter-county (or inter-Metropolitan Statistical Area (MSA)) mobility is likely to differ from motives for short distance or intra-country (intra-MSA) mobility. Long-distance moves often stem from job transfers or desire to return to the city of birth where relatives are proximate. Such moves may entail not only change of job status, but of employer as well. Short distance moves on the other hand are more likely motivated by house or neighborhood status considerations. Need for more room for a growing family may prompt a move to a larger house. On the other hand, promotions and pay increases may result in ability to climb the social class ladder by moving into a more expensive house in a "better neighborhood." A sense of social class significance is usually more clearly understood by

FIGURE 1



households who have lived in an MSA for a number of years than a household moving into an MSA.

Though past studies have implied or shown that geographic mobility segments are related to social status and demographic and lifestyle characteristics (Andreasen 1966; Bell 1967, 1969) the primary concern to marketers is whether and how geographic mobility segments relate to product demand and retail store patronage. Indeed, it can be argued that unless segments can be related to demand, that segments are meaningless and do not exist (Dickson and Ginter 1987). In reality, while clusters of consumers with homogeneous demand functions is the determining rule, the usefulness of segments to marketers is lost unless segments can be located and products and promotions positioned accordingly. If geographic mobility classes are most closely aligned with demand segments, then geographic mobility classes become an important positioning tool.

The usefulness of geographic mobility classes as segments is enhanced if mobility segments are related to social class and demographic and life style segments. However, a caution must be exercised, for demographics, lifestyles, and social class tend to be much more temporarily stable than geographic mobility. For one thing, consumers who move one year may not move the next, or even for 4 or 5 years thereafter. Longitudinal studies are needed to determine the tendency for population groups who are mobile one year to be more likely to be mobile in the future. What is known is that the percent of the population which is long-distance mobile tends to fluctuate within a stable range of 17 to 21% (*Current Population Reports*, U.S. Census Bureau). General economic factors result in the fluctuations from year to year (*Wall Street Journal* 1987).

With these considerations in mind, a combined macro and micro segmentation model of the role of geographic mobility in product and retail patronage demand is proposed in the next section. Geographic mobility segments are considered in the context of social status and demographic and lifestyle characteristics.

Model of Demand

The value of segmentation to marketers lies in its implications for marketplace behavior, or demand. Household geographic mobility, might be termed a *macro*, in contrast to, a *micro* segmentation variable. On the other hand, individual variables such as income, occupation, social class and status are micro segmentation variables. Figure 2 illustrates the linkage of both macro and micro segmentation variables to each other and to the demand for both products, and retail store patronage.

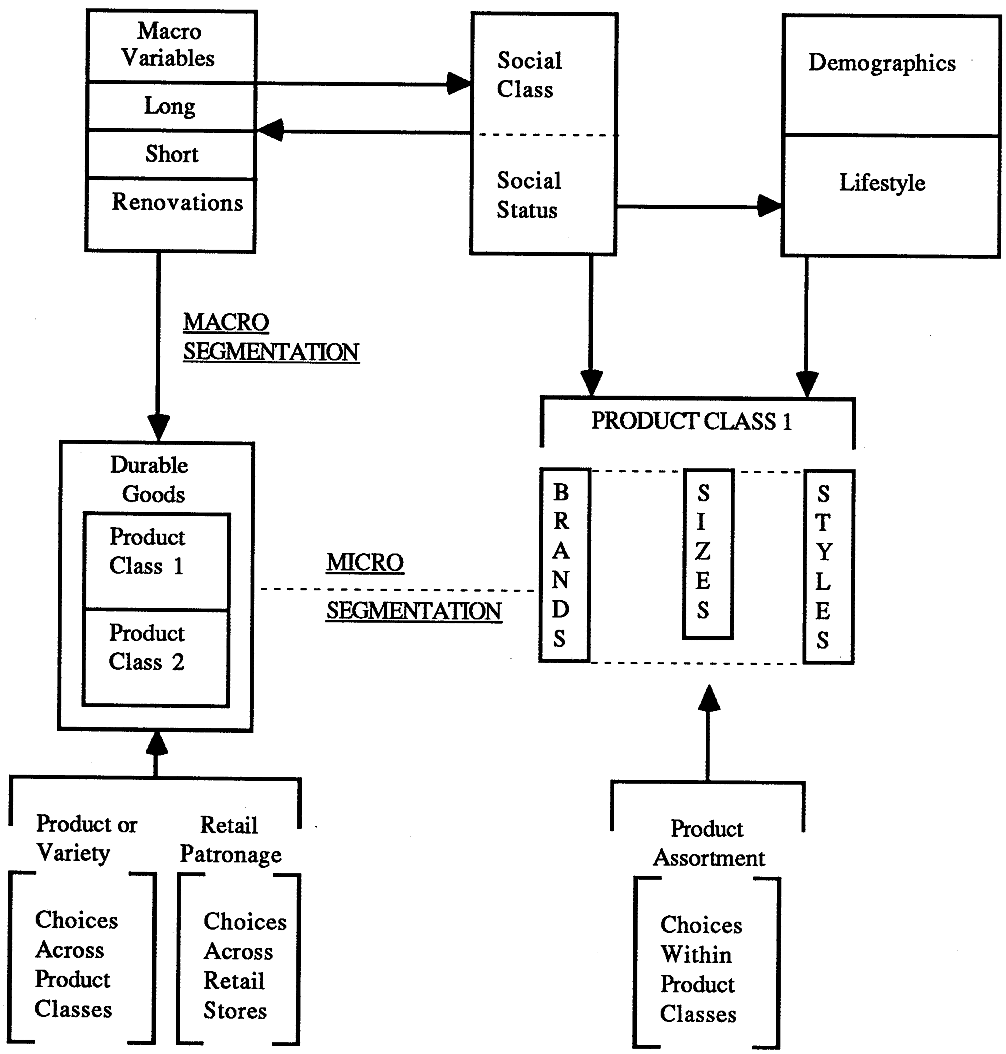
Important dependencies in this model may not be obvious from the general structure of the model diagrammed in Figure 2. One key link is that between Social Class and Geographic Mobility. If Geographic Mobility drives the model, then Social Class effects will be minimal and micro segmentation effects will depend on macro segment choices and likely be in line with pre-mobility demand patterns. On the other hand, if social class change drives mobility, then the impact of mobility on macro segmentation choices will be subjugated to micro segment effects of Social Class change on product assortment choices. In this latter case it is also apparent that income plays a constraining role in that macro level and micro level decisions are nested in a constant sum model. Satisfied demand at the micro level constrains choices available at the macro level.

Discussion

Mayo and Qualls (1986) have suggested that the concept of "priority," or the sequence of acquisition reflecting the order in which households acquire goods, requires not only cross sectional analysis, but longitudinal study as well. This is largely due to societal changes over time. Similarly, the product demand effects of geographic household mobility requires such research.
Also, the application of the geographic mobility dimension as a useful segmentation tool necessitates improved scaling. Research must be directed at testing the validity of this dimension in predicting consumer marketplace - product and retail patronage - decisions.

FIGURE 2

A Proposed Model of the Mediating Effects of Household Geographic Mobility on Consumption, Patronage, and Social Class Mobility



Schaninger (1981) and Dominequz and Page (1981) have contributed a thorough and thoughtful review of the important, but murky, social class issue. These researchers provided studies which both rejuvenated and illuminated an ongoing debate over whether income or social class is the better predictor of buyer behavior (Coleman 1983). Inasmuch as household geographic mobility has been theorized to be related to the complex matter of social class, similarly thoughtful research must be directed at developing tests which will capture the intricate social class effects stemming from the Model of the Mediating Effects of Household Geographic Mobility on Consumption, Patronage, and Social Status Mobility.

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Household Geographic Mobility and the Impact on Macro Market Segments

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ABSTRACT

After more than a quarter of a century (1947-1975) in which one-fifth of the population consistently changed addresses each year, the annual mobility rate declined to 17.3% only to rise again in 1984-85 to 20%. Because of the numerous macro and micro implications, other academic disciplines, in addition to marketing, have studied the mobility phenomenon in recent years. In the present study, three emergent societal groups - long distance mobiles, short distance mobiles, and renovators - are studied in the contemporary societal context. The relevance of household geographic mobility as a contemporary segmentation base is evaluated by rigorously defining, and testing the purchase behavior of resulting segments. The applications of these findings for mobility theories are also addressed.

Introduction

The rate of annual geographic mobility in the U.S. is intimately intertwined with such societal trends as the increased number of single adult households, two-person cohabitant households, and group households. The latter consist of several persons of the same or opposite sex sharing expenses by living together. Such non-family households are growing more rapidly in number than are the conventional family households (Kotler, 1980). Interestingly, the phenomenon of contemporary geographic mobility is multi-dimensioned in that increases are perhaps occurring in the rate of geographic mobility within the non-traditional household sector at the same time that the traditional household sector had been experiencing a decreased rate of growth. Yet, the demand for housing and for related products and services, might be experiencing double jeopardy: not only is the mobility rate down among traditional households, but the net impact of the increased rate of mobility among the non-traditional sector might be to decrease the number of new household formations.

The mobility and non-mobility decisions of both traditional and non-traditional households are emerging, and increasingly being shaped by societal and other "environmental" developments. At the same time, these decisions are reshaping the nature of this environment, as well as the demand for products and services.

Both the academic and practitioner sides of the discipline of marketing, are affected at the macro as well as the micro levels. At the macro level, the role of marketing, and the marketing concept, in the greater U.S. society is affected. For example, Hirschmann (1983) has reported that "the marketing concept, as a normative framework" is not always applicable "because of the personal values and social norms" that characterize a particular process. The selection of market segments and the design of marketing mixes are impacted at the micro level as well.

The three objectives of this research are:

1. To reevaluate the existence of household geographic mobility segments in a framework provided by theoretical contributions of earlier geographic mobility researchers.

2. To use these evaluations to test hypotheses stemming from these theories.

3. To examine the relevance of household geographic mobility as a segmentation base for demand in the contemporary society.

Rationale for Mobility Segments: Resulting Product Decisions

Over twenty years ago, Andreasen (1966) proposed his "tentative theory of geographic mobility." This was based on the proposition that "long-distance" geographic mobiles, as opposed to "short distance" or local movers, possessed certain demographic and life-style characteristics which facilitated both the opportunity and willingness to undertake more complex changes in their places of residence. Andreasen tested the theory in a study of Philadelphia (PA) households which had recently moved to that city. A principal finding was that long distance mobiles might be regarded as a market segment because they exhibited a distinct demographic and life-style profile (See Table 2). He presented data on the nature of actual or planned purchases or major assets (Included were: major appliances; minor appliances; furniture; automobiles; clothing; drapes; slipcovers; and other.) after the long distance mobiles' arrival in Philadelphia. Based on the percents of sampled long-distance mobiles who indicated either actual or purchase intentions-- percents ranged from 15.5 of the sample indicating actual or planned purchases of minor appliances to 83.8 for drapes and slipcovers-- Andreasen concluded that these mobiles would be important target customers for many such products. While Andreasen contended that these purchases would exceed those of either local movers, or non-movers, he did not support this with data. In all of the categories of major products, or assets, studied by Andreasen, a greater proportion of the sample reported actual, as opposed to planned or purchase intentions, so that by the time of the survey, purchases had already occurred. This provided a much stronger behavioral statement of demand than purchase intentions which may or may not occur.

Rationale For Mobility Segments: Resulting Retail Patronage Decisions

Soon after the Andreasen Philadelphia study, Bell (1967) conducted research on a sample of long-distance mobiles in an urban Michigan location. To test Andreasen's contention that long-distance mobiles would experience considerable store switching, Bell investigated the nature of patronage changes in ten retail categories (The ten were: food store; beauty parlors; dry cleaners; financial institutions; insurance firms; furniture stores; appliance stores; women's clothing stores; men's clothing; and medical services.), Bell found the length of time it took to rebuild the retail sources of supply could vary from almost immediate for supermarkets and banks to nine weeks to select dentists and sources of supply for women's clothing. Similarly, the number of potential suppliers visited and screened, ranged from one in medical service to four in selecting a furniture store (Bell, 1967). Like Andreasen, Bell concluded that long distance mobiles constituted a unique market segment.

However, though Andreasen and Bell contended that the long distance mobiles represent a viable segment, they did not empirically demonstrate that these mobiles differ in their marketplace responses, from shorter distance mobiles or non-mobiles.

Household Geographic Mobility as a Segmentation Base

A requirement of segmentation is that there be congruity or homogeneity within segments, but a lack of congruity or heterogeneity across segments (Kotler, 1980). The two existing studies did not show that the long-distance mobiles, as a "segment," respond differently (with their product and retail patronage marketplace decisions) than do those who are not long-distance mobiles. While other researchers have suggested possible homogeneity within the local movers segment, marketplace responses again were not tested (Quigley and Weinberg, 1977). Thus, geographic mobility as a segmentation base has not been tested by marketplace behavior for neither homogeneity within, nor heterogeneity across, resulting segments.

The mobility segmentation base embodies both practitioner and theoretical considerations. Some of the practical implications of the earlier marketing mobility studies have been noted above. While both Andreasen and Bell focused on the inter-urban mobiles as a market segment, Quigley and Weinberg (1977) reviewed 1970-1975 Census data and suggested the possibility of a homogeneous segment consisting of intra-urban mobiles. However, some research challenges the notion that significant differences in marketplace responses result from mobility status. For example, Dickson (1982) performed a role-playing experiment which contrasted the patronage preferences of long distance mobiles vs. all other consumers of major appliances. Dickson found that mobility status did not affect selection of chain stores vs. local stores.

The study of geographic mobility has received research attention over the years from academic fields other than marketing and while the marketing studies have focused on the long-distance mobiles, the other fields have tended to concentrate on the local, or intra-urban, mobiles. A theoretical rationale for possible divergent marketplace behavior between the two groups of mobiles is provided by Roseman, a researcher from the field of geography.

> The migration process is formally distinguished by Roseman according to a human movement concept utilizing partial and total displacement. Partial displacement is defined as a move in which the family stays in the same general area keeping some "location activities" (movement for work, shopping, and entertainment), but changing its center of gravity (the home). Total displacement occurs when a household moves to a new general area which results in a complete change both in its "center of gravity" and its "location activities" (Roseman, 1971).

Roseman suggests that the inter-urban, or longer-distance moving, households would experience more marked and extreme changes in their marketplace behavior, resulting from their "total displacement" than would the "partially displaced" intra-urban, or shorter distance moving, households. Moreover, it appears implicit that the "partial displacement" might involve marketplace changes which exceed any changes experienced by non-mobile households.

Characteristics of Mobility Segments

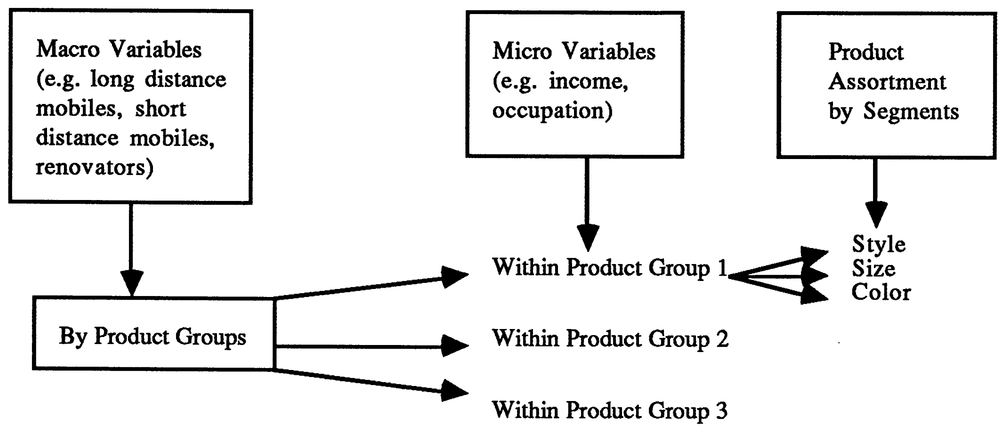
Andreasen (1966) and Bell (1967, 1969) have demonstrated that there are unique demographic, and life-style, characteristics associated with the inter-urban mobile households. However, about three-fourths of all household moves in the U.S. are within, rather than across counties. Furthermore, the U.S. Census (*Current Population Reports*, 1984), Quigley and Weinberg (1977), Gottko (1983) and others have shown that intra-urban moving households also possess identifiable demographics and life-style characteristics.

Another consideration in the identification of possible segments is a temporal one. The rate of household geographic mobility in the U.S. is undergoing change. After more than a quarter of a century (1947-1975) in which one-fifth of the population consistently changed addresses each year, the annual mobility rate fell to 17.7% in the 1976 Census Bureau study and continued to decline to 17.2% between March, 1980 and March, 1981 and 16.6% between March, 1982 and March, 1983 before rising to 20.2% between March, 1984 and March, 1985, according to Census officials (*Current Population Reports*, 1983, 1987). The major reason cited for this fluctuation in mobility is the cost of money as reflected in the rate of interest on mortgage and home improvement loans (*Wall Street Journal*, 1987). While the mobility groups have differing demand effects, income is still a major factor in segmentation.

A related trend is the one involving remodeling, converting housing space to other uses, and adding on, all as alternatives to moving up to better accommodations. This is because interest rates have made it more difficult for the average wage earner to qualify for a home. As a result, people are looking more and more toward staying in their current neighborhood, and house, and improving rather than moving. This is evidenced by $80 billion spent by American households in 1985 to maintain and remodel their homes. This represented a 15 percent increase over 1984. [According to a 1985 Consumer Preference Survey of 920 homeowners conducted by the National Association of Home Builders, the most common remodeling project is kitchen remodeling with an average price of $12,400.

EXHIBIT 1

Macro and Micro Segmentation Using Mobility Segments



The second most frequent remodeling project is finishing a basement-recreation room at an average price per job of $11,000 (*Corvallis Gazette Times*(A), 1986)].

Thus, it is not likely that the inter-urban and intra-urban mobile households have remained static over time, with respect to either consumer characteristics, or marketplace responses, nor is it likely that in the future they will remain constituted as they presently are. Furthermore, theoretical contributions, such as Andreasen's (1966) "tentative theory of geographic mobility," which emphasized upward career mobility, might also become outdated. The societal developments cited above might signal a shift in attitudes and this shift might be impacting inter-urban mobility decisions. Perhaps those who are opting not to undertake long distance moves are instead undertaking remodeling, converting space to other uses, and adding on to existing houses as a means of "trading up." For example, according to Merrill Lynch Relocation Management, Inc., the number of relocated employees per company declined from 188 in 1984 to 183 in 1985 (*Gazette Times*(B), 1986). Perhaps others are choosing to forego short distance moves and also seek renovations as a means of increasing household satisfaction (Carson, 1982).

While much less study has been directed at renovators, compared to the mobiles, there are some theoretical underpinnings. These underpinnings are involved with financially or economically motivated renovation decisions on the part of homeowners (Smith, Tschappat and Racster, 1981). Consequently, a realistic segmentation study, employing household geographic mobility as the base, must examine not only the potential existence of such traditional groupings as inter-urban, and intra-urban mobiles as segments but also the potential among the emergent group of non-mobile renovators.

Models of Demand

The value of segmentation to marketers lies in its implications for marketplace behavior, or demand. Household geographic mobility, like social class, might be termed *macro*, in contrast to, *micro* segmentation variables. That is, just as social class is a composite of a number of variables (income, occupation, education, etc.), so is household geographic mobility (income, occupation, life-style, etc.). On the other hand, individual variables such as income and occupation are micro segmentation variables. Exhibit 1 illustrates the linkage of both macro and micro segmentation variables to the demand for products. Alternatively, the linkages between micro and macro segmentation variables and resulting marketplace demand can also be demonstrated by Exhibit 2.

METHODOLOGY

Sample Design

Respondent households were randomly selected from the publication *Daily Reporter*, published in Columbus, Ohio on weekdays. This publication prints the names and addresses of those who have recently engaged in Franklin County, Ohio house transactions as well as those who have recently been issued building permits.

Franklin County, and Columbus, Ohio are both frequently regarded as representative "middle America" locales. Indeed, the *Wall Street Journal* recently indicated that Columbus is a very highly regarded test market city for mass market products. Additionally, Franklin County provides for the replication of an urban environment which was the focus of both the Andreasen and J.E. Bell inter-urban mobility studies. Homeowning respondents who recently acquired a Franklin County building permit with a declared value of $1,000 to $10,000 were selected from the *Daily Reporter*. For tax reasons, recipients of building permits are suspected of

EXHIBIT 2

Micro and Macro Segmentation Variables and Resulting Demand

Micro Variables ----------->	Macro Variables ------------>	Demand[1]
eg. Age;	Long Distance Mobiles	$Demand_L$
Occupation; Income;	Short Distance Mobiles	$Demand_S$
Education; etc.	Renovators	$Demand_R$

1 L = long distance mobiles; S = short distance mobile; R = renovators

understating the actual value on these permits. On the other hand, building permits are also issued to builders of new houses as well as to those constructing or expanding/improving commercial properties. With both these considerations in mind, Franklin County real estate officials suggested the building permit dollar range of $1,000 to $10,000 of declared value as a pragmatic guideline in the selection of Franklin County households who have engaged in remodeling activity, in part, as an alternative to moving.

Homeowning respondent households who had recently moved were also selected from the *Daily Reporter*. Commercial property mortgage and deed transactions were eliminated, as were those listings which involved financial transactions, rather than actual household movements. *Daily Reporter* mortgage and deed transactions do not include pre-move addresses of the households. This made it impossible to distinguish inter-urban from intra-urban mobiles in the *Daily Reporter* listings. Thus, long-distance vs. short distance mobiles were self-identified.

Renovating and mobile Franklin County homeowning households were selected from *Daily Reporter* listings which appeared between mid-April and mid-May, as well as between mid-July and mid-August, 1982. This corresponds with Andreasen's and Bell's sampling patterns and also coincides with the traditionally heavier rates of national mobility during the second and third calendar quarters. This time frame provided a potential census of 803 respondent homeowning mobile households and 307 homeowning renovating households for a mail survey. As the survey occurred early in 1983, about four to nine months had elapsed from the time of the *Daily Reporter* listings. This allowed time for respondents to settle and react to their decisions, and at the same time the interval is thought to be short enough to minimize diminished consumer recall.

The mail survey included a personalized cover letter carrying the signature of the researcher. It also provided the names, addresses, and telephone numbers of researcher's dissertation committee members including both an Associate Dean and the Chairman of the Finance Department and Director of the Center for Real Estate Education and Research, (CREER) from the College of Administrative Science, at The Ohio State University.

The pre-tested questionnaire was preceded by questions ensuring that respondent households did live and own the address where the questionnaire was sent, and the move or remodeling, had occurred in the previous nine months. A self-addressed return envelope was provided, as was the promise of a household gift to respondents returning completed questionnaires. Telephone calls were made to the respondents by female undergraduates to announce the mailout; reminder telephone calls were also utilized as boosters.

Utilizing the definitions and guidelines presented above, a total of three hundred (300) usable questionnaires were received from the census of Franklin County mobiles and renovators. This was based on a mailout of 1110 questionnaires, 307 to renovators and 803 to mobiles. Returns were distributed as follows:

Data Analysis and Results

A key element affecting the measurability of inter-urban and intra-urban moving households are the bounds applied. The current study divided the two groups of mobiles on the basis of whether the move was made within the studied county (intra-urban) or from outside the studied county (inter-urban). The U.S. Bureau of the Census (1983) groups household moves as to: same county; different county; same states; different states; same region; different region and abroad. The census mobility data is also categorized by various demographic characteristics. The availability of this census data argues for utilizing such politically defined geographic units. The availability of county records, such as the ones used for this study (see Method above), further supports this rationale.

"Within county" seems a logical definition for the local, or short distance, or intra-urban mobile households. If these mobiles can be shown to have homogeneous demand patterns, the number of such households can easily be measured. It might be necessary to aggregate mobiles from contiguous counties within a Standard Metropolitan Statistical Area (SMSA) to determine the boundaries of demand.

TABLE 1

SURVEY RETURN RATES

	Mailout (#)	Returns (#)		Completion Rate (%)
Renovators	307	55		17.9
Mobiles	803			
Inter-urban[a]		67	}245	30.5
Intra-urban[b]	——	178		——
TOTAL	1110	300		27.2

[a]Defined as having moved to Franklin County from outside of Franklin County. Also referred to as "long distance" mobiles, or LDMs.

[b]Defined as having moved from one Franklin County address to another Franklin County address. Also referred to as "short distance" mobiles, or SDMs.

Households which moved into the studied county, from outside this county, defines the long-distance, or inter-urban mobiles in this study. As in the discussion of intra-urban mobiles, it is noted that segments could be defined to distinguish between households moving between adjacent or contiguous counties and those moving from non-adjacent counties within the same state. Aggregation would continue as long as market response remained homogeneous, and the increments did not significantly affect the criterion. In so doing, the mobility/nonmobility base might conceivably contain a number of unique long distance mobile segments, ranging from cross-county to cross-country.

In this study, only homeowning mobiles are studied along the mobility/nonmobility segmentation base. In part, this is to reduce the high level of transients among homeowners in major university neighborhoods, such as that of Columbus, Ohio and the Ohio State University. However, this was also done as it was thought that homeowners make for more opportune market targets. Further, it also facilitates the inclusion of nonmobile, renovating households, as virtually all of this group would be expected to be homeowners.

It may be desirable to subdivide mobiles and renovators in alternate ways and test for the possible existence of several, rather than just one, viable segment with each group. The noteworthy demographic, and life-style, differences between the categories of mobiles are summarized in Table 2.

It is pointed that these results act as a test of Andreasen's conclusions regarding the demographics and life-styles of long distance mobiles (see p. 3). Table 2 demonstrates that long distance mobiles are: 1. relatively young, and in the stages of family life cycle (Characteristics A and B); 2. well educated (Characteristic C); 4. have above average incomes (B); 5. in higher social classes (B, C); 7. upwardly mobile (F); 8. motivated to move for economic reasons (H).

It is also noted that the current study extends Andreasen's work by providing additional descriptor variables for long distance mobiles (Characteristics D, E, G, I, J, K).

Demand Characteristics of Mobility Segments

A key segmentation criteria is homogeneity or congruity. Two measures are used as a means of determining whether the three studied groups can be said to be homogeneous segments. The two measures of absence or presence of homogeneity of marketplace response are post-move, and post-renovation (within one year), combined planned and actual purchases in eight (8) product categories; and (2) switches in retail patronage patterns in fifteen (15) retail categories (see Table 3). These responses were chosen as they represented many of the products, and retail categories, studied by Andreasen (1966) and Bell (1967).

The volume of combined actual and purchase intentions was greatest for short distance mobiles, then long distance mobiles, and least for renovators.

The retail patronage change magnitudes were greater for long-distance mobiles, than for short distance mobiles, and least for renovators. Table 3 presents the results.

DISCUSSION

Testing of Existing Theories:

Andreasen's tentative theory of geographic mobility suggests that demographics and life-styles of long-distance mobiles differ from those of short-distance mobiles, and others. This theory would also seem to hold that such marketplace responses as actual and planned purchases, and retail patronage shifts, would be greater for the long-distance mobiles than for the others. The present study tested this theory, in a contemporary marketing environment. It appears that the demographics, and life-styles, of long-distance mobiles do differ from those of the short-distance mobiles, and others, in this case, renovators (see Table 2). The long-distance mobiles also differ from both groups as to retail patronage changes. However, these mobiles do not differ from renovators with respect to actual and planned purchases. Also, the volume of actual and planned purchases of short-distance mobiles is

TABLE 2
Demographics and Life Style Characteristics of Renovators, Long Distance Mobiles, and Short Distance Mobiles Current Study

Demographics, life-style, and social class features	Long Distance Mobiles (LDM)	Short Distance Mobiles SDM	Renovators (R)
*A. In the early stages of the family life cycle	Average # of household members: 3.1	2.8	2.9
*B. Well educated (rank):	Average education level of head of household 1	2	3
C. With above average incomes	Average annual income of head of household: $30-35,000	$20-25,000	$20-25,000
*D. Upwardly mobile	Number of business associates in current county (rank): 1	2	3
*E. Motivated to move for economic reasons	Number of moves in last three years (rank): 1	2	3
F. Relatives in current county	Number (rank): 1 (most)	3	2
G. Close friends in current county	Number (rank): 2	3	1 (most)
H. Frequency of change in key demographics, past year	Number of changes (rank): 1 (most)	2	3
I. Likelihood of moving again, next 3 years	(rank): 1 (most likely)	2	3
J. Anticipated house improvements, next 3 years	Number (rank): 3	1 (most)	2
K. Tenure (ranking of likelihood of owning previous home)	Likelihood of owning previous home (rank): 1 (most likely)	2	3

* Findings correspond to Andreasen's findings (1966).

TABLE 3

Homogeneity/Congruity of Marketplace Responses

Marketplace Responses	Homogeneity/Congruity*		Long Distance Mobiles/Short Distance Mobiles
	Renovator/Long	Renovator/Short	
Actual and Planned Purchases in 8 Product Categories**	YES	NO	NO
Switches in Retail Patronage in 15 Categories***	NO	YES	NO

* Homogeneity/Congruity testing was based on a discriminant analysis with an alpha level of .01.

** The eight (8) product categories are:
(1) major appliance(s) (e.g. washer, dryer); (2) minor appliance(s) (e.g. toasters, blenders); (3) home maintenance equipment (e.g. lawnmower, snowblower); (4) furniture; (5) drapes, slipcovers; (6) automobile(s); (7) clothing; and (8) meals in "fast food" (e.g. McDonald's, Wendy's restaurants).

*** The fifteen (15) retail classifications are:
(1) supermarkets/groceries/food stores; (2) fast food restaurants; (3) conventional family restaurants; (4) beauty parlors; (5) barbers; (6) hairdressers or stylists; (7) banks; (8) savings and loans; (9) brokerages; (10) insurance companies; (11) furniture stores; (12) appliance stores; (13) women's clothing stores; (14) men's clothing stores; and (15) dry cleaners.

actually greater than for the long-distance mobiles (see Table 3).

Roseman's displacement theory would lead to the hypothesis that the most actual and planned purchases would result for long-distance mobiles, the next most for short-distance mobiles, and the least for renovators. This would also be the order for the hypothesis regarding retail patronage change. In the current study, the latter hypothesis (retail patronage) is born out while the former (purchases) is not, just as for the tentative theory of geographic mobility. Thus, actual and purchase intentions are perhaps not a matter of "displacement" any more than can they be explained by the tentative theory of geographic mobility.

New Findings:

Table 3 demonstrated that the pairwise tests between the two groups of mobiles held up for both of the marketplace responses. This is the clearest finding: long distance and short distance mobiles differ not only in their demographics, but also in their marketplace responses. However, the magnitude of combined actual and planned purchases was actually *less* for the long-distance mobiles, than the short distance mobiles. This is the opposite of what Andreasen expected. The retail patronage shifts were in the order that would have been predicted by Andreasen and Bell.

Future Research Directions:

While descriptors or the demographics and life-styles of consumer groups (or potential segments), may differ, this may not produce significantly divergent marketplace behavior. While Andreasen and Bell assumed such a linkage between descriptors and response, their work represented an early segmentation investigation. The body of knowledge has grown considerably since then. Segmentation studies which test the linkage between descriptors and marketplace responses are more likely to be welcomed by practitioners.

The current study also underscores the need for the monitoring of segments as they are not static over time (e.g. the recent emergence of "Yuppies"). Too, the study demonstrates that segments are not a monolith. This is, the likelihood is that a "true segment" (measurable, accessible, profitable, congruous) is not unique in all marketplace situations. Thus, marketers must determine when it is appropriate, and when it is not appropriate, to combine or aggregate consumer groups. The present study illustrates that in some marketplace settings, as many as three segments exist along the mobility/nonmobility homeowning base, but there were sometimes less than three. Correspondingly, it is reasonable to expect that there could also be situations in which more than three segments exist along this base, depending on how aggregated. This needs to be explained.

Limitations and Conclusions:

The two marketplace responses studied are not sufficient to suggest that results can be generalized across all marketplace responses, nor even across all product and retail categories. Indeed, results would likely differ if other product, or retail types were tested.

Also, more far reaching managerial implications would have resulted if more traditional (e.g. convenience, shopping, specialty) marketing categories were tested. For example, it might have been more meaningful if such alternate categories of products as convenience, shopping, and specialty had been tested rather than the diverse product types represented in both the Andreasen and this study.

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A Conditional Analysis of Movers' Housing Responses

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We present here some substantive results which also illustrate some underutilized aspects of the data from the Panel Study of Income Dynamics, some of the powerful recode capabilities of the OSIRIS software distributed by our Institute for Social Research, and a new "slopes-only" option in the SEARCH program in OSIRIS. The substantive issue is important because the future of housing lies in upgrading by movers, not in the ever smaller number of new families being formed. The importance of the new "slopes-only" option lies in the fact that economic theory deals with marginal choices, but many people are not at the margin. Testing and estimating economic effects requires locating those at the margin with real choices to make. Furthermore, the power of behavioral findings is greatest when we can specify for whom and under what circumstances something we can predict or alter by policy will affect something else we think important.

Panel data allow us to answer such questions in a dynamic model with fewer assumptions, and also to test for lags. Lags in response are likely to be larger for changes in housing than for changes in food consumption, and lags in the effect of income changes are likely to be slower than lags in response to changes in family size. Cross-section data reveal mostly long-term effects, since most people in any income group have been there for a while.

Housing can be adapted to changes in need for space or in ability to pay only sporadically, and mostly by a costly process of moving. A full behavioral model would first account for the decision to move, combining a variety of factors including moves forced by job changes, fire, loss of tenancy, or induced by changes in income or family size. And one might want to examine the lags, to see whether adjustments to changes in family size (which might sometimes be endogenous or jointly determined) come faster than adjustments to changes in income or wealth.

We prefer to ask a hopefully easier question-- given a decision to move, for whom does prior change in income or needs for space have the most effect? There are dangers in such an approach. Younger, more affluent people, or those with more education, might move more frequently, with less incentives from changes in income or family size, so it would look like such changes had less effect on the increase in their housing costs. A full simulation of the effects of economic or demographic changes would have to include both the effects on the probabilities of moving, and on the extent of change in housing costs for the movers, dealing, in other words, with possible selection bias.

One might also want to assess the lags -- how long it takes before changes in the environment or the family have their effects. However, lags should mostly affect whether the family moves, though once a family moves, the more distant the prior changes in income or family size, the more likely the family has already adjusted to them by moving earlier, or by habituation.

SEARCHING FOR STRUCTURE

At any rate, it seems useful to present some results of a search for population groups which differ as to the effects of the five-year prior income trend on movers' change in house values. We take the change in housing from a year ago, before the move took place, minimizing the inflation effects, and do not deflate the income change variables since it is interpersonal differences we seek, rather than an unbiased estimate of the marginal propensity to spend income increases on housing.

Some people rent, and some neither own nor rent. We make a rough conversion by multiplying the annual rent, or rent-equivalent estimated by respondents who neither own nor rent, by 10. This minimizes the problem except for those who switch into or out of owning, since that switch commonly goes along with substantial changes in real housing costs (abundant evidence exists that people are willing to pay more to own a house than they would pay to rent the same house). Hence, we take account of changes to and from ownership coincident with the move.

Indeed, as we shall soon see, we have a mixture of effects from the past and from initial situations, with the effects of other changes taking place at the same time as the move. Once again, we are attempting to deal with a part of a larger problem which includes a set of joint decisions about changes in family, residence, and jobs.

We use a pre-programmed, reproducible, computer program called SEARCH, and within that a means option, a regression search option which seeks to separate groups with widely different simple regressions of five-year income path on change in number of rooms or in house value, and a new "slopes only" option which recenters all groups and isolates those with different effects of income trend on housing upgrading. (Housing costs and hence consumption are a reasonably linear function of house value.) The groups which result from the regression option maximize the variance accounted for by both the mean change in rooms or house value and the effects of income change on that change. Of course, a difference in the mean of Y will do much more to reduce unexplained variance than a difference in the regression slope on income change. Since the slopes option is so new, we present some results for both it and the regression option for comparison.

The data are from the Panel Study of Income Dynamics, using the 1984 multi-year family tape. We combine all cases who moved in any of the five years 1978-1983, shifting the explanatory variables so they are relative to the year of the move. But in any year, some families have a new head, because a former wife divorced or became widowed, or because a child left home to form a new household. Hence we force the

TABLE 1

Initial House Value	Final House Value	Ratio	% change	Diff/Average
$100,000	$300,000	3.0	200%	1.00
100,000	200,000	2.0	100%	.67
100,000	100,000	1.0	0%	.00
100,000	50,000	.50	-50%	-.67
100,000	33,333	.33	-67%	-1.00

search process first to split off families with the same head or a wife who became head, and then to split off the pure same-head families. Later we select only moves where the family has had the same head for the prior five years, only 2887 out of the 8120 moves over the five years. The dependent variable is the difference in house value or rooms (value divided by the mean of the two to avoid scale-effects). One predictor, later a covariate, is the five year trend in family money income divided by the five year mean, i.e. the slope of the trend in income relative to its level. We looked at the change in house value (divided by the sum) using both the past trend in income and the coincident change in income (difference over sum) as explanatory variables.

VARIABLES AND METHODS

To justify the use of a difference divided by the sum (or mean) notice the nice symmetry it produces for changes in both directions (Table 1). So averaging two people one of whose house value doubled and one of whose house fell to half, would give an average of 0 rather than +25%.

We look first at change in number of rooms, which avoids problems of measurement as between owners and renters, and problems of differential inflation of house values and rents. And since prior income changes are not expected to be so dominant, we do not use the covariance search but a simple search with prior income change as one of the explanatory variables.

We introduce the following categorical "predictors" in all the analyses, allowing the SEARCH routine to divide the sample at any point down the rank order that would do the most good. (Numerical variables were put into categories, losing almost none of their potential power.):

Temporally prior variables:

Trend in family income over the five years prior to the move, divided by the five-year average income. Trend is the regression on time, simple to compute because time has values -2,-1, 0, 1 and 2.

Alternatively, the time-trend in family income relative to needs over the five years prior to the move. This is a better measure of increasing level of ability to pay for housing, and minimizes the distortions from the few families that changed composition in the five years before the year of the move.

Actual minus required rooms just before the move, a measure of pressure for more space. ("Required" specifies that two different gender children can share bedrooms until they are 10 years old, and same-gender children until they are 18.)

Change in required number of rooms in five years ending after move, as a measure of longer-term pressure building up.

Change in actual number of rooms in five years ending before move, as a measure of prior housing adjustments. (Perhaps we should have replaced these last two with the change in actual-required rooms.)

Change in whether a wife in the unit, a proxy for marriage or divorce, and for family cohesion and interest in the home. We use five groups: got married, stayed married, stayed single man, stayed single woman, got divorced.

Timeless background variables:

Head's education, a proxy for income stability and a longer time horizon

Race, a proxy for income insecurity, restricted choices, etc.

Region, a proxy both for availability and cost of housing, and for differential rates of increase in housing prices.

Size of largest city in the area, a proxy for job opportunities, cost of housing, differential inflation, and number of available alternatives?

Age, as a proxy for likely length of residence and job tenure and probably having made the necessary adjustments, or else for the fact that older people face declining space needs, but better financial ability to avoid reducing space.

Decile of family income/needs the year before the move as an indicator of affluence and ability to satisfy changing housing needs, or to use more of any income increase to upgrade housing.

Changes During the Year of the Move:

Change in home ownership, because our conversion of rent and rent-equivalents to house values is imperfect, and because owners spend more on housing than renters. We use four groups: became an owner, stayed an owner, stayed a non-owner, ceased owning.

Change in family composition, a complex classification ranging from no change in family members to new families created by splitoffs or marriages of women.

Number who moved into the household during the year

Number who moved out of the household during the year

Change in income in the year after the move, a proxy for moving in anticipation of the increase, or moving to a better job.

ANALYSIS OF CHANGE IN NUMBER OF ROOMS

Figure 1 shows the results for change in number of rooms for the 8120 family-moves between 1978 and 1983. Overall, there was an average decrease in 0.18 room, because most of the families with new heads are splitoffs, with an average decrease of 1.92 rooms leaving the rest with an average increase of 0.14 rooms. That remaining group is then divided into families with the same head and those where a prior wife became head, by divorce or death of the husband. After forcing those first two splits, the program itself decides on the rest in such a way as to maximize the explained variance. The group of changed heads is divided into single women who got married (with an increase in rooms of .38) and the splitoffs who formed new households, with an average decrease of 2.69 rooms.

Turning to the families with no change in head, the dominant factor accounting for change in rooms was the initial surplus or shortage of rooms relative to an estimate of "required rooms" based on the assumption that children could share bedrooms till age 18 if they were of the same gender, and until they were 12 if they were of different genders.

The only other factors important enough to cause a split in any of the groups were ownership or becoming an owner. One might argue that this is simply a problem in converting rents to house values, except that as we shall see, similar results appear in the covariance search, and a constant shift in the dependent variable should not affect a regression coefficient. We interpret it to mean an interaction whereby a combination of income increase and a decision to become an owner have a synergistic effect, but dominated by the decision to become an owner.

What did not matter is more impressive and unsettling, particularly the absence of effects of income level or change, or age. Life course theory might well argue for early increases, even in anticipation of later needs, and decreases late in life to avoid the burden of maintenance. Consumer economics would assume that income changes lead to upgrading, including more rooms as well as more dollars per room.

What we appear to have is family changes and prior failures to adjust to them as indicated by initial shortages or surpluses of rooms, plus a decision to become or remain an owner, dominating changes in number of rooms. The 12 splits form 13 final groups which account for 32% of the overall variance in the change in number of rooms. An examination of the remaining potential within the final groups for accounting for residual variance with prior income trends shows only one group where it could have accounted for as much as half of 1% of the original variance, and for that group the initial surplus/shortage of rooms could account for twice as much. Indeed for only two groups could prior income trend account for more of the remainder than more detail on initial surplus/shortage of rooms: One is a small group of 162 who became homeowners at the time of the move, and who had no big shortage or surplus of rooms before the move, but a prior decrease in number of rooms. Hence, upgrading takes place in response to an income increase mostly when it also involves becoming an owner. The other group is 226 owners. Both groups had large average increases in number of rooms.

Economic effects are clearly present, but just as clearly dominated by other considerations in most moves. A realtor looking for customers would do well to focus less on people being promoted than those getting married, divorced, having children, losing children, or on children leaving home.

ANALYSIS OF CHANGE IN VALUE - ECONOMIC UPGRADING

But perhaps the upgrading is largely in the value per room, so we turn to an analysis of the change in house value. We divide the change by the mean of the before and after values, to put it in symmetric relative terms and to avoid scale effects and resulting spurious correlations. (We are interested in behavioral responses, not persistent interpersonal differences.)

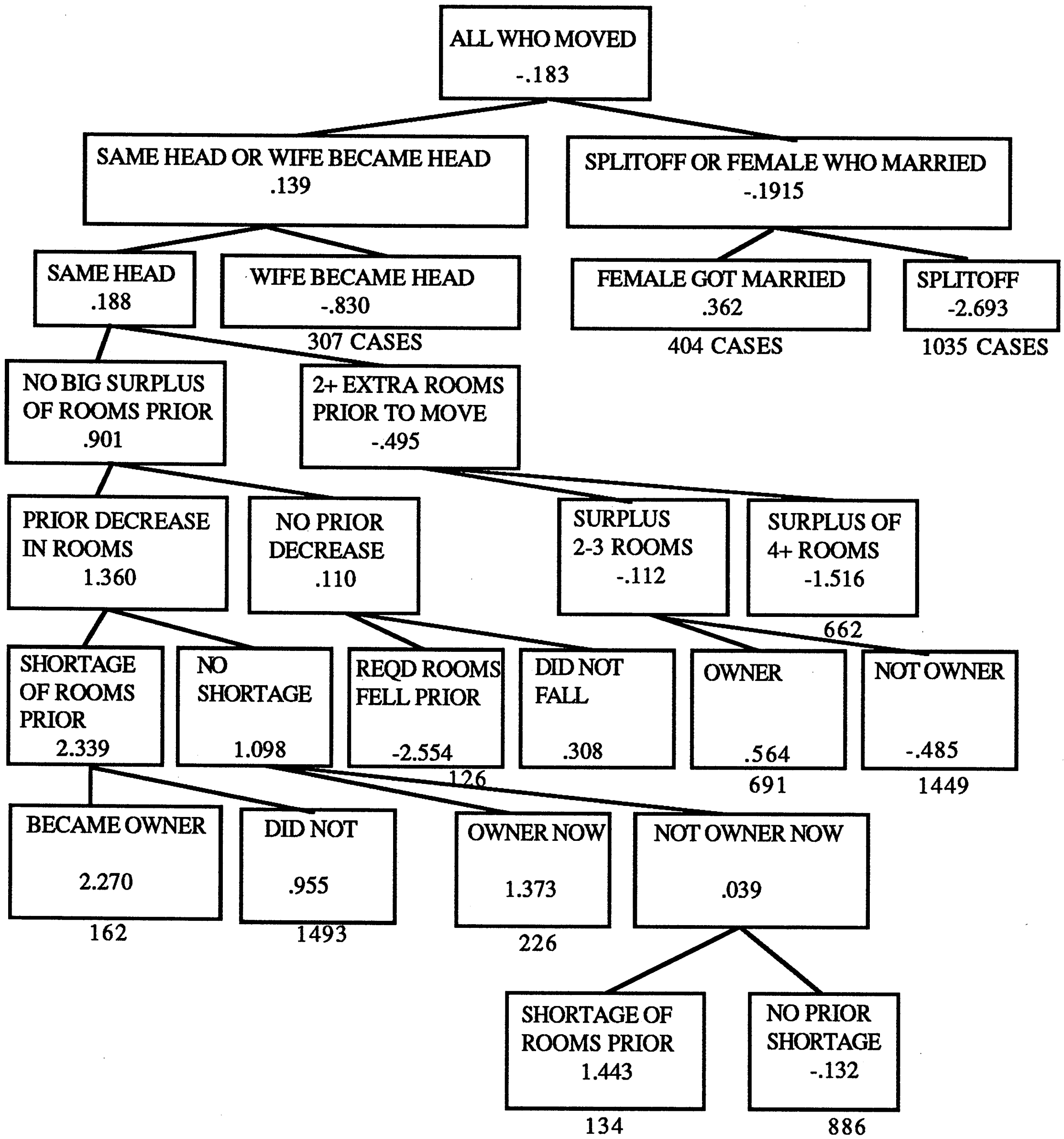
We did this analysis in two ways, once treating the relative change in house value as a simple dependent variable with the prior relative income trend as one of the explanatory characteristics, and again in a covariance search, looking for groups where two simple regressions of change in house value on prior trend in income accounted for the most variance. Actually the regression or covariance search is dominated by differences in the mean of the dependent variable (change in house value), so 12 splits, forming 13 final groups accounted for the same total amount of variance, even though one analysis took account of income change in every group, while the other never took account of it since it was never powerful enough to split any group. In both cases the divisions after the initial two forced ones to isolate families with the same head, were mostly not on initial shortage or surplus of rooms, but becoming an owner or a renter, or having changes in family size or marital status. Since, however, the regression slopes, which are a kind of income elasticity of demand for housing, are more interesting than the fraction of the variance explained, Figure 2 presents the covariance search analysis, with each box showing the mean relative change in house value, the regression slope of value change on income change (income elasticity) and the size of the correlation coefficient.

Think then of that simple regression, which for all 8120 movers reveals that a mean relative change in house value of .061 results from a constant term change of .026 plus an income change effect of .478 times an average relative income trend of .075. The correlation of .14 means that the income trend accounted for only 2% of the variance.

Can we then find a division of the sample where two different regressions will account for more of the overall variance than the one simple regression on the whole sample? We hardly need a Chow test,

FIGURE 1

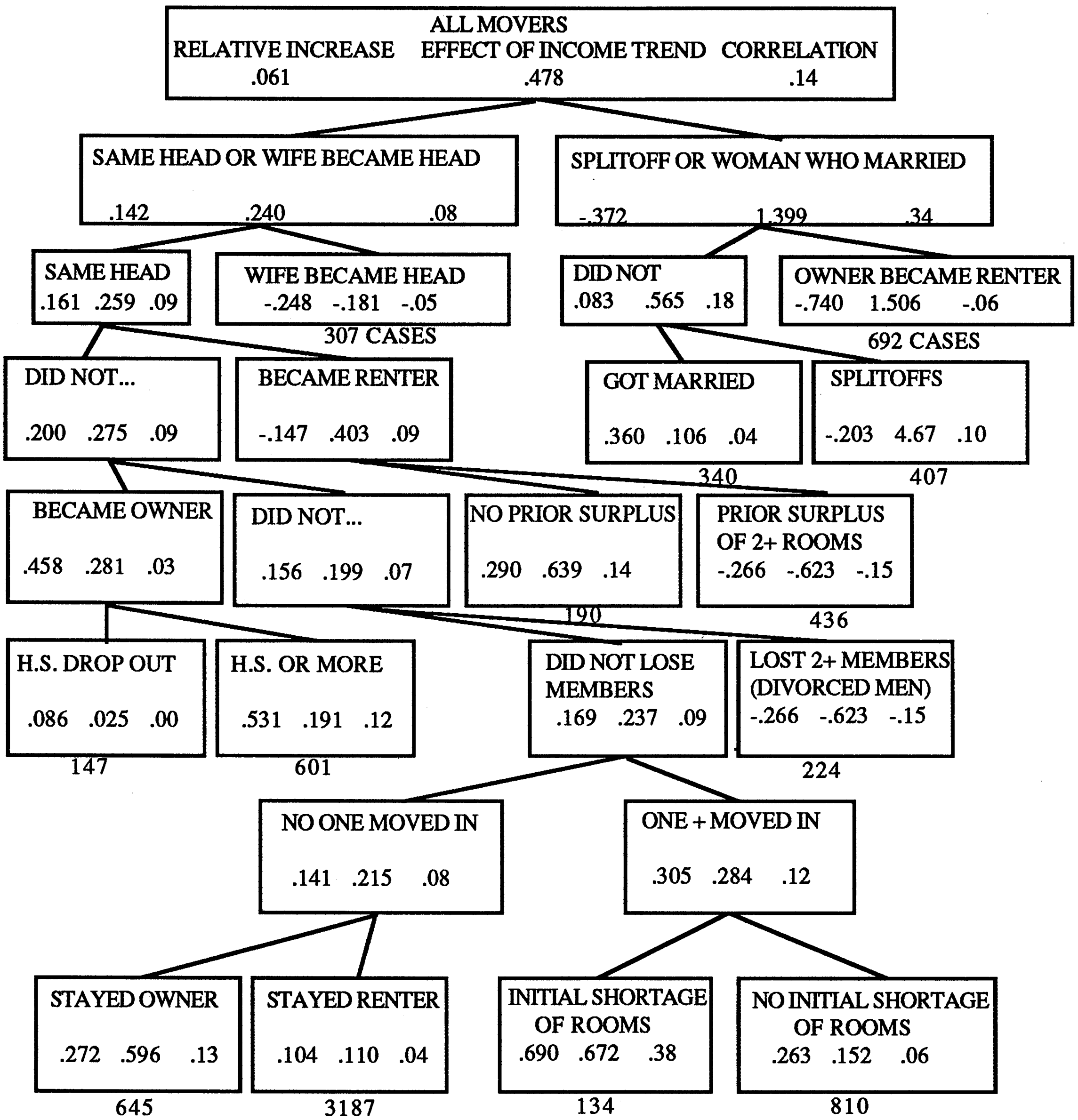
CHANGE IN NUMBER OF ROOMS, FOR 8120 WHO MOVED BETWEEN 1978 AND 1983



13 FINAL GROUPS ACCOUNT FOR 32% OF THE VARIANCE

FIGURE 2

EFFECTS OF INCOME TREND ON CHANGE IN HOUSE VALUE FOR MOVERS, A SEARCH FOR DIFFERENCES
(FOR ALL 8120 WHO MOVED BETWEEN 1978 AND 1983)



13 FINAL GROUPS (MEANS AND REGRESSIONS) ACCOUNTED FOR 22% OF THE VARIANCE REMAINING AFTER THE INITIAL REGRESSION REDUCED IT BY 2%

since anything worth looking at with so many cases will surely be significant, even if we reduce the degrees of freedom to account for the sample design effects (clustering).

Since the explanation of variance in Figure 2 is dominated by means (level of dependent variable) rather than slopes (size of income-change effect), we look first at the mean changes which vary from a 46% increase for same-heads who became home-owners, and 69% for a few with a prior shortage of rooms and additions to the family (presumably children being born, since change in marital status did not do it). Of course new heads mostlly reduced their house value, particularly women who were married or widowed (-.248), except of course for women who got married to a non-sample person (+.360). And same-head families with two or more members disappearing at the time of the move, reduced their housing (-.266). This is partly men leaving a wife and children, but partly children or relatives leaving home or dying.

Turning to the income effects, we notice first two negative ones, wives who became heads and moved (widowed or divorced), where housing may have been part of a divorce settlement, or an estate; and heads who did not change tenure status but moved away from two or more others in the family, presumably mostly by divorcing. If we want to focus on income effects, we should look at the groups at the lower left with same head, no change in tenure status, no change in family size, where the income elasticity is far higher for owners who bought again than for renters who rented again. This cannot be polluted by problems of converting rents to house value equivalents, nor by differential inflation of rents and house values. It presumably means that housing is important to owners, and income changes allow them to upgrade it. However, the group with the highest income elasticity, and the strongest correlation, was the group with a concomitant increase in family size and a prior shortage of rooms to boot, but it is a small group. And the group with a shift to renting had a strong income effect, accentuated if we separate them according to prior surplus or shortage of rooms.

Once again, the families where there is a new head, whether a former wife whose husband died or left, or a single woman who married, or a splitoff starting out, decreased their consumption of housing, while families that moved but kept the same head increased their house values by 16%, more than the general rate of inflation of house values. One might have thought, since owners usually are willing to spend more on housing than renters, that people who moved to become owners would also increase their housing consumption more, and they did, except where there was a substantial decrease in family size. Those who became owners had the large increases, particularly if they were well educated and presumably had stable incomes. (Neither past income trend nor initial income/needs level appeared to matter directly, though they could have precipitated the switch to ownership). It is important to keep in mind that many moves are driven by job changes or neighborhood considerations, and there are substantial differences in house prices and rents in different areas, sometimes reflecting recent growth, as in California and New England, and sometimes reflecting differences in the level of public services, and what fraction of that cost is covered by property taxes. On the other hand, a group who went from owning to renting did have a decrease in housing. What else mattered? The initial surplus or shortage of rooms, and the concurrent changes in family composition.

FOCUSING ON MOVERS WITH THE SAME FAMILY HEAD FOR FIVE YEARS

Of the 8120 moves during the five year period, 16% involved a change in the head at the time of the move (including a wife who became a head). Many "moves" are kids leaving home. Remember, that when a divorce occurs there may be two moves, and there is usually at least one. And since we are interested in the five year prior trend in income, we need to focus on families with the same head during that period. Some 61% of moves are by households without the same head for the five years prior to and during the move. So for the rest of the analysis, we restrict ourselves to moves where the family head was unchanged during the move and the prior period of estimating income trend. If we take the remaining 2887 cases of moves, we can force the first split to separate out the cases where there is a change in the wife (man got divorced, or married, or widowed or some combination of those). (Group 3 in Figure 3). The average change in housing is downward, but with a substantial effect of prior income change in the expected direction, implying that there were larger reductions in housing when the prior income trend had been worse.

Many of the splits set aside groups where things other than the past income trend are affecting the housing change: ownership, a (probably expected) income fall after the move, a retirement transition for those 55-64 years old, or ability to upgrade as indicated by immediately prior income/needs. But income "elasticities" never get very large. We move on quickly because the main purpose of Figure 3 was to compare it with the next Figure 4 which focuses on differences in income effects.

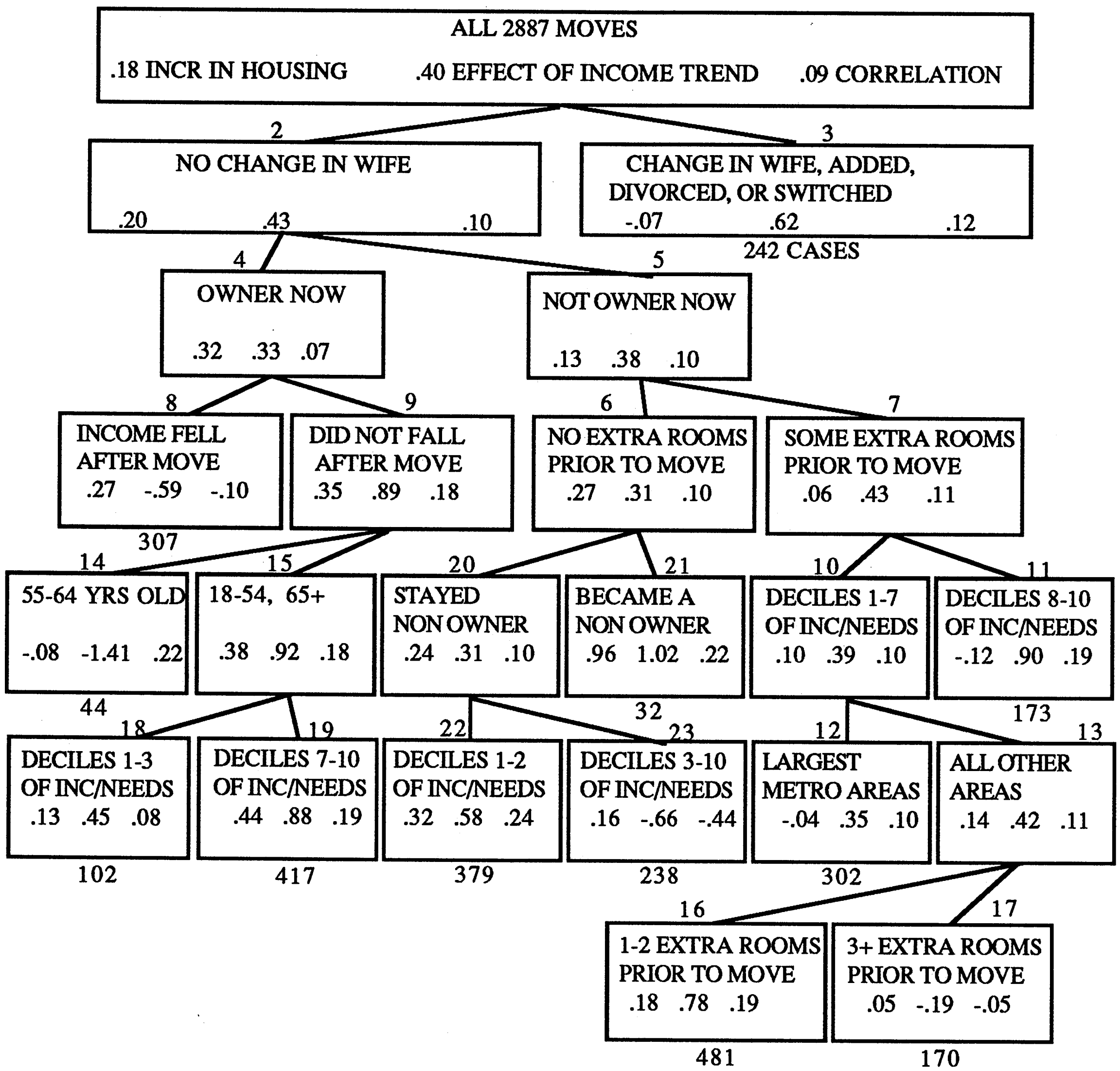
THE NEW SLOPES-ONLY OPTION, SEARCHING FOR MOVERS WITH DIFFERENT EFFECTS OF PRIOR INCOME ON UPGRADING

The new option in the SEARCH program eliminates the domination of the splitting by changes in the mean house value, by recentering each subgroup around its own mean changes in house value and income. Figure 4 deals again only with the 2887 moves where the head had not changed for five years, applies the identical predictors and strategy, but uses the new slopes-only option:

After the forced splitting of those with a change in wife, the automatic search for groups with different income effects first set aside Group 4, those around retirement age, where the prior income trend is largely meaningless as an indicator of future ability to afford housing, and where the correlation is

FIGURE 3
SEARCH FOR DIFFERENT EFFECTS OF PRIOR INCOME TREND ON UPGRADING OF HOUSING CONDITIONAL ON HAVING MOVED

(REGRESSION OPTION, FOR 2887 MOVES 1978-1983 AND WITH NO CHANGE IN FAMILY HEAD IN PRIOR 5 YEARS)

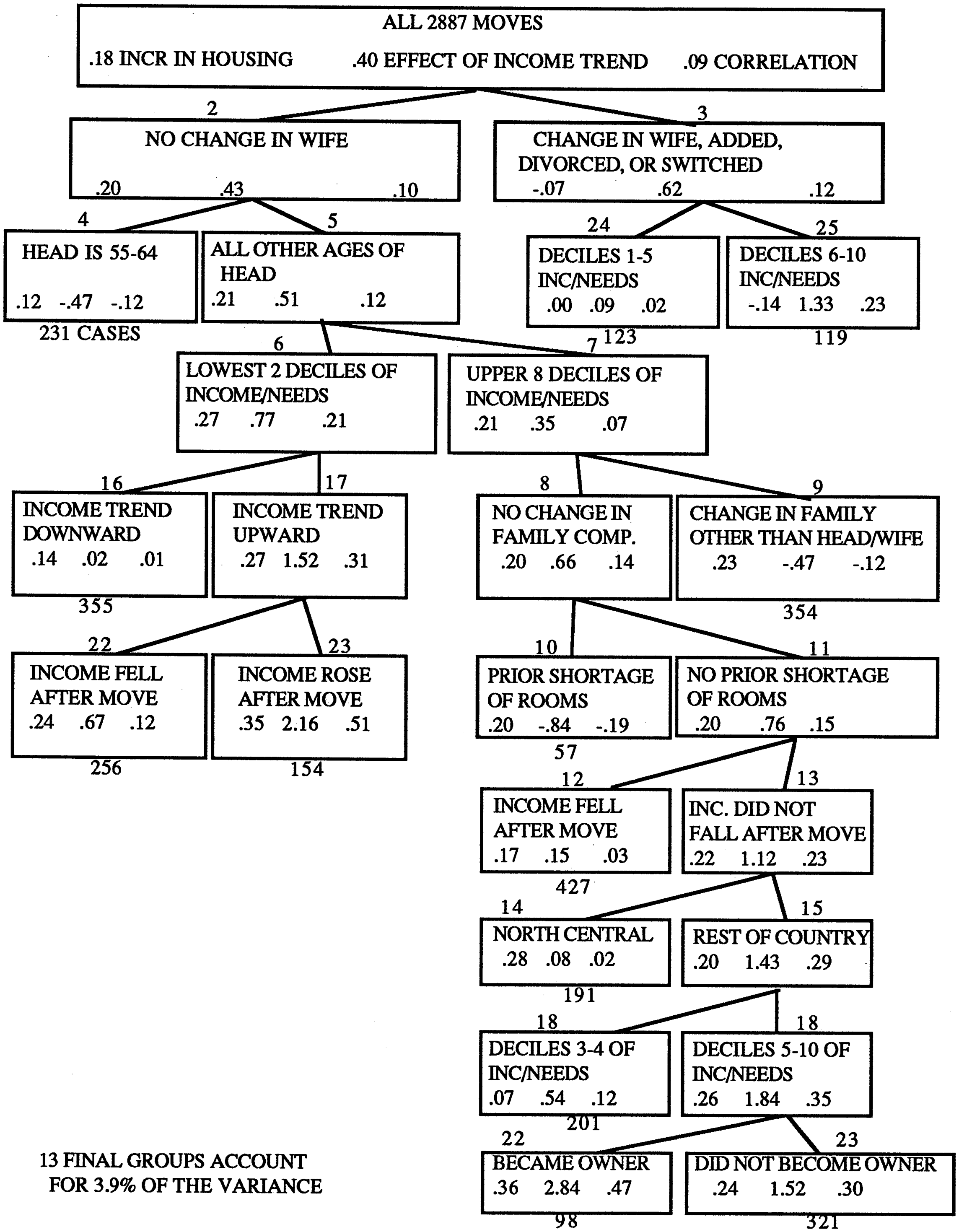


11 FINAL GROUPS ACCOUNT FOR 10% OF THE VARIANCE, MOST OF IT FROM DIFFERENCES IN THE MEAN RELATIVE CHANGE IN HOUSING

FIGURE 4 (REV.)

SEARCH FOR DIFFERENT EFFECTS OF PRIOR INCOME TREND ON UPGRADING OF HOUSING CONDITIONAL ON HAVING MOVED

(SLOPES ONLY OPTION, FOR 2887 MOVES 1978-1983 AND WITH NO CHANGE IN FAMILY HEAD IN PRIOR 5 YEARS)



substantially negative. Next we segregate the top 8 deciles of the income/needs distribution (Group7) with a smaller effect of prior income trend, implying that level of affluence affects the relative upgrading of housing when income changes! The lower two deciles were affected by non-linearity in the effect of prior income trend, and by income change after the move, expectation of which apparently enhanced the effect of prior income changes. Among the rest, those with other changes in the family during the move (Group 9) are set aside, with a negative effect of prior income trend. Perhaps children whose earnings had been rising split when the family moved, reducing both the family income and the need for space.

The remaining splits continue to illustrate beautifully the way in which one can sort out some reasonably normal, unconstrained groups whose response to prior income trends might be considered a good estimate of the income elasticity of the demand for housing.

Continuing with the "mainstream" group 8, we set aside:

those with a prior shortage of rooms (Group 10)

those whose income fell after the move (presumably expected) (Group 12)

those in the depressed north central part of the country (Group 14)

those in deciles 3-4 of income/needs, presumably unable to respond to income trends fully because of lack of borrowing power (Group 18)

Each time we eliminate one of these special groups, the estimated effect of income trend on housing upgrading becomes larger, and the correlation higher. The final division, however, identifies those who became home owners where a synergistic effect led to very large upgrading and a very large estimated effect of prior income trends. What, then, is the effect of income trends on housing upgrading? Only a simulation model which specified which subgroups received the income increases could provide a reasonable estimate. If one wanted the base, unconstrained unstimulated (by becoming an owner) estimate, it would the the 1.52 of group 23.

Remember that the "income elasticity" we measure is the effect of the prior five year annual trend in dollar family income relative to the five year mean, on the change in house value or rent relative to the mean of the two values, a kind of arc elasticity not dominated by extreme cases, and symmetrical in treating increases and decreases. Without using such a measure, the average of the effects of increases and decreases would be biased upwards by using the (larger) base for decreases.

The overall picture is one of a genuine effect of income trend on housing upgrading among movers not constrained by other things, or not propelled into moving by other events. But if we look at the total "housing market" we find that an economic model predicting the demand for housing on the basis of prior family income trends, would be predicting only a small fraction of the buyers. A simulation model which incorporated changes in family composition, retirements, accumulated shortages of rooms, and areas of temporary income changes or rapidly changing housing prices (as in the metropolitan areas), would do better, since these other events do not randomize out across time or space.

Full modeling would of course also have to deal with the decision to move in the first place, but it is likely that that decision is even more dominated by considerations other than prior income trends, things like marriage, divorce, arrival or departure of children or other relatives.

To what extent are the things other than income trends that affect upgrading of housing randomly distributed noise that averages out, or at least have random changes over time in their effects on the aggregate demand? There are some large demographic changes related to the baby boom and bust that should affect aggregate trends, and there are effects of good or bad times on the speed with which children leave home to set up their own households. And national monetary policy can certainly change the apparent price of houses by altering interest rates.

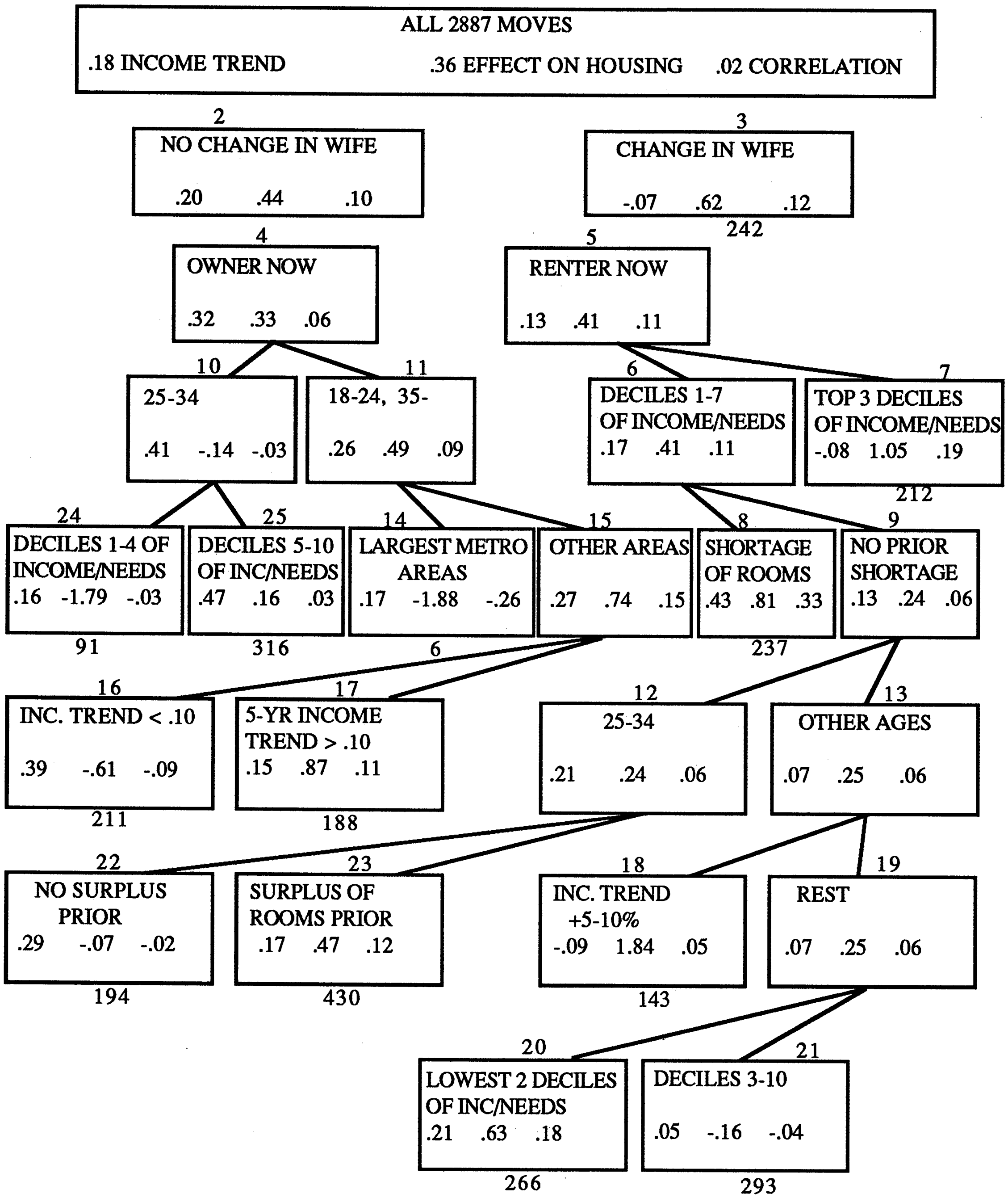
Finally, even though housing changes for many are dominated by many things other than prior trends in family income, could we believe that the clear effects we observe in the unconstrained cases also apply to others, being simply masked by other things, so that trends in family income would have those same effects on all movers, whatever else mattered? It seems doubtful in the case of the main exceptions -- those with changes in the husband or wife, when there is someone leaving home or a divorce.

ANALYSIS OF EFFECTS OF PRIOR CHANGE IN INCOME/NEEDS

Figure 5 and 6 repeat the analysis except that the covariate is not not the prior trend in family income, but the prior trend in family income/needs, a better measure of ability to pay, but less directly providing estimates of pure income elasticities of demand. The results are similar. And the differences between the regression option and the slopes-only focus on different income effects are similar. We make just a few comments on Figure 6:
Movers in the west had upgrading more strongly related to changes in ability to pay, presumably reflecting the skyrocketing housing prices.(Group 4). And a small group in the west around retirement age decreased their housing, inversely in proportion to prior changes in ability to afford it. (Group 16). Other age groups in the West responded more to prior changes if their income want up after the move -- presumably because they knew it would.

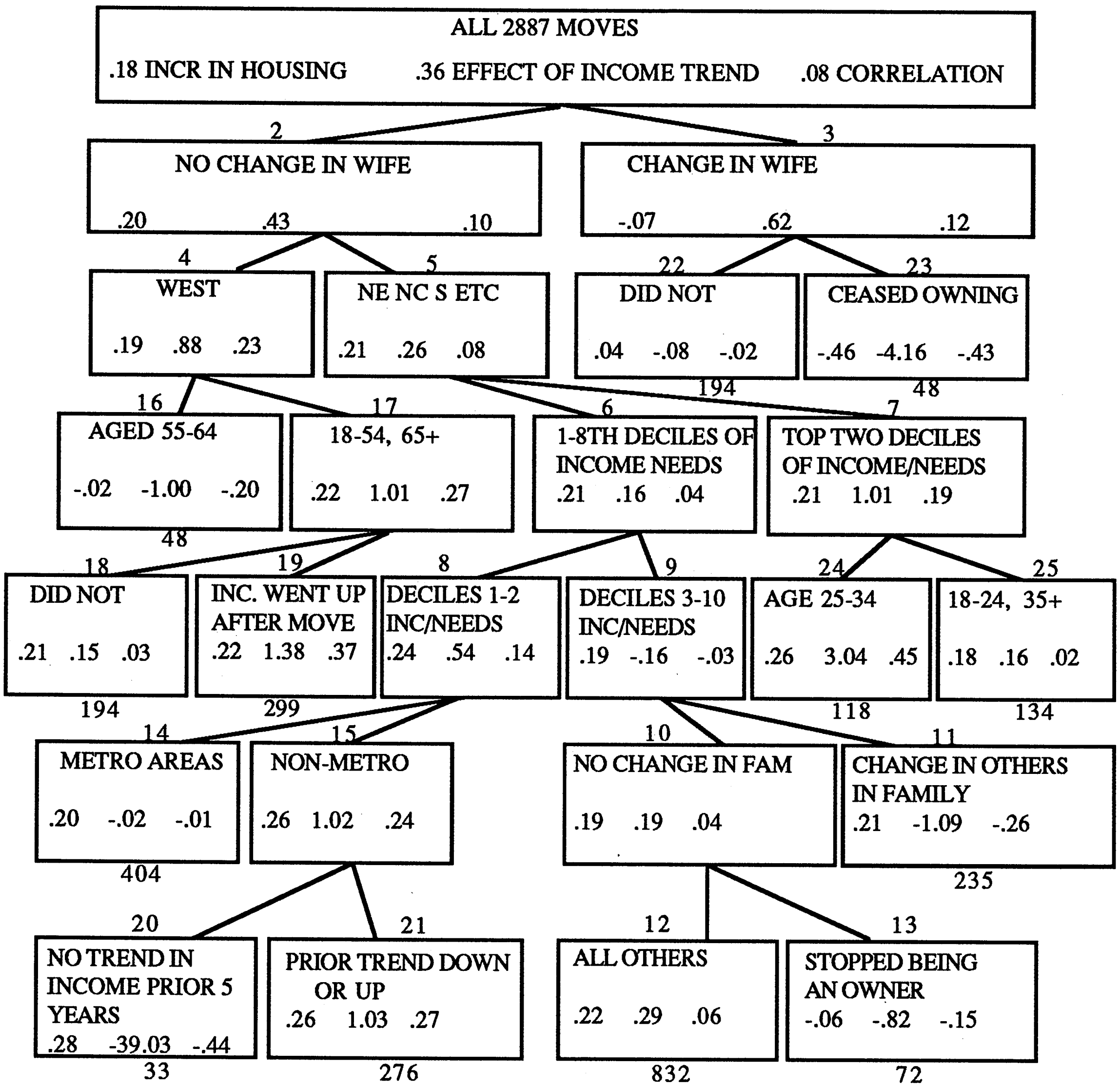
In the rest of the country, responsiveness to prior changes in ability to pay (income/needs) was greater among the more affluent (Group 7) and the least affluent (Group 8) particularly outside the metro areas for the least affluent (Group 15) and among

FIGURE 5
EFFECTS OF PRIOR TREND OF INCOME/NEEDS ON UPGRADING OF HOUSING, CONDITIONAL ON HAVING MOVED (REGRESSION OPTION, FOR 2887 MOVES IN 1978-1983 WITH NO CHANGE IN FAMILY HEAD 5 YEARS PRIOR TO MOVE)



13 FINAL GROUPS - 9.8% OF VARIANCE

FIGURE 6
EFFECTS OF PRIOR TREND OF INCOME/NEEDS ON UPGRADING OF HOUSING CONDITIONAL ON HAVING MOVED
(SLOPES OPTION, FOR 2887 MOVES 1978-1983 WITH NO CHANGE IN FAMILY HEAD IN PRIOR 5 YEARS)



13 FINAL GROUPS - 4.5% OF VARIANCE

those 25-34 years old among the most affluent (Group 24). The effects of prior changes in ability to pay among the middle-income group were hidden or distorted if there were changes in the family composition (other than head or wife, presumably children arriving or leaving home), or if they went from owning to renting, perhaps reflecting difficulties in estimating house values for renters. We probably should have raised the lower limit on number of cases for any group to be split off, since regression slopes in particularl can become quite unstable for small groups, such as Group 23 and Group 20.

DISCUSSION

Since our analysis is conditional on a prior decision to move which we have not analyzed, the main power of economic factors might appear in that decision. Prior analyses by Jack Goodman and Sandra Newman show that initial economic disequilibrium is important. (Their disequilibrium relates actual to "expected" house value.)

But there remain wide differences in the impact of prior income change, or prior change in income/needs, on the change in house value produced by the move. Income seems to have the most effect when it combined with other incentives like the need for space or the desire to own one's own house, but free of distortions or other pressures like family changes or initial shortages so we can measure it.

Given the wide differences in estimated income elasticities among different groups, attempts to use multiple regression to estimate a single such elasticity would appear unwise. Only if the different groups had different average changes in house value, but similar regression slopes, would such pooling be appropriate. Economic theory lives, and there are people at the margin with freedom to make choices, who respond as the theory predicts. But testing economic theories with survey data requires searching out the subgroups where it applies, and realizing that the strength of the response may differ widely. The aggregate response of income changes to housing demand is thus a complex result of differential income changes among different groups with different responses. Microanalytic modelling is essential, and data analysis searching for different subgroup responses also appears essential.

A final warning: Regression slopes are notoriously unstable, and the weights used to keep the PSID representative introduce heterogeneity into already high-variance data. Rerunning the SEARCH slopes-only program on unweighted data gives sometimes dramatically different subgroups and different estimated income-trend effects within the same subgroups. We are still working on this. In the meantime, large minimum group sizes may be suggested, as well as care about outlyers.

APPENDIX: OTHER RELATED RESEARCH AND WRITING

Several summaries of research on housing (supply, demands, and markets) have been done:

Lawrence B Smith, Kenneth T. Rosen, and George Fallis, "Recent Developments in Economic Models of Housing Markets", *Journal of Economic Literature*, 26:29-64 (March, 1988)

Frank de Leeuw, "The Demand for Housing: A Review of Cross Section Evidence",*Review of Economics and Statistics*, 53:1-10 (Feb, 1971)

Stephen K Mayo "Theory and Estimation in the Economics of Housing Demand", *Journal of Urban Economics*, 10:95-116 (July, 1981)

John M. Quigley, "What have we Learned About Urban Housing Markets?", in Peter Mieszkowski and Mahlon Straszheim, eds.,*Current Issues in Urban Economics*, Baltimore, The Johns Hopkins Press, 1979.

(The next two point out difficulties with hedonic price models)

Michael P. Murray, "Mythical Demands and Mythical Supplies for Proper Estimation of Rosen's Hedonic Price Model", *Journal of Urban Economics*, 14:326-3371 (Nov, 1983)

James N Brown and Harvey S. Rosen, "On the Estimation of Structural Hedonic Price Models", *Econometrica*, 50:765-768 (May, 1982)

But in all this, little attention has been paid to the potential for differential income elasticities of demand for housing, nor to the size or variability of lags in adjustments to income (surely longer than adjustment to changes in family size>). But lots of attention has been paid to the investment aspects, which may alter the consumption decisions, particularly when combined with shifts into or out of ownership. Should demand for housing be imbedded in a full portfolio choice model? Starts appear in:

J. Vernon Henderson, *Economic Theory and the Cities*, Orlando Fla, Academic Press, 1985

Jerome Rothenberg, "Housing Investment, Housing Consumption and Tenure Choice", in *The Urban Economy and Housing*, Ronald E. Grieson, ed., Lexington MA, Heath, Lexington Books, 1983.

Finally, one study using panel data:

Sandra J. Newman and Greg J. Duncan, "Residential Problems, Dissatisfaction, and Mobility", in *Five Thousand American Families: Patterns of Economic Progress*, Vol VI, Greg Duncan and James Morgan, eds., Ann Arbor, Michigan, Institute for Social Research, 1978.

Culture Bound Assumptions in Behavior Intention Models

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ABSTRACT

Many models of consumer behavior include fundamental assumptions which are rarely questioned. Behavior intention models, for example, assume people have: a linear time orientation (the future has meaning), an internal locus of control, and the ability to think in probabilistic terms. While this may be true in western, industrialized countries, it may not be true in developing countries. An empirical test, using data from Jordan, Thailand and the United States, partially supports the hypothesis that time orientation, locus of control, and probabilistic thinking ability influence a consumer's ability to form accurate intentions.

It is well know that values can affect how consumers behave in the marketplace both within and across cultures (Tse, Wong and Tan 1988). However, very little research has examined the effect of basic values (called primary culture by Hall, 1983) on consumer behavior. Primary culture can differ drastically across cultures, and is so fundamental it molds peoples' perceptions of the world. Even when differences in primary culture are recognized, it may be very difficult for a person to truely understand alternative perspectives (Hall, 1983). More importantly, primary culture (predominantly the western cultural perspective) is incorporated in most consumer behavior models as basic assumptions and, as such, the models may be culturally bound. For example, Lee (1988) suggests current conceptualiztions of the Fishbein model are inappropriate for South Koreans who emphasize group conformity and face saving, and proposes a modification of the subjective norm construct for the Korean culture.

Cunningham and Green (1984) suggest that marketing theory needs to be broadened in scope to become culture-free with universal applicability (also see Hampton and Gent 1984). Following their suggestion, this study investigates whether basic cultural values affect the ability to form accurate behavioral intentions. The research focuses on three concepts likely to influence the relationship between intention and behavior: time orientation, probabilistic thinking, and locus of control.

BASIC ASSUMPTIONS ABOUT THE FORMATION OF INTENTIONS

Behavior intention models posit that at some specific time period, consumers formulate some expectation about their behavior in some future time period. There are three key components to the model. Foremost, the model focuses on the future. This underlies the basic purpose of the model, to predict how the consumer will act. Understanding the formation of intentions is unimportant if they can't be used to predict future behaviors. Second the model posits that consumers plan to take some course of action which will lead to some behavior. For example, they may pursue an education to improve their chances of getting a good job. A course of action (education) leads to some outcome (good job). Lastly, the model measures expectations or likelihoods of certain actions and outcomes occurring. Each of these components contain basic assumptions about the abilities and values of the respondent. In particular, they assume a linear time orientation, an internal locus of control, and the ability to think in probabilistic (likelihood) terms.

If we ask someone about their future behavior, the respondent must have some conception of "future" for their answer to be meaningful. Westerners have relatively little difficulty conceiving the "future." This is not true of all cultures (Meade 1971). Different cultures often have different perceptions about time (McGrath and Rotchford 1983). Graham (1981) identifies three general orientations toward time, linear-separable, circular-traditional, and procedural-traditional. Linear time is most similar to western perceptions of a past, present and future streching to infinity. Time is also seen as being separable into discrete units along this line. People with a circular time orientation perceive time relative to repeated patterns such as cycles of the sun, moon and seasons. They have no perception of time streching into the future and therefore, expect the future to be like the past. Instead they focus on the present. People with a procedural time orientation view time as being irrelevant. Behavior is activity driven rather than time driven.

Behavior intentions models assume a linear time orientation. As noted above, the formation of intentions requires some conception of "future". The future is a less clearly defined concept for both circular and procedural time orientations. In addition, the formation of intentions often assumes behavior will occur in a specific time period. Again, the conception of discrete time periods is foreign to people with a procedural or circular time orientation. Given that the formation of intentions requires a time orientation with discrete future components, our first hypothesis is that subjects with a stronger linear time orientation will be able to form more accurate behavior intentions. Specifically:

H1: The discrepancy between intentions and behavior will be smaller if the subject has a strong linear time orientation.

[1]This study was funded in part under USAID contract AID/DSAN-X11-G-0187.Culture Bound Assumptions in Behavior Intention Models.

Not only must people be able to conceive of the future, they must also believe thay can control their actions in the future. Ajzen and Madden (1985) found perceptions of volitional control affect the intention-behavior relationship. While their study examines temporary changes in perceptions of control, it is also likely that persistent perceptions of control (fatalism) can affect the intention-behavior relationship. Cultural beliefs vary widely about man's control over his destiny. Fatalists believe, ". . . that all events are predetermined by fate and therefore unalterable by man" (Gentry et al. 1988). Fatalism is related to locus of control (Mirels 1970; Schneider and Parsons 1970). People with an external locus of control believe that factors beyond the control of the individual determine future behaviors. They simply take events as they come, instead of being able to plan, avoid, or master the environment. People with an internal locus of control believe they are masters of their destiny. Hoover, Green, and Saegert (1978) have suggested that the degree of fatalism varies across national groups. John et al. (1986) found that American students are less fatalistic than Indians, and Indians are less fatalistic than Thais, and Wilson (1970) found that Asian culture is more fatalistic than British culture.

Respondents with an external locus of control should be less able to form accurate intentions. Since they beleive they have less control over their behavior, they would feel less able to predict their behavior. For example, Muslim cultures feel Allah determines future events. Trying to predict the future is considered either stupid or irreligious. When asked if they intend to do something in the future, they reply "Insha' Allah", or "As God wills." This inability or reluctance speculate about the future leads to our second hypothesis:

H2: The discrepancy between intentions and behavior will be smaller for people with an internal locus of control.

Measures of intentions include a likelihood component (Justner 1966). Responding to the likelihood component requires the person to use probabilistic thinking. Probabilistic thinking may be defined as, " . . . the tendency to view the world in terms of uncertainty, ascribing different degrees of uncertainty to events and the ability to express this uncertainty meaningfully either verbally or as a numerical probability" (Wright and Phillips 1979, p. 295). Probabilistic thinking varies across cultures (Wrigth 1984; Wright and Phillips 1979). Wright et al. (1978) found a large difference between Asians (Indonesian, Malaysian, and Hong Kong Chinese) and the British. The British have a much more finely differentiated view of uncertainty than the Asians in response to uncertain situations. Wright's work has at least two implications: 1) decision analysis based on probability would be inapplicable in cultures where people can not think in probabilistic terms; 2) Non-probabilistic thinking may result in a lack of long-term future planning. Events in the future may be seen as "uncertain" rather than "probable" or "improbable." These suggest that behavioral intention models and other decision models which assume probabilistic assessments may not be valid for predicting consumer behavior in some cultures. This leads to our third hypothesis.

H3: The discrepancy between intentions and behavior will be smaller if the person is able to think in probabilistic terms.

METHODOLOGY

A survey was conducted to assess the intentions and actual behavior of students in Jordan, Thailand and the United States. Three general categories of behavior were examined across the three cultures; soft drink consumption, food consumption and class related activities. The actual behaviors examined in each country was modified to be consistent with cultural norms. For example, the American students were asked about pizza consumption while the Thai students reported on noodle consumption. In addition to assessing intentions and behavior, data were collected on the student's time orientation, locus of control and probabilistic thinking ablility. The sample consisted of 33 students in Jordan, 41 in Thailand, and 173 in the United States.

Measures

Respondents reported the amount of products or activity they intended to consume within a specific time. In addition, the degree of certainty associated with the intentions was also measured. At the end of the time period, a follow-up was conducted to measure actual consumption. The time period between the measure of intentions and the measure of behavior varied among the countries from 1 to 7 days depending on our access to the students. Since the products and activities examined varied slightly from country to country, scores were converted into discrepancy values using equation (1). The discrepancy value ranged from 0 to 1 where 1 indicates either the subject's intended consumption was 0 while actual consumption was greater than 0 or intended consumption was greater than 0 but actual consumption was 0. A value of 0 indicates there was no discrepancy. The absolute value was examined since the size of the discrepancy was the variable of interest, not the direction of the discrepancy.

(1) $D = |(B-(BI*PBI)/(B+(BI*PBI)|$

Where:
D = Discrepancy between intentions and behavior
B = Behavior
BI = Behavior intention (quantity)
PBI = Behavior intention (probability)

Fatalism/locus of control was measured using a five point Likert scale modified from Farris and Glenn's (1976) fatalism scale and Lumpkin's (1985) locus of control scale. Example items include: What happens to me is my own doing; God detemines what I will do in the future; Many of the things that happen in life are due to luck.

Measures of linear time orientation were constructed using Graham's (1981) descriptors of different time orientations. Respondents were asked to agree or disagree with a time description statements on a five-point Likert scale. For example, Time is like money, it can be spent or saved; Time can be measured and allocated to specific tasks; Time is like a road that streches from the past into the future and people travel along this road.

Respondents' probabilistic thinking ability was measured by asking them to assess a probable occurence of 4 situations:

- If I flip a coin, what is a chance that a head will appear?
- A bag contains one red ball and three white balls. If you select one ball, what chance is there that it will be white?
- How likely is it that the sun will rise tomorrow?
- How likely is it that there will be a drought next summer?

The scale ranges from 0% chance to 100% chance or don't know. For the first two questions, respondents received a score of 1 for the correct answers of 50% and 75% respectively. For the third question the respondents received a 1 if the respondent reported a high probability of the sun rising (greater than 90%). A score of 1 was assigned for the final question if the respondent provided any guess about the probability rather than simply responding "don't know". The value for the probabilistic think scale was determined by summing the four values.

Analysis

The first step in the analysis was to construct a single index score for linear time orientation and locus of control measurement scales. Separate factor analyses were conducted for each country separately. A single factor model was fit to each scale and factor scores were computed. These factor scores were then used to construct single index score for each of the variables.

Before testing the hypotheses, nonparametric ANOVA was conducted to test for differences between countries on each of the variables. To test the hypotheses, three regressions were conducted. The data for each of the countries were combined in one analysis for each of the general behaviors studied. For example, one regression examined soft drink consumption across the three countries. Fatalism/ locus of control, linear time-orientation, and probabilistic thinking ability were used as predictor of the discrepancy between intentions and behavior.

RESULTS

ANOVA indicated that there were significant differences between the cultures on the independent variables. As expected, The American students had the highest agreement with the linear time orientation statements, followed by the Jordanians, then the Thais (See Table 1). The American students also scored the highest on internal locus of control, while the Jordanians had the lowest scores on internal locus of control. Finally, the American students had the highest probabilistic thinking scores. There was no significant difference between the Jordanians and the Thais. These results are consistent with past studies that found Western cultures have a stronger linear time orientation, higher perceived internal locus of control and higher probabilistic thinking ability.

The analysis of academic related behavior provided strong support for the hypotheses. Linear time orientation, locus of control, and probabilistic thinking predicted 27.2% of the variation in the discrepancy between intentions and behavior ($P<0.001$). All relationships were also in the direction hypothesised. A stronger linear time orientation, an internal locus of control, and better probabilistic thinking ability lead to smaller discrepancies between intentions and behavior.

The analyses of soft drink and food consumption were less compelling. The analysis of soft drink consumption indicated linear time orientation explained 5.6% of the variation in the discrepancy ($P<0.05$). The relationship was again in the hypothesized direction. Finally, none of the discrepancy for food consumption could be explained by the independent variables. It may be that certain behavior are more routinized, the formation of intentions is closely related to past behaviors, and therefore the role of time orientation, locus of control and probabilistic thinking is diminished.

DISCUSSION AND CONCLUSIONS

Cunningham and Green (1984) have noted the need to broaden consumer behavior theory across cultures. One way to broaden our theories is to reexamine the basic assumptions inherent in any given theory. In the case of behavior intention models, the hypothesized link between behavior and intentions assumes that people have some conception of the future, believe they have some control over their lives, and can think in probabilistic terms. The results of this study provide limited support for the contention that our models of consumer behavior are inherently cultural bound due to underlying assumptions.

The effect of inherent assumptions has far reaching implications for the development of consumer behavior theory. It must be recognized that incorrect assumptions about respondents can exist within societies as well as across societies. Researchers often lament that consumer behavior models do not explain much behavior (Peterson, Albaum, and Beltramini 1985). While some of this may be caused by poor theory or measurement problems (Cote and Buckley 1988), it may also reflect the failure to include basic model assumptions. Not only would modeling basic assumptions improve the predictive accuracy of a model, it should also provide insights into measurement issues and problems.

Futher study is needed to investigate the basic assumptions underlying consumer behavior models. Additional underlying assumptions of behavior intention models can be identified. For example, Lee (1988) has shown differing approaches to compliance

TABLE 1

Mean Values for Time Orientation, Locus of Control, and Probabilistic Thinking

Construct	Jordan	Thailand	America
Locus of Control[1]	4.56	3.96	3.09
Linear Time Orientation[2]	5.33	2.36	6.78
Probabilistic Thinking Ability[3]	1.82	1.43	2.73

[1]A higher score indicates and external locus of control. All means are significantly different (P<0.01).

[2]A higher score indicates linear time orientation. All means are significantly different (P<0.01).

[3]Higher score indicate better probabilistic thinking ability. Only Americans are significantly different from the other groups (P<0.01).

with group norms (i.e., the collectivism-individualism dimension) affects relationships in behavior intention models. Other areas of consumer behavior have models with similar assumptions based on basic Western values. In studies of family decisions making, it is often assumed the family has a nuclear structure, shared power between husband and wife,and monogamy. These assumptions are not valid in many cultures. Models of consumer innovativeness assume consumers are more internally controlled and that product benefits are perceived similarly by consumers. This may not be true in many less developed societies. Consumer behaviorists should examine the assumptions underlying the models or theories in their area of research as an important step toward greater generalization of consumer behavior theories.

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Immigrant Consumer Acculturation

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Introduction

Consumer acculturation is a term used to describe the aquisition of skills and knowledge relevant to engaging in consumer behavior in one culture by members of another culture. This includes how one learns to buy and consume goods as well as how one learns the meanings that we attribute to ourselves and others as consumers of goods, processes typically investigated under the heading of consumer socialization (cf. Ward 1974; Moschis and Churchill 1978). However, whereas studies of consumer socialization examine the processes whereby consumption skills are learned within one social context, consumer acculturation emphasizes the cultural bases of consumption behaviors and consumer learning processes, examining these processes as they are affected by the interactions of two or more cultures. More specifically, consumer acculturation describes an eclectic process of learning and selectively displaying culturally defined consumption skills, knowledge, and behaviors.

This topic is of interest to consumer researchers because the word "multicultural" describes a growing number of the world's cities (cf. Kasarda 1984 on changing American demographics; Brown and Jacobson 1986; Newland 1979 on international demographics and migration patterns). By addressing the juxtaposition and interactions of two consumer cultures (i.e., groups sharing consumption values and meanings, and learning processes) and their effects within one consumption context, the study of consumer acculturation advances a more critical view of the process of aquisition of consumer values, knowledge, and behaviors.

The purpose of this paper is to develop a framework for the systematic investigation of culturally specific aspects of consumer learning processes and behaviors. To begin, the concept of consumer acculturation is defined and distinguished from its predecessors, concepts such as acculturation, socialization, and consumer socialization. Next, some examples of acculturation models are briefly reviewed to illustrate previous conceptualizations of cultural adjustment, and to suggest relevant dimensions of consumer acculturation. While the concept of consumer acculturation invokes a multiplicity of cultures, in this paper, a simplified model of immigrant consumer acculturation is developed that is composed of dual sets of variables, which correspond to a culture of origin and a host culture, respectively. Further, while this model is designed to apply to immigrant consumer acculturation in general, the focus will be on immigrants to the U.S.. Having introduced the concept of consumer acculturation, the discussion will now turn to the theoretical roots of this term.

THEORETICAL FOUNDATIONS

Acculturation

The term consumer acculturation is a modification of the more general term, acculturation, which originated in anthropology. Acculturation has been defined as:

> "Cultural change that is initiated by the conjunction of two or more autonomous cultural systems...it may be the consequences of direct cultural transmission; it may be derived from noncultural causes, such as ecological or demographic modifications induced by an impinging culture; it may be delayed, as with internal adjustments following the acceptance of alien traits or patterns, or it may be a reactive adaptation of traditional modes of life. Its dynamics can be seen as the selective adaptation of value systems, the processes of integration and differentiation, the generation of developmental sequences, and the operation of role determinants and personality factors," (Social Science Research Council 1954).

At issue in the study of acculturation is cultural contact, conflict, and adaptation that occurs at the individual and group level (Berry 1980). Cultural contact varies in its nature, purpose, and duration, and these factors would be associated with significant differences in acculturation processes. For example, the least acculturative change would result from a novel experience in a foreign culture, such as a vacation; the most acculturation would result from an extended stay in another country, as in the case of immigration.

At an individual level, several distinct stages of cultural change were outlined in a study of missionaries (Oberg 1960). In Phase 1, the "honeymoon" stage, the individual is fascinated by the endogenous culture. Cultural contact is superficial, and conflict and adaptation are virtually nonexistent. Phase 2 is the "rejection" stage, characterized by hostile and aggressive attitudes to the new culture. At this stage, the individual begins to realize that his/her behavior is not appropriate, but does not know what to substitute in its place. He/she seeks company with others from the culture of origin. Cultural contact and adjustment are minimized, and conflict is intense. Phase 3, the "tolerance" stage is characterized by the acquisition of some cultural skills and knowledge. Cultural contact and adjustment increase, and conflict is beginning to lose its intensity. In Phase 4, "integration," cultural adjustment is generally adequate. The individual now has confidence in his/her ability to function in the new culture, which is viewed as just another way of life (Oberg 1960, p. 178-179).

There is, however, an important distinction between the missionary and the immigrant. The missionary, seeking to convert the native people to a certain belief system, may be more resistant to cultural adaptation. The immigrant, lacking this "mission," may be more adaptive to the new environment. Moreover, the order and progression of these stages may differ, depending on individual, cultural, and contextual factors which will be discussed later in the paper. Nevertheless, the immigrant and the missionary are similar in that both would probably vary in his/her attitudes toward the new culture over time.

At the group level, Berry (1980) listed eight variations of acculturation, along the following three dimensions: 1) retention/loss of the cultural identity of the immigrant culture, 2) positive/negative relation to the dominant society, and 3) ability/inability of the immigrant culture to determine factors 1 and 2. Each of these variations of acculturation describes a significantly different type of cultural adaptation, which suggests that structural as well as motivational issues influence the acculturation process.

However, while acculturation studies focus on cultural change as the result of cultural contact and adaptation, the study of consumer acculturation primarily focuses on *cultural adaptation as manifest in the marketplace*. As such, consumer acculturation is a subset of acculturation. More specifically, how immigrants learn consumer skills, knowledge, and behaviors that are appropriate within a new consumer culture is the theme of this paper. Therefore, literature on social learning processes is also integral to this study.

Socialization

Socialization, defined as the development of socially relevant behaviors (Zigler and Child 1969), is also one of the roots of consumer acculturation. Berger and Luckman (1967) distinguished between primary and secondary socialization. Primary socialization is the process by which the individual's initial world view is acquired. The authors noted that generally subsequent socialization processes are not as intense in terms of the degree to which the individual emotionally identifies with key socialization agents, e.g., parents. Further, the first world view acquired by the individual is generally not consciously acknowledged by the individual, but rather taken for granted, and assumed to *be* the world.

Secondary socialization was defined as "any subsequent process that inducts an already socialized individual into new sectors of the objective world of his society" (p. 130). Upon experiencing secondary socialization, the individual is confronted with another world view. This process, very much like acculturation, can be very disturbing, as the security and comfort of the primary world view is challenged. However, the two terms differ in scope. Berger and Luckman limited their discussion of secondary socialization to the acquisition of organizationally based interpretations of reality, e.g., an individual's imersion into the job "world," or more specifically, indoctrination of army recruits (p. 139). In contrast, consumer acculturation focuses on more general, socio-culturally based interpretations of reality.

In an earlier work, Berger (1963) wrote of a similar concept, alternation, which describes developmental processes whereby the course of events that constitute one's life are subject to alternate interpretations. Like secondary socialization and acculturation, alternation would imply a shift in the belief system or world view of an individual. For example, Berger cites the amazing transformation of identity and self image that occurs upon a simple change of residence (p. 58).

The shift in world view is as significant in alternation as in consumer acculturation. Similarly, there would be a range of psychological responses to an experienced confrontation of world views, from unconscious adaptation to pure awareness of a number of possible "worlds" and the resulting conscious choice of an "appropriate" world view and identity. There would also be a number of experiences that would bring about a confrontation of world views, such as geographical migration, major life events (e.g., entering a career, marriage, child bearing), and ideological (e.g., political, religious) conversion. However, consumer acculturation is primarily concerned with the effects of geographical, rather than ideological movement. More specifically, how one learns *consumer* skills, knowledge, and behaviors that are appropriate within a new socio-cultural context is the theme of this paper. Therefore, literature on consumer learning is also one of the theoretical foundations of this research.

Consumer Socialization

Research on consumer learning typically falls under the heading of consumer socialization. Reisman and Roseborough (1955) first used the term socialization in a consumption context, discussing developmental processes of aquiring consumption knowledge in the family. It was Ward (1974), however, who coined the term consumer socialization, narrowing its scope to refer to "processes by which young people acquire skills, knowledge, and attitudes relevant to their functioning as consumers in the marketplace" (p. 2).

As can be discerned from this definition, the early theoretical focus was on childhood, and the majority of consumer socialization studies have focused on childhood and adolescent consumer learning (cf., McNeal 1964; James 1971; Moore and Stephens 1975; Moschis and Churchill 1978). Although Brim (1966) noted that socialization continues on throughout the life cycle, it has been a recent development in consumer research to extend the concept of consumer socialization beyond childhood to apply to consumption learning throughout the human life cycle. A recent book on consumer socialization employs such a life cycle perspective (Moschis 1987).

The emphasis on childhood in studies of consumer socialization stems from a "blank slate" view of consumer learning. By not considering the existence of previous consumption knowledge, important aspects of consumer learning are neglected. Further, the role of the individual is de-emphasized in the socialization perspective, which does not portray the consumer as actively participating in the learning process, but rather as passively acted upon, i.e., undergoing socialization. The most severe problem with these studies, however, is that there is no consideration of the context of consumer learning. More specifically, there is no appreciation of the multiple bases of consumption knowledge, the modification of consumption-related values involved in consumer learning, or the resulting difficulty or even resistance that individuals may have when learning new consumption values, skills, and knowledge.

In sum, since consumer socialization focuses on normative processes and outcomes of consumer learning within one society, this perspective is somewhat limited in terms of its potential contribution to the study of immigrant consumer acculturation. Cultural adaptation is a dialectical process of interaction among two or more cultures, in which the individual can adapt some aspects of the new culture, and yet still maintain some traits of the culture of origin (McFee 1968). Therefore, it is important to consider aspects of consumer learning which may be separatist as well as conforming in nature.

CONSUMER ACCULTURATION

The distinguishing characteristic of consumer acculturation is that processes of consumer learning are studied within their multicultural context. A consumer culture is defined as a system composed of individuals who share specific values, skills, and knowledge relevant to engaging in consumer behavior. There are a number of what may be viewed as consumer cultures, and they may be characterized along a number of dimensions that are not mutually exclusive. Age, occupation, social class, family position, ethnic group, and geographical area of residence are somer of the boundaries defining consumer cultures (Peñaloza 1986). For example, Cateora (1963) observed general agreement among adolescents on several consumption values and goals independent of social class. These cultures may be distinguished by appropriate behaviors, dress, and other material objects that are defined and maintained within that culture (Belk, Bahn, and Mayer 1982; Solomon 1983; Hirschman 1985).

Consumer acculturation is a two level phenomenon that simultaneously occurs at the individual and the group level. Therefore, both psychological and social-psychological theories are relevant to the study of consumer acculturation.

At the individual level, the psychological view emphasizes individual processes in the transmission of norms, rules, expectations, and knowledge (Staub 1980). Cognitive development theory (Piaget 1928) may explain age and generational differences in immigrant consumer acculturation. The prior development of cognitive structures (beliefs) regarding consumption activities may partially account for the fact that first generation immigrants typically demonstrate lower levels of cultural assimilation than proceeding generations (Padilla 1980). Differences in level of acculturation are then associated with differences in the consumer behavior of immigrant groups (cf. Guernica 1982).

At the group level, social-psychological theories emphasize interpersonal relationships and exchanges of information which affect individual consumer learning (cf. Asch 1953; Deutsch and Gerard 1955; Burnkrant and Cousineau 1975; Kelly 1976). Reference group theory, role theory, and such interactional processes as modeling and reinforcement are some of the social psychological concepts relevant to the study of consumer acculturation.

The acquisition of social motives for consumption, i.e., learning to interpret consumption cues of others and to use goods as a means of self-expression, is also an important topic in consumer acculturation. According to Solomon (1983), when role demands are characterized by uncertainty, there is an increased reliance upon and consumption of symbolic products as a guide to behavior. In consumer acculturation, uncertainty due to the effects of multiple role demands of multiple reference cultures may result in the accelerated adoption and conspicuous consumption of products associated with the new culture.

Modes of Consumer Acculturation

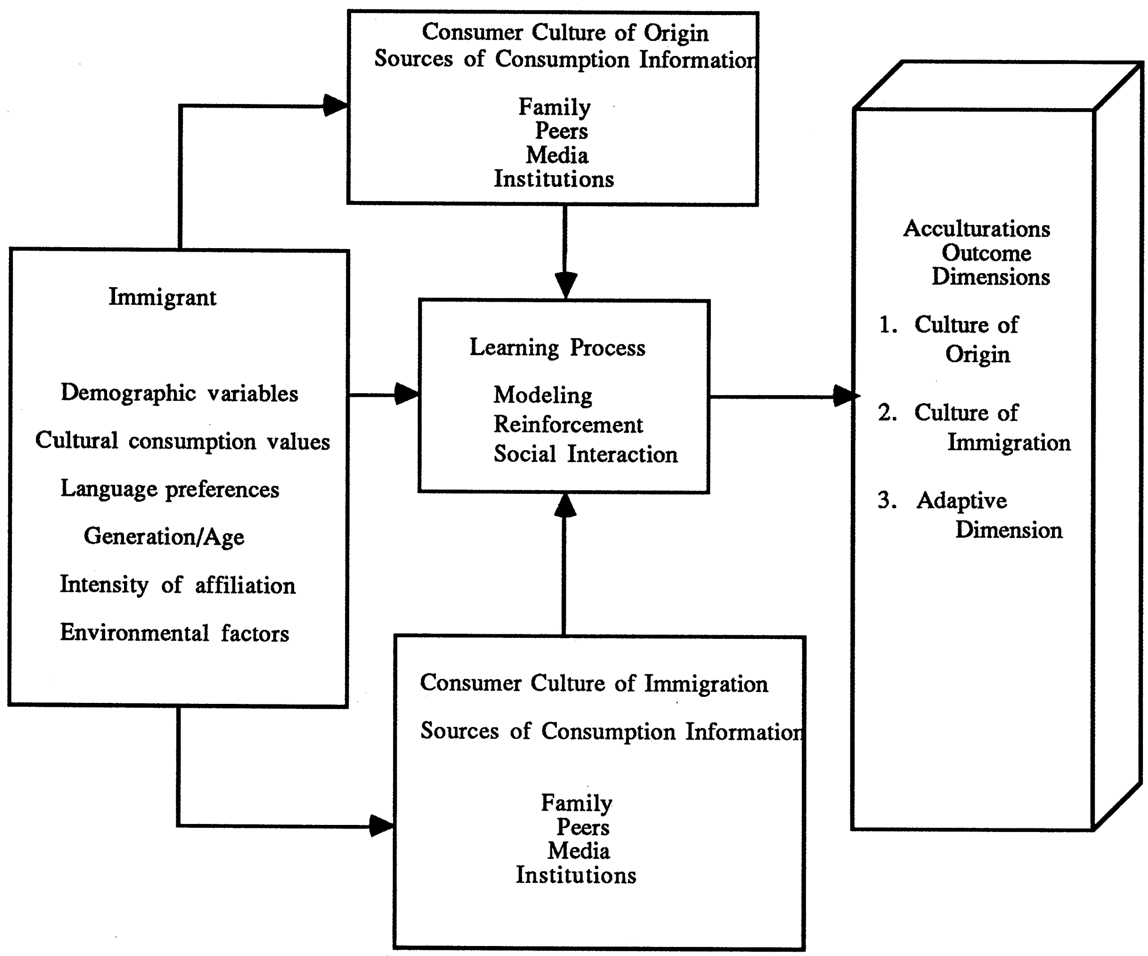
Three modes of consumer acculturation are highlighted, based on Berry's (1976; 1980) work in acculturation. The first mode, assimilation, represents cultural adaptations that decrease conflict by making cultural or behavioral features more similar to the dominant culture. The melting pot is an example of consumer acculturation in the assimilation mode. The melting pot describes a process of voluntary imersion and corresponding loss of cultural identity by the immigrant culture, who becomes like members of the dominant culture.

Integration is the second mode of consumer acculturation, in which the cultural identity of the minority culture is maintained, with a positive relationship between the dominant cullture and the minority culture. Further, there is movement to become an integral part of the larger societal framework by the acculturating group. An example of consumer acculturation in the integration mode, the salad bowl, describes a social situation in which cultural diversity is valued by the host culture, and the various cultures are seen as elements comprising the whole.

The third mode of consumer acculturation, separation, represents cultural adaptations that attempt to decrease conflict by movement away from the source(s) of the conflict. Separation may be characterized by the retention of the identity of the culture of origin apart from the host culture, or the rejection of both culture of origin and the host culture. It is possible that a third, hybrid culture emerges, as in the case of the chicanos of the southern and western U.S., whose culture is in many ways neither Mexican nor American.

FIGURE 1

A Model of Immigrant Consumer Acculturation



A MODEL OF IMMIGRANT CONSUMER ACCULTURATION

In this model (see figure 1) the immigrant enters the new consumer environment with consumption knowledge previously acquired in the consumer culture of origin. He/she then comes into direct contact with members of the new consumer culture. The effects of previously acquired knowledge (depicted on the left of the diagram) relate to present and future consumer learning processes and consumer behavior that take place in the new country (depicted in the middle of the diagram). Outcomes of consumer acculturation are depicted as three dimensional; the first dimension represents outcomes associated with the culture of origin, the second dimension relates to outcomes identified with the culture of immigration, and the third dimension represents those outcomes that contain adaptive characteristics of a third, hybrid culture.

Antecedent Variables

Antecedent variables represent the attempt to locate the individual in social space and time and set the stage for consumer acculturation. These variables may affect the aquisition of consumer learning both directly and indirectly (Ward 1974; Moore and Stephens 1975; Moschis and Churchill 1978).

1. Demographic variables - Age, education, income, occupation, sex, marital status, race/ethnicity and combinations such as social class and family life cycle are examples of demographic antecedent variables that have been associated with differences in consumer socialization (cf. Wells and Gubar 1966; Schramm 1969; Ward 1974; Moore and Stephens 1975; Ward et al. 1977; Moschis and Churchill 1978; Stampfl 1979; Belk et al. 1982). In addition, recency of arrival is an important factor affecting acculturative change (Padilla 1980). It is hypothesized that these variables

are associated with differences in consumer acculturation.

In addition to cultural differences in antecedent variables, it is possible that changes in these variables would occur upon immigration. For example, the immigrant family could realize significant changes in their socio-economic status upon immigrating. It may be that past socio-economic status, while having an effect on the attitudes and values of immigrant consumers, would be less significant in its relation to consumption behavior than present socio-economic status.

2. Cultural Consumption values - Cultural values are mirrored in learning processes and behaviors within a given culture (Rotheram and Phinney 1987). Some examples of differences in cultural value orientations that may be related to differences in consumer acculturation processes are individual versus group (Kluckhohn and Strodtbeck 1961; Chandler 1979; Firat and Dholakia 1982), active versus passive (Kahl 1968), present versus future time (Hall 1959; 1976), and egalitarian versus hierarchical social relations (Kahl 1968; Inkeles and Levinson 1969). For example, in societies characterized by having the group orientation, it may follow that interpersonal sources of consumer information such as the family would have stronger relative influence on consumer learning than mass media. The family is a key socialization agent for Hispanics (Guernica 1982; Hoyer and Despande 1982) and Japanese (Shigaki 1983), cultures that have been characterized as having the group orientation (Chandler 1979; Connor 1977).

3. Language - Language preference is a key factor because it is directly associated with the ability to communicate and learn consumption information (O'Guinn and Meyer 1983). While not all immigrant families must learn another language, colloquial differences in language are also a factor in consumer acculturation.

4. Intensity of affiliation - This variable relates to the individual's preference for one cultural orientation over another (Despande, Hoyer, and Donthu 1986; Alba and Chamlin 1983; Padilla 1980), which may be related to differences in consumer learning processes and behaviors of immigrants. Choice of cultural orientation could range from culture of origin to culture of immigration to a blend of the two, a third hybrid culture (Wallendorf and Reilly 1983).

5. Environmental factors - The immediate environment would affect the ability and the willingness of the immigrant to learn and display cultural consumption attitudes and behaviors. The immigrant would be more likely to exhibit previous patterns of consumption in social settings in which these patterns were accepted and reinforced. For example, in a study of the effects of migration on conjugal relationships, consumption patterns, and job status of women who move seasonally between Mexico and the US, Guendelman and Perez-Itriago (1985) concluded that in coping with the demands imposed by the two contexts, these women led "double lives."

Consumer Acculturation Agents

Consumer acculturation agents are those individuals or institutions who serve as sources of consumer information and/or models of consumption behavior.

1. Family - The immigrant family is viewed as a coping social structure in which previous patterns of consumer behavior can be preserved as well as new consumption patterns learned. The family differs cross-culturally in its structure, patterns of interaction, and social significance, and these differences have been related to differences in consumer learning processes (Ward et al. 1987). For example, Shigaki (1983) observed more parent-child contact and family member interaction in Japanese families, as compared to American families. In another study, Devereaux (1970) reported that British children experienced more physical punishment and less nurtance and warmth than American children.

Keefe (1980) noted that researchers differ in their treatment of the family in studies of acculturation. On one hand, researchers see familistic values as responsible for the slow rate of acculturation (Kluckhohn and Strodbeck 1961; Chandler 1979), while on the other hand, others view acculturation as the independent variable that is affecting the family (Grebler, Moore, and Guzman 1970). These apparently conflicting hypotheses are reconciled in the model, which views immigrant consumer acculturation as affecting and affected by the acculturation agents, which in this case is the family.

2. Peers - Previous research has noted socio-economic differences in the relative influence of the peer group on processes of socialization (McCandless 1969; Moschis and Churchill 1978). Whether the peer group was more closely aligned with the culture of origin or the culture of immigration is an important issue in immigrant consumer acculturation.

3. Mass Media - Mass media is a key source of consumption information. The availability of mass media in the language of the culture of origin is an important issue in the study of consumer acculturation. Further, previous media habits associated with the culture of origin may affect immigrant responses to mass media in the culture of immigration. For example, mass media would have different forms across societies, as the result of different social, legal, and economic conditions (i.e., the distribution of resources and the availability and diffusion of media technology). In cultures where television sets are less diffused throughout the population, individuals may be more accustomed to consulting newspapers, word-of-mouth, and radio for consumption information.

4. Institutional sources of consumer information - The nature of various institutions and their role in transmitting consumption-related information may vary across cultural contexts, and these variations may be associated with differences in consumer acculturation, e.g., differences in immigrant pesrceptions of the role of educational institutions in teaching consumer skills

TABLE 1

Varieties of Acculturation as Determined by Group Response

Varieties of Acculturation	Retention of Cultural Identity?	Positive Relationship to Dominant Society?	Group Right to Choose Options?
Multiculturalism	Yes	Yes	Yes
Pluralism	Yes	Yes	No
Melting Pot	No	Yes	Yes
Pressure Cooker	No	Yes	No
Withdrawal	Yes	No	Yes
Segregation	Yes	No	No
Marginality	No	No	Yes
Ethnocide	No	No	No

Source: John W. Berry (1980), "Acculturation as Adaptation," in *Acculturation: Theory, Models, and Some New Findings*, Amado M. Padilla, ed., Boulder, CO: Westview Press, p. 16.

Consumer Acculturation Processes

Acculturation processes refer to the ways in which cultural consumption values, knowledge, and behavior are learned. Three methods by which consumer learning is acquired are modeling, reinforcement, and social interaction (McLeod and O'Keefe 1972; Ward 1974; Moschis and Churchill 1978).

Regarding immigrant consumer acculturation processes, certain apriori hypotheses have been derived. Initially, upon arriving in the new country, the immigrant will try to assimilate the consumption patterns of the host country, and will try to consult those sources of consumption information that are perceived to be aligned with the host culture. However, as the immigrant proceeds according to the heuristics of his/her previous culture, seeking out products and sources of consumption information, he/she soon realizes that these guidelines no longer function. Frustrated, the immigrant may look for a familiar products, in an attempt to retain his/her original cultural orientation at this second phase. In the third phase, the immigrant has gained some knowledge of the new culture. Strengthened by this cultural knowledge, the immigrant gains confidence in his/her ability to function in the new consumer environment, and can now choose which one of three cultural orientations (culture of origin, culture of immigration, or a third hybrid culture) to display. However, the order and progression of these processes may differ, depending upon many factors in the culture, the social environment and inherent to the immigrant.

Consumer Acculturation Outcomes

Outcomes of consumer acculturation refer to consumption-related skills and knowledge that are aquired as a result of contact between two cultures. The following are some examples of consumer socialization outcomes that warrant consideration in the investigation of consumer socialization: price awareness, brand specification, slogan recall (Moore and Stephens 1975), attitudes toward advertising (Ward and Wackman 1971), recognition of consumption symbolism (Belk et al. 1982, materialistic attidudes (Ward and Wackman 1971). However, value orientation (Kahl 1968) and identity issues (Rotheram and Phinney 1987) are also important outcome dimensions of consumer acculturation.

DISCUSSION

The model of consumer acculturation is not deterministic; emphasis is given to the range of cultural orientations that the individual may display. The ability and the desire of the immigrant to learn new and/or to maintain previous patterns of consumer behavior may vary as a function of several factors. For example, many of the products they used to buy are no longer available. Another possible explanation is that former patterns of consumer behavior may not be socially sanctioned in the new country.

Language barriers, limited experience in a new country, and the limited amount of non-English advertising limit the ability of immigrants to evaluate goods. Negative reinforcement may be the chief means of identifying consumption meanings and values for the immigrant consumer. They may learn what is *acceptable*, by means of a tramatic process of learning what is *not acceptable* in the host culture by exposure and interaction with individuals with the message, "we don't do things that way here." Immigrants may also develop informal networks composed of family, friends, and other immigrants who can offer support and advice concerning how to get by in the new country.

Changes in familial roles and status as a result of immigration may have implications for household consumer behavior. For example, Guendleman and Perez-Itriago (1985) examined the impact of seasonal migration on women's roles and lifestyles in the Mexican immigrant family, and observed that wage workers in the US had a greater tendency to establish cooperative roles with their husbands, sharing power and decision making. In another study, Humphreys (1944) observed that the status of the father declined relative to that of the mother and children, while the son assumed a position about equal to that of the father, and the daughter attained the same level with the mother.

Some of the consumer behavior implications of acculturation involve purchase roles, decision-making influence and the allocation of household tasks. For example, Penaloza and Gilly (1986) suggested that, because of the accelerated rate of assimilation of children in the Hispanic familly, immigrant parents depend on them as a source of consumption knowledge. There may also be significant differences in the rate of consumer acculturation for single immigrants, as compared to immigrant families, and immigrant families with children, as compared to immigrant families without children, due to qualitative differences in the nature of the family as a support network.

Previous research indicates that immigrant consumer behavior is not a simple blending of the culture of origin and the culture of immigration, but rather a unique cultural style (Wallendorf and Reilly 1983). These authors discovered that Mexican-American consumption patterns did not resemble American or Mexican consumption patterns, but were similar to Anglo consumption patterns of five years earlier. This research suggests that consumer acculturation is a dynamic process in which consumption behaviors of one culture are acquired by another culture, but not without a corresponding time lag effect and distortions possibly due to cultural stereotypes.

CONSUMER RESEARCH IMPLICATIONS

Like the immigrant family, researchers operate from within a consumer culture. Perhaps the most critical difficulty to be encountered by researchers in the investigation of immigrant consumer acculturation is that it is very difficult to comprehend other cultures. Cultural knowledge and learning have been linked to the part of the human nervous system that functions according to the principle of negative feedback, i.e., we become aware of our own cultural heuristics only when they do *not* function (Powers 1973; Hall 1976; emphasis added).

Another problem experienced by the immigrant family and consumer researchers alike is that cultural consumption values cannot be observed and measured directly. They are hypothetical constructs that are inferred from "acceptable" consumption behaviors *as they are defined within a particular cultural context.* Further, like other macro phenomena, cultural consumption values and behaviors may not correspond to any one individual or group within a culture (Firat and Dholakia 1982; Arndt 1976).

While operationalizing and measuring macro constructs can be quite problematical, it is suggested that the effects of immigrant consumer acculturation are conducive to measurement in terms of the immigrant family's perceptions of the issues and difficulties they have experienced as consumers in a new cultural context. Further, inquires as to the consumption goals of immigrants may lead to insights concerning their motivations for consumption, as well as our own. While the desire and intention of immigrants to continue previous patterns of consumption is assumed by firms who import goods and make them available for purchase by immigrants, the degree to which this assumption is correct is of interest to consumer researchers.

CONCLUSION

Many cultural issues affecting consumer behavior have been discussed in this paper, including cultural differences in consumption-related values, family interactions, the relative influence of sources of consumer information, and consumption knowledge, skills, and behaviors. The focus of this paper, however, has been on the immigrant consumer. A conceptual model of immigrant consumer acculturation was developed and discussed. Immigrant consumer behavior is not the simple assimilation of established patterns of consumption, nor is it an adamant continuation of previous patterns of consumption exhibited in the country of origin. Although the immigrant may try to maintain previous patterns of consumption behavior, his/her ability to do so is constrained by several factors both in the consumption environment and inherent to the culture and the circumstances of the individual. Many questions remain. Further research is necessary to identify and examine differences in the consumption values, learning processes, and behaviors of different cultures, including that of immigrant as well as native consumer cultures throughout the world.

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Choice Strategies and Involvement: A Cross-Cultural Analysis

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ABSTRACT

Interest in the relationships between affective factors and cognitive processes in consumer decision making continues to grow. However, the emerging body of theory in this area is thus far culture bound--that is, it has yet to be examined across different cultures. This study explores hypothesized relationships between involvement and the use of decision making strategies in samples from three cultures: West Germany, Thailand and the United States. Results indicate that higher levels of involvement lead to greater use of both affective and cognitive decision-making heuristics in all three cultures.

INTRODUCTION

During the 1970's and early 1980's, consumer decision-making research in the United States focused largely on cognitive processes. Typically, consumers were thought to cognitively evaluate and integrate information on product attributes in order to reach a decision (Peterson et al. 1986). More recent research has indicated that basic affective processes (i.e., basic feelings of like or dislike) may also play a key role in influencing consumer information processing (Zajonc and Markus 1982; Batra 1986). In fact, for many purchases, it appears that cognitive decision processes don't occur, even on the first purchase (Olshavsky & Granbois 1979).

While a detailed review of this vast literature is beyond the scope of the present paper, one general conclusion may be drawn: research in consumer decision making has tended to focus on three general types of processes: (1) extensive cognitive evaluation (e.g., multi-attribute models such as Fishbein and Ajzen 1975), (2) basic affective processes (e.g., Zajonc and Markus 1982), and (3) simple cognitive processes (e.g. the use of choice heuristics - Hoyer 1984). Although it has not yet been studied in detail in the consumer literature, one could also include strong emotion as an important potential determinant of choice processes. Thus one could posit two general continuums, one cognitive and one affective. The cognitive continuum would range from simple choice rules to extensive cognitive evaluation, the affective continuum from basic affect to strong emotion. Also, these two processes need not necessarily be independent (i.e., affective processes may influence cognitive processes and vice-versa).

Most importantly, a variety of different factors could potentially determine where a particular consumer is placed on the continuum for a particular decision context (Peter and Olson 1987). Previously studied factors would include perceived risk (Deshpande and Hoyer 1983), involvement (e.g., Bloch and Richins 1983) and product knowledge (e.g., Bettman and Park 1980). One problem with this large body of research, however, is that it has the potential to be culture bound. Thus, a major question which can be posed is: Do consumers in other cultures process information in a manner similar to American consumers? The purpose of the present study is to examine the general types of decision strategies used in different cultures and to relate these tendencies to a key factor identified in many studies: product involvement.

The Cross-Cultural Context

Cross-cultural consumer studies of affective, cognitive and/or heuristic components of decision-making appear to be non-existent in the consumer behavior literature. Although researchers have explored external information search issues (Anderson and Engledow 1977; Tan and Dolich 1983; Thorelli 1985), cross-cultural study of internal processing issues has been left almost exclusively to psychologists working in non-consumption contexts. Furthermore, the use of decision-making strategies and the moderating factor of involvement across cultures appears to be relatively unstudied in both disciplines.

On the cognition side, work has focused on differences and similarities in attitude and belief content (see Davidson 1980 for a thorough review of the literature). Other psychologists have looked at such diverse topics as: object representation (classification, memory and conservation); spatial representation, intelligence and cognitive development (Pick 1980). While early studies found cross-cultural differences, recent studies have more effectively controlled potential confounding factors such as familiarity with the stimulus. Once such contextual factors have been controlled, researchers have reported few if any differences in basic information processing abilities (Pick 1980). Based on findings such as these, many cross-cultural psychologists have concluded that basic processing abilities are universal while cognitive content may vary depending on the types of cognitions and processing styles the culture deems important (Cibrowski 1979; Price-Williams 1980).

The bulk of cross-cultural research on affect has explored the question of whether or not facial and vocal expressions and their attendant emotions can be recognized across all cultures (Izard 1980). This focus has grown out of the debate, raging since the time of Darwin (1872), over the question of whether emotions are biological or learned (Boucher 1979). Generally, certain universal emotions (roughly six to eight) have been identified using facial expressions (Izard 1980; Boucher and Carson 1980; and McAndrew 1986) and vocal expressions (McCluskey and Albas 1980; Bezzoijen, Otto and Heenan 1983). These basic expressions and emotions have been found to hold across both Western and non-Western, developed and developing cultures.

What appears to vary by culture are more complex expressions and emotions as well as affect display rules (Friesen 1972). Yet, with the exception of facial expression research and more recent studies of emotional antecedents (Scherer et. al. 1986), our limited understanding of affect in a cross-cultural context leads Boucher (1979) to conclude:

> The paucity of available studies of emotion in the cultural domain suggests that a high rate of practical return could be yielded from an investment in studies such as replication of American-based research in other cultures.

Boucher's (1979) comments appear to apply equally well to the cross-cultural study of consumer behavior in general and the study of affective and cognitive consumer decision-making heuristics in particular. For example, in an analysis of published, empirical research in the international marketing field from 1976 to 1982 (112 studies in all), Albaum and Peterson (1984) found that only 5% of the studies reviewed focused on cross-cultural consumer behavior.

Despite the relative scarcity of cross-cultural research, there appears to be general consensus that far more comparative analyses are needed. Indeed every major review or comment on the published research in international marketing has emphasized the culture-bound nature of the present body of knowledge and called for additional studies of external validity (Cauvisgil and Nevin 1981; Boddewyn 1981; Albaum and Peterson 1984; Cunningham and Green 1984).

Methodological Issues

In addition to calling for research, numerous authors have noted that cross-cultural studies often contain serious methodological problems. Hui and Triandis (1985) point to a potential problem involving research designs which attempt to analyze differences in beliefs, attitudes or behaviors using only two or three cultures. According to Hui and Triandis (1985), the validity of this approach is questionable because "culture" serves as the sampling unit. As such, it is unlikely that a two or three unit sample of cultures will provide enough variability in the construct of interest to validate attribution of observed differences to the cultural treatment rather than several other possible factors (see also, Davidson 1980; Davidson and Thomson 1979).

Davidson (1980), however, argues that the use of two or three cultures for testing the "boundary conditions" of existing theory is methodologically sound. Such designs are said to be valid because of their focus on relationships among a number of variables within one culture at a time rather than mean differences across cultures. This approach has two additional advantages.

When the study is not concerned with comparing mean differences across cultures, only conceptual/functional equivalence of measurement constructs is required (Hui and Triandis 1985). Conceptual/functional equivalence exists when a given operationalization is capable of capturing a behavioral construct that is meaningful to both cultures and directed to similar goals (Berry and Dasen 1974). It is generally agreed that establishing conceptual/functional equivalence across cultures is less difficult than verifying conceptual, functional and measurement equivalencies (for a thorough review of equivalence issues, see Hui and Triandis 1985). Second, it is often argued that the nomological validity of cross-cultural differences can only be assumed following replication of general patterns of similarity. Davidson (1980), for example, states that without knowledge of such cultural similarities, it is not possible to distinguish true differences from the large number of methodological complications which may explain observed patterns.

Study Purpose

As previously noted, this study explores the impact of involvement on the use of alternative decision-making heuristics in samples from three cultures: the United States, Thailand and West Germany. The study's objectives are two-fold. First, by focusing on similarities in relationships within selected cultures, the study seeks to illustrate a general cross-cultural research strategy suggested by many psychologists but as yet used by few consumer researchers. Second, by looking at how decision-making heuristics vary depending on involvement with the purchase decision in the three cultures, the study serves as an exploratory step toward better understanding the external validity of U.S. based models of information processing in general and consumer choice heuristics in particular.

METHOD

Subjects - The sample was composed of university undergraduate students in each of the three cultures. The American sample consisted of 264 students in an introductory marketing class. The West German sample was composed of 115 undergraduate business students from several different universities. Finally, the Thai sample of 93 students was obtained from a business college within one of the nation's major universities. While convenience sampling was employed in each culture, the fact that all respondents came from similar academic levels and programs was expected to produce generally comparable samples.

Independent Variables

Culture - The three cultures used in this study were selected for both convenience and theoretical reasons. For example, West Germany was chosen as test culture because it shares a generally common heritage with the United States. Thailand was examined because of its more dramatic departure in cultural heritage (i.e. a non-Western culture).

Involvement - Involvement was operationalized by means of product categories. Although it is recognized that involvement is more accurately determined by product X individual interaction (i.e., the same product is not equally involving for all individuals), it was felt that this method was the most useful for making cross-cultural comparisons. In particular, pretests suggested that the concept of involvement toward a product may be foreign to the German culture and language. Thus, it was felt in this instance to be less problematic to remain at the product level.

The six products chosen for study were based on several U.S. pretests. First, based on a review of the literature, a pretest was conducted to identify items which exhibited high criterion reliability in tapping the involvement construct. Four items emerged from the larger set as fulfilling this criterion and were employed for the next set of pretests.

At the next stage, the author(s) generated a large number of product categories which are purchased by students. Each of these product categories was then rated on the involvement battery of questions. Each statement was rated on a 1 (strongly disagree) to 5 (strongly agree) scale (with a 0 indicating "don't use"). An examination of scores for the total pool of products revealed 3 products which should be classified as strongly high on involvement: wristwatch ($\bar{x}$ = 16.67), jeans ($\bar{x}$ = 17.72), and athletic shoes ($\bar{x}$ = 17.72). Likewise there were three which were rated low in involvement: peanut butter ($\bar{x}$ = 8.31), cleaning powder ($\bar{x}$ = 7.76), and chewing gum ($\bar{x}$ = 10.14). In addition, the main study included a manipulation check for involvement to ensure that the manipulation was emically valid for the other two cultures. Due to the cross-cultural problems with the concept of involvement mentioned earlier, average time spent making a decision was employed as a pseudo-measure of the construct.

Dependent Variables

The dependent variables of interest were the extent to which affective and cognitive decision rules are employed to make a variety of consumer decisions. A pretest was conducted to develop items to tap each of these dimensions. A group of 24 American student subjects was asked in an open ended format to describe the processes by which they decide to purchase a variety of consumer products. A detailed analysis of these protocols was then employed to develop two sets of dependent measures.

Choice Heuristics - The first set of dependent measures consisted of a series of statements which reflected choice heuristics which one might employ when making a decision (similar to Hoyer 1984). These statements covered a wide variety of decision strategies including affective rules (such as "I buy the brand that I have a `gut' liking for" or "I buy the brand that makes me feel good"), cognitive rules (such as "I buy the brand that I have collected a lot of information about" or "I buy the brand I am most familiar with" or "I buy the brand I have used most often in the past"). In all, 22 different choice heuristics were evaluated. Each statement was rated on a 5 point scale ranging from 1 (=always) to 5 (=never).

It is important to note that verbal reports of decision making behavior have been shown in previous research to be a less effective means for obtaining a description of detailed information processing behaviors. However, the use of this technique in the present study is justified on two counts. First, given data collection resources available to the researchers, it would have been quite difficult to employ the more common and current process techniques used in consumer information processing research. In particular, this was problematic in collecting data in West Germany and Thailand where only very limited resources were available. Second, the purpose of the present study is not to provide a detailed account of the exact nature of information processing. Rather, the intent is to examine the broad level existence of certain types of processing across the different cultures. The present measures were judged to be suitable for this purpose.

Process Descriptions - As a second indicator of decision processes, respondents were presented with a series of paragraphs which described the way in which some consumers make a product choice. These descriptions were taken directly from the verbal protocols mentioned earlier. In all, 10 different paragraphs were generally able to cover the universe of mentioned decision processes. Subjects were asked to indicate which paragraph most closely represented their decision process for each product.

Development of German and Thai Questionnaires

A double-back translation technique (Green and White 1976) was employed to ensure the development of comparable versions of the questionnaire in German and Thai. In each case, the questionnaire was translated by a native of that country who was also quite fluent in English. The translated versions were then back translated into English by a second set of individuals who were also fluent in both languages. Any problems or discrepancies were discussed and corrected.

Procedure

The study materials were administered by means of questionnaire booklets. Each booklet contained a set of dependent measures for three of the six test products. The order and inclusion of the products was equally counterbalanced across subjects. Students were provided with the materials in class and were asked to answer the questions at their own leisure and return them during the next class period.

RESULTS

Convenience sampling of upper division college students in all three cultures produced samples which were comparable on fewer factors than expected. For example, the Thai and West German and the U.S. and the West German samples were significantly different in age, based on Tukey's HSD test with $p < .05$. However, the effect size of these differences was rather small. In addition, all three samples were significantly different in gender composition. However, this variable was not expected to be strongly related to dependent variables, as verified in subsequent analysis.

More importantly, emically designed economic indicators suggested that the overwhelming majority of respondents in all three cultures came from families which were middle to upper middle income within their respective societies. Finally, the existence of generally similar educational processes in each culture indicated that the junior and senior level undergraduates who participated in the study all had roughly equivalent years of formal education.

TABLE 1

Manipulation Check on Involvement
(Time Spent Evaluating)

	US	W. Germany	Thailand
Low Involvement	2.78	2.70	3.12
Products	(1.40)	(1.49)	(1.27)
High Involvement	5.24	4.34	5.14
Products	(1.59)	(1.56)	(0.88)

NOTE: Scale ranged from "1" (no time) to "7" (a lot of time). All within culture mean differences on involvement significant @ $p \leq .000$. Standard deviations in parentheses.

TABLE 2

Factor Loadings for Affect/Cognition Heuristics

		USA	W. Germany	Thailand
Affect Factor	"feel good"	.773	.728	.686
	"gut liking"	.657	.754	.705
	"strong feeling"	.783	.338	.760
Cognition Factor	"best on 1 or 2"	.844	.823	.621
	"best on > 2"	.858	.811	.671

Validity Tests - Prior to analysis of substantive issues, several validity tests were undertaken. First, low and high involvement treatments were checked for emic validity by measuring time generally spent evaluating decisions for each product set on a seven point scale. Only for two products were there significant differences on "time spent evaluating" across cultures at $p < .05$ (cleaning powder and wristwatch). More importantly, in all three cultures, the mean differences between the two product sets on the manipulation check measure were strongly significant (see Table 1).

Second, to guard against functional/conceptual non-equivalence, an analytic approach referred to as "internal structure congruence" was undertaken on the instrument's twenty-two item choice heuristic battery. As described by Hui and Triandis (1985), internal structure congruence typically involves factor analyzing items in each culture and determining the extent to which theoretically similar measures load on the same factor in a similar manner. The greater the similarity in "structure" across cultures the greater the likelihood that conceptual/functional equivalence has been achieved.

Principal components analyses with varimax rotation revealed that the two dimensions of interest in this study, cognition and affect, produced generally similar loadings in all three cultures. (See Table 2). Loading strongly on one factor were two primarily cognitive items: "is the best on one or two key things I am looking for" and "best on more than two factors". This factor would appear to reflect a fairly strong cognitive evaluation (as opposed to a a simple choice heuristic). Loading strongly on a second factor (with the exception of "strong feeling" in W. Germany) were three affective items: "makes me feel good"; and "I have a 'gut' liking for" and "I have a strong feeling for." Taken together, these items suggest the presence of a stronger level of affect than is typically studied in the previously cited research. The presence of similar structures indicates that these items are tapping two conceptually/functionally equivalent dimensions (affective vs. cognitive choice strategies) in all three cultures.

Having found evidence of functional/ conceptual equivalence, convergent and discriminant validity tests were administered to further verify the orthogonality of the choice strategy dimensions. These tests were made by comparing correlations between the affective and cognitive measures just discussed and script-like

TABLE 3

Convergent Validity Test

	Affective Script				Cognitive Script		
Affective Items	USA	W.Ger.	Thai.	Cognitive Items	USA	W.Ger.	Thai.
Feel good	.43*	.43*	.12	Best on 1 or 2	.31*	.23*	.25*
Gut liking	.35*	.34*	.22*	Best on >2	.28*	.23*	.20*
Strong Feelings	.55*	.26*	.17*				

* Significant @ p≤.05.

TABLE 4

Discriminant Validity Test

	Affective Script				Cognitive Script		
Cognitive Items	USA	W.Ger.	Thai.	Affective Items	USA	W.Ger.	Thai.
Best on 1 or 2	.06	.11	-.01	Feel Good	-.01	-.12	.18*
Best on >2	.03	.02	.00	Gut Liking	-.04	-.08	.05
				Strong Feelings	.04	.07	.00

* Significant @ p≤.05

descriptions of alternative choice heuristics included in the research instrument. As reported in Tables 3 and 4, correlations were all in the expected direction with theoretically similar (though operationally different) questions generally resulting in significant, positive correlations. This pattern would suggest the presence of convergent validity. Furthermore, theoretically dissimilar operationalizations generally resulted in correlations insignificantly different from zero, indicating discriminant validity.

Finally, the relationships within each culture between involvement and use of alternative choice heuristics were analyzed using two derived scale criterion variables. These were operationalized as the average scores on the cognitive and affective items which were validated previously. A full factorial MANOVA model was first tested with three predictors (culture with three levels, involvement with two, and sex). Neither the "sex" main effect nor any of the interaction terms were related to frequency of affective or cognitive strategy usage.

A reduced main effects only Manova model (3X2) with both criterion variables and two predictors (involvement and culture) was next tested. This model appears to capture the underlying phenomena in a parsimonious yet valid manner and is presented in Table 5. Both main effects were related to increased usage of both strategy sets, affective and cognitive. Furthermore, inspection of mean differences across levels of involvement shows that the construct is positively related to usage of both affective and cognitive strategies. Finally, analysis of mean differences across cultures reveals that the West German sample indicated the lowest usage of both heuristic types for the six products. Further, the Thais indicated the highest usage of the affective heuristic and the US sample the highest for the cognitive. For the reasons stated earlier, without additional equivalence testing and replication, it is not possible to conclude that this last set of scores actually reflects underlying cultural differences in strategy usage.

To further validate the final model, step down (or sequential) analysis was performed. The relative size of the univariate F tests along with the canonical variate correlations (.907 for the affective criterion and .621 for the cognitive) suggested that the affective criterion

TABLE 5

Final Model
(3X2 Main Effects Only)

		Affective Heuristic Usage	Cognitive Heuristic Usage
a) Effect level means:			
Involvement	Hi	2.89 (1.1)	2.55 (.98)
	Low	2.36 (.90)	2.19 (.96)
Culture	USA	2.62 (1.0)	2.23 (.93)
	W. Germany	3.21 (1.0)	2.74 (1.12)
	Thailand	2.00 (.72)	2.33 (.78)
b) Univariate "F" tests:			
Effect			
Culture		32.25*	9.34*
Involvement		30.79*	14.45*

*Significant at $p \leq .05$.
Note: The lower the score, the more frequent usage. Standard deviations in parentheses.

variable was more strongly related to the predictors in the model than was the cognitive criterion variable. Hence, the affective variable was first modeled alone in a main effects only, ANOVA (3X2) design. Both main effects were significant at $p < .01$ (involvement $F = 30.8$ and culture $F = 32.3$).

Next, the affective measure was used as a covariate in a main affects only ANCOVA (3X2), with "cognitive strategy usage" as the criterion variable. In this test, "cognitive strategy usage" remained significantly related to both main effects at $p < .01$ (involvement $F = 6.11$ and culture $F = 5.73$). This finding supports the conclusion that involvement has a significant impact on the frequency of *both* affective and cognitive strategy usage in all three cultures.

CONCLUSION

This study has demonstrated a useful and appropriate methodology for studying U.S. based consumer behavior theory in a cross-cultural context. By focusing on within culture similarities in relationships between major consumer behavior variables and by using equivalence validation techniques such as those described herein, insight into the global applicability of consumer behavior theory can be gained. Such effort will also pave the way for eventual mapping of differences across cultures. As a step in this direction, a detailed analysis employing functionally, conceptually and metrically equivalent measures is needed to determine whether or not culture truly impacts on frequency of choice strategy use.

Second, this paper provides preliminary support for the notion that involvement impacts on the type of information processing which ensues within cultures other than in the US. The affective and cognitive factors found in all three cultures reflected fairly strong levels of both cognition and affect processing *and* the usage of both processing strategies increased at the higher levels of involvement. Such evidence suggests that certain relationships of current interest to consumer behavior researchers may indeed possess cross-cultural validity.

Finally, the fact that both cognition and affect moved in the same direction as involvement increased may provide support of the dual-continuum proposition described earlier. Furthermore, it suggests that these processes should not be studied independently. The present study did not, however, span the entire length of both continua and future research is needed to explore this possibility.

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Current Theory and Research on Cross-Cultural Factors in Consumer Behavior

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ABSTRACT

This paper is a discussion of issues raised in a session on cross-cultural factors in consumer behavior. The current discussion focusses on the two papers in the session that attempted to discover the level of cross-cultural generalizability that particular constructs in consumer behavior have. While these papers have enormous merit in pointing out the need to recognize that our current work may be culturally bound, the present author proposes that an alternative path for future work will be to develop general, pancultural models of consumer behavior.

INTRODUCTION

The papers in this session have all dealt with some aspect of the relationship between culture and consumer behavior. Two of these consider the extent to which certain theoretical constructs are applicable cross-culturally while the third paper proposes a model of acculturation. The current discussion will focus on issues related to the two papers that attempt to determine the cross-cultural applicability of constructs and to general issues about the nature and purpose of cross-cultural investigations raised by these two papers. This does not in any way imply that these papers have more or less merit than the paper on acculturation, rather, these two raise similar issues and the nature of these papers is considerably distinct from the third.

The paper in this session by Alden, Hoyer, and Wecgasara was an effort to determine the extent to which the involvement construct in consumer behavior is appropriate across cultures. The authors discovered that across three different cultures, the involvement construct appeared to be appropriate and that higher levels of involvement lead to a greater use of affective and cognitive decision making strategies. The three cultures investigated were West Germany, Thailand, and the United States.

The Cote and Tanshhaj paper attempted to determine the extent to which behavioral intention models are culturally bound. These authors argued that behavioral intention models may be culturally bound since three constructs that intention relies upon, time orientation, locus of control, and the ability to think probablistically, differ across cultures. Therefore, questioning an individual about future intentions may not make as much sense in some cultures as in others, and the relationship between intentions and behavior may vary considerably across cultures. They tested this in three cultures, Jordan, Thailand, and the United States, and discovered that discrepancies between intention and behavior for academic related behaviors were related differences in time orientation, locus of control, and probabilistic thinking across the cultures. The study found little support for their hypotheses in the case of food and soft drinks, however.

While the findings of these two papers were quite different, one discovered that a construct fit across cultures while the second questioned the applicability of a construct across cultures, they took a similar approach. That is, both papers suggested the need to test our theoretical constructs cross-culturally and each did so with a particular construct.

The approach of these papers raises several important questions about the completeness of current theories in consumer behavior in terms of their generalizability to different cultural settings. The approach of these papers also raises questions about the purposes of cross-cultural research. The next section will address the purposes of cross-cultural research.

PURPOSES OF CROSS-CULTURAL RESEARCH

The two empirical papers in this session suggest, either explicitly or implicitly, that one purpose of cross-cultural research is to test the cultural bounds of constructs that are a part of current consumer behavior theory. That is, as was stated verbally during the paper session, all theories in consumer behavior will ultimately need to be tested cross-culturally. Whether or not past theories must meet the cross-culture test would seem to be open for debate since many theories adequately explain the phenomena under the conditions they were designed.

It would be useful to consider what others have viewed as the purposes of cross-cultural research. Strodbeck (1964) proposed several reasons for cross-cultural research which were further discussed by Triandis and his associates (1972). These purposes are not mutually exclusive and any given study may relate to more than one purpose. One reason for using different cultures would be when there is not enough variation in one culture to adequately test the importance of a construct. Since cultures can vary tremendously, using several cultures can provide the needed variation to understand the phenomena of interest. Testing a phenomena in different and varied ecological environments is a second purpose of cross-cultural research. That is, different cultures provide different environments and, therefore, a phenomena can be tested under these different conditions. The third reason for using cross-cultural research relates to the interest in the cultures per se. Cross-cultural studies can be conducted to determine how various cultural groups differ in their "cutting the pie of experience." In this case it is the differences or similarities of cultures that is of interest to the researcher, while the first two reasons discussed simply use culture as a way of gaining a greater understanding of a phenomena of interest. A fourth purpose of cross-cultural research is to test general laws of behavior. This would be particularly important, for example, if one desires to know whether some phenomena is innate or learned.

The reasons for cross-cultural research as discussed by Strodbeck and Triandis refer primarily to

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theoretical research. An additional applied reason for this kind of research is apparent from the tremendous increase in the international marketing of products. To market products effectively in different cultures, we need to understand those cultures and differences in various cultures.

Given these reasons for cross-cultural research, at first glance, it seems entirely reasonable that models and theories of consumer behavior should be tested under different ecological environments and cross-cultural work would aid in our understanding the generalizability of our theories of consumption. It should be noted, however, that most of the past work in consumer behavior was designed to understand consumption in the United States; most theories of consumption were not proposed as general laws of behavior in that it is generally assumed that consumption is a learned phenomena and therefore most likely culturally bound. It is unlikely that most theories of consumer behavior will stand up to an exhaustive cross-cultural testing. If a particular theory of consumption is found to indeed be culturally bound, this *does not* invalidate the theory in terms of its original purpose, to understand and/or predict some consumption phenomena within this culture. While the two empirical papers in this session are quite useful in reminding us that our past work in consumer behavior has been culturally bound, it would seem that the most productive path for future consumer behavior lies somewhere else than showing that our previous theories are inadequate for understanding consumption in many cultures. An approach that attempts to *develop* pancultural models of consumer behavior is a more fruitful path for future work.

THE DEVELOPMENT OF CROSS-CULTURAL THEORIES

Perhaps the most constructive path for future work in consumer behavior is to develop general pancultural models, rather than testing previously developed theories. This building of general models is an approach to cross-cultural research suggested by Triandis and his associates (1972). Given the vast differences in cultures, it might first appear very difficult to find constructs that are applicable in every culture. Triandis suggests, however, that while the components of a cross-cultural model should be general enough to apply to all cultures, the individual components can be operationalized within separate cultures. This approach goes far in solving the etic-emic problem in the study of culture. The emic approach, as most often exemplified by anthropological ethnographies, is the study of a single culture using constructs appropriate in that culture. Cross-cultural comparisons are difficult under these conditions. The etic approach is a search for general laws and, therefore, needs variables that can apply to all cultures. Too often, however, the constructs have developed in one culture and assumed to fit in other cultures, leading to an approach that Triandis calls the pseudoetic approach. If, however, the components of general etic models are tailored to individual cultures, then these general laws can take advantage of the important aspects of both the etic and emic approaches to culture.

If we should in the future develop general laws of consumer behavior that will be applicable across cultures, where is a proper starting point? It would seem that behavior or action on the part of individuals would indeed be a primary focus of cross-cultural investigations, as it has been in the social sciences and consumer behavior for a long time. Social scientists from anthropology, psychology, and sociology agreed that *action* was a construct that could bring together the work in their respective disciplines (Parsons and Shils, 1954). Furthermore, Triandis and his associates (1972) have stated that action and the antecedents and consequences of action represent universal constructs. Of course, specific actions and the antecedents of action may differ tremendously across culture.

Therefore, future work in cross-cultural consumer behavior should focus on developing models that relate pancultural constructs to consumption action or behavior. Compared to previous work in consumer behavior that has dealt primarily with consumption in the culture of the United States, these future models will differ in two significant ways.

First, they will necessarily be general in their purest form; more specific statements of relationships can be gained through operationalization within cultures. For example, Triandis (1977) has proposed a model of behavior that includes a behavior antecedent component that incorporates social factors. Social factors probably play some role in behavior in all cultures. The specifics that comprise the social factor will differ across cultures. In some cultures norms may be an important aspect, in other cultures the self-concept may be important. Furthermore, the specific norms, etc. may differ across cultures. The important point is that the specifics are incorporated within the framework of a general theory.

A second way in which future models will likely differ is that they will contain constructs that we have largely ignored in our work in consumer behavior within this culture. Theories we have developed thus far have emphasized the extreme individualism and internal locus of control inherent in this culture (as pointed out in the Cote and Tanshhaj paper). They have also tended to focus on the cognitive behavior of individuals involved in consumption. Other variables will need to be considered. For example, in the model of behavior developed by Triandis, a *habit* component is included as an antecedent of behavior as well as intention. Habit is a construct that has been largely ignored in consumer behavior, however, in other cultures consumption may be a consequence of habit, as well as related variables such as tradition, etc. Future cross-cultural models will need to cast a much wider net in the development of the antecedents of consumer behavior.

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The Effect of Three Contingency Factors On Consumer Choice Strategies: A Test of Awareness of Costs and Benefit

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ABSTRACT

The choice strategy a decision-maker uses is contingent on many factors. This paper explores the effect of three contingency factors: product class involvement, similarity among alternatives and information structure. One explanation for contingency effects is that decision-makers select among choice strategies according to costs (time and effort) and benefit (choosing the best alternative). This assumes some awareness of these costs and benefit. To test this assumption, this paper studies choice strategies with a self report and an objective measure, for both costs and benefit. Each contingency factor has the same effect on both measures, for costs or benefit. These results support the assumption of awareness.

INTRODUCTION

Choice strategies are the processes used to evaluate alternatives and select one. One of the major findings from research on decision making is that such strategies appear to be a contingent behavior; i.e., what choice strategy the decision-maker uses depends on characteristics of the decision task (Einhorn and Hogarth 1981). Variables that may affect choice strategies are referred to as contingency factors. Many of these contingency effects can be explained by a cost/benefit framework (Payne 1982). It proposes that selection of a choice strategy is a function of a strategy's costs and benefit, compared to alternative strategies (Beach and Mitchell 1978; Johnson and Payne 1985; Payne, Bettman and Johnson 1988; Russo and Dosher 1983; Wright 1975). Typically, the costs are time and cognitive effort to make the choice and the benefit is choosing the best alternative from the choice set.

As noted by Bettman (1988), a cost/benefit framework assumes that the decision-maker has some awareness of both the effort and the accuracy of his/her choice strategies. A choice strategy's accuracy is the likelihood that it will lead to selecting the best alternative. But these processes have not been studied. Thus Bettman called for research on self reports of accuracy and on how characteristics of the choice task affect these self reports. This paper addresses this need for further research on awareness of accuracy, as well as examining awareness of effort.

Specifically, this study collected a self report on the extent to which consumers chose the best alternative and one on the cognitive effort expended by consumers in their choice strategies. A more objective measure for costs and one for benefit were also collected. To explore the assumption of awareness, the effects of contingency factors on both self reports and objective measures were tested. This study included three contingency factors: product class involvement, similarity among alternatives and information structure. They are described more fully below.

CONTINGENCY FACTORS

There are three types of contingency factors which can affect choice strategies: task and context variables (Payne 1982) and individual characteristics (Beach and Mitchell 1978). The latter (e.g., expertise) describe the decision-maker. Task variables (e.g., number of attributes) are general, structural features of the choice set. Context variables (e.g., quality of options) are factors associated with the particular alternatives in a set. One of each type was included in this study.

The individual characteristic studied was product class involvement. It characterizes the relationship between a consumer and a product class and reflects the product's importance, perceived risk and symbolic value (Laurent and Kapferer 1985). Product class involvement is enduring, in contrast to situational involvement which is concern for a specific situation or purchase occasion (Richins and Bloch 1986). Higher product class involvement increases decision times (e.g., Tyebjee 1979).

The task variable examined was information structure. It refers to the organization of alternatives in a choice set (Van Raaij 1977). This contingency factor affects decision time (e.g., Bettman and Zins 1979) and attribute versus brand processing (e.g., Biehal and Chakravarti 1982). (Attribute processing is examining information for one attribute across several alternatives. Brand processing is examining information for one alternative across several attributes).

This study tests a new type of information structure, hierarchical. It is sometimes used by retailers. An example is a display of sweaters with all the navy ones on the left, all turquoise ones in the middle and all green ones on the right. Within a color group, all long-sleeved sweaters are on the left and all sleeveless ones are on the right. Thus, in a hierarchical structure, all alternatives with the same level on one attribute, i.e. color, are grouped next to each other. Within these groups, all alternatives with the same level on a second attribute, i.e. sleeve style, are contiguous. This can be continued with other attributes, but which is first, second, etc. is arbitrary.

The context variable, similarity among alternatives, is also tested. Similarity between two alternatives increases with the number of attributes common to both and decreases with the number of attributes unique to each (Tversky 1969). Several studies have shown that this variable affects which alternative in a set is chosen (e.g., Huber, Payne, and Puto 1982). But relatively little research has explored the choice strategies behind this effect (Biggs et al 1985; Russo and Dosher 1983).

HYPOTHESES

The purpose of this study is to explore whether decision-makers are aware of the costs and benefit of their choice strategies. It is assumed that if self awareness of costs (or benefit) changes in response to a

FIGURE

Example of a Hierarchical Structure

Coffee Mug Alternatives

	A	B	C	D	E	F	G	H	J	K	L	M
Feature	Wide	Wide	Wide	Wide	Wide	Wide	Narrow	Narrow	Narrow	Narrow	Narrow	Narrow
Color	Red	Red	Blue	Blue	Green	Green	Red	Red	Blue	Blue	Green	Green
Handle	Stripe	Plain	Stripe	Plain	Stripe	Plain	Stripe	Plain	Stripe	Plain	Stripe	Plain

contingency factor in the same way as actual costs (or benefit), then the decision-maker is aware of the characteristics of his/her choice strategy. Thus, two general hypotheses are proposed.

H1 The effect of a contingency factor on self awareness of choosing the best will be the same as that factor's effect on choosing the best.

H2 The effect of a contingency factor on self awareness of choice strategy costs will be the same as that factor's effect on choice strategy costs.

METHOD

To test these hypotheses, an experimental study of choice was conducted. It focuses on choice strategies during actual choices from sets of real, physically present products. Such products were used to simulate a normal shopping environment. The data reported are from a larger study of the effect of contingency factors on consumer choice strategies. For a more complete description of the method, see Cooper-Martin (1988).

Design

Two levels of each contingency factor were tested: product class involvement (high and low), information structure (hierarchical and random) and similarity among alternatives (similar and dissimilar). Operationalizations follow. (Scales for all measures are available from the author).

Product class involvement was measured with four scales based on those of Laurent and Kapferer (1985). The scales were product class importance, importance of consequences of purchase, symbolic value and subjective probability of a bad purchase. Based on a pretest with the sample population, sweaters were used to elicit high involvement and coffee mugs to elicit low involvement. All subjects were more involved with sweaters than mugs on all aspects of involvement (t tests, df = 35, $p < 0.001$ for all tests).

Similarity among alternatives was measured by the number of attributes shared by alternatives. In the similar sets, any pair of alternatives varied on a maximum of three attributes and a minimum of one. In the dissimilar sets, any pair of alternatives varied on a maximum of seven attributes and a minimum of four. Each set contained 12 alternatives. There were three similar sets and one dissimilar set for each product class. Subjects rated the dissimilar set less similar than each similar set for both sweaters and coffee mugs (t tests, df = 35, $p < 0.001$ for all tests). (Attribute values for all sets are available from the author).

Information structure was determined by how the products were arranged. For the hierarchical structure, products were arranged so that all those with the same level on one attribute, e.g., feature, were contiguous (see Figure). Within a group with the same level on this attribute, products were arranged left to right by level on a second attribute, e.g., color, and so on for a third attribute, e.g., handle. To generalize, each subject saw a different hierarchical structure. In the random structure, order was determined by random numbers. To generalize, six different random structures were used.

Six choice sets were tested: random dissimilar, random similar and hierarchical similar for both low product class involvement and high product class involvement.

Subjects

The subjects were a convenience sample of 36 female consumers from metropolitan New York City. All subjects were the same sex because clothing was one of the products used. Ages ranged from 18-70; mean age was 34. Household income ranged from \$7500-\$14000 to over \$100,000; median level was \$25,000-\$39,000. Level of education ranged from some high school to doctorate degree; the median was some graduate study. As an incentive, subjects received \$25.

Procedure

Three to four weeks before the experiment, each subject answered questions on involvement with five product classes, to conceal the experimental ones. Each subject was run individually. The design was completely within-subject; each subject chose from all six choice sets but saw a different set of alternatives for each one. For each choice, she selected a product for herself, but did not keep her selection and provided a concurrent verbal protocol. After every choice, she gave two self reports: one on her choice strategy's costs and one on its benefit.

Dependent Measures

The dependent variables were the benefit of choosing the best and choice strategy costs. There were two measures for each. To measure the decision-maker's awareness, self reports were used. Each self report was a multiple-item scale, developed specifically for this study. To measure actual benefit and costs, a more objective measure was also used for each.

Choosing the best. The self report on choosing the best contained questions that reflected the consumer's use of a choice criterion of choose the best alternative (see the Appendix, panel A).

Choosing the best requires considering all "subjectively nontrivial dimensions" (Wright 1975, p. 61). Thus the objective measure of choosing the best was the number of important attributes examined. They were operationalized as attributes that could affect choice (Myers and Alpert 1977). Before the experiment, each subject listed attributes that were important when choosing sweaters (or mugs) and rated whether each attribute was different across different sweaters (or mugs). Attributes rated as having a big difference were labeled important. For each choice, the measure equalled the number of attributes labeled important and mentioned in that choice's protocol.

Choice strategy costs. The self report on choice strategy costs consisted of questions that concerned cognitive effort (see the Appendix, panel B).

The objective measure of choice strategy costs was decision time. Other researchers have used (Christensen-Szalanski 1978, 1980) or suggested decision time as a measure of choice strategy costs (Beach and Mitchell 1978; Russo and Dosher 1983). The actual measure was the number of seconds between the moment the subject saw all the alternatives and the moment when she indicated her chosen alternative.

RESULTS

The contingency factor effects were tested separately for each dependent measure with a 2 (product class involvement) X 3 (similarity among alternatives combined with information structure) repeated measures ANOVA. Both factors were within subject. The main effect for involvement tested the impact of involvement. Separate Helmert contrasts were used to test the effect of similarity and the effect of information structure (Bock 1975). The effect of each contingency factor was tested with two levels of a within-subject factor. Hence, the homogeneity assumption was satisfied and only univariate results are presented (LaTour and Miniard 1983). All results are shown in the Table.

Choosing the Best

Product class involvement. As expected, the effect of product class involvement on choosing the best is the same for both measures. Both self report on choose the best ($F(1,35) = 7.46$, $p < 0.01$) and important attributes examined ($F(1,33) = 5.15$, $p < 0.05$) are greater for high versus low involvement.

Similarity among alternatives. As expected, similarity has the same effect on the two measures of choosing the best. Both self report on choose the best ($F(1,35) = 5.04$, $p < 0.05$) and important attributes examined ($F(1,33) = 6.25$, $p < 0.01$) are lower for similar than for dissimilar sets. These results indicate subjects choose the best less when selecting from a set of similar alternatives.

However, the interaction between product class involvement and similarity is significant only for self report on choose the best ($F(1,35) = 4.76$, $p < 0.05$). This scale is lower for similar than dissimilar sets for both levels of involvement; the difference is greater for low than for high involvement. (For choosing the best measures, no other interactions are significant, $p > 0.10$.).

Information structure. As predicted, information structure has the same impact on both measures of choosing the best. Neither self report on choose the best ($F(1,35) = 0.17$, $p > 0.10$) nor important attributes examined ($F(1,35) = 0.44$, $p > 0.10$) varies between random and hierarchical structures.

Choice Strategy Costs

Product class involvement. As expected, both measures of choice strategy costs show the same response to product class involvement. Self report on costs ($F(1,35) = 4.09$, $p < 0.07$) and decision time ($F(1,35) = 13.04$, $p < 0.01$) are each greater for high than for low product class involvement. (For the cost measures, no interactions are significant, $p > 0.10$.).

Similarity among alternatives. As hypothesized, similarity among alternatives in a set affects the two choice strategy costs in the same way. Self report on costs ($F(1,35) = 8.52$, $p < 0.01$) and decision time ($F(1,35) = 18.29$, $p < 0.01$) are both lower when choosing from a set of similar alternatives than from a set of dissimilar ones.

Information structure. As predicted, information structure has the same effect on both measures of choice strategy costs. Neither cost varies between a hierarchical structure and a random one: self report on costs ($F(1,35) = 0.14$, $p > 0.10$) and decision time ($F(1,35) = 2.56$, $p > 0.10$).

Discussion

Before summarizing, it is useful to note the study's limitations. The sample was unrepresentative; it was female, highly educated, high income and from one geographic region. Although differences between choices should be unaffected, absolute levels of behavior may differ from other samples. Also, subjects did not choose in a natural setting. But they reported relatively high consistency between their normal choice strategies and those in the study.

To summarize, each of the contingency factors has the same effect on the self reports as on the more objective measures, for both choosing the best and choice strategy costs. These results support the cost/benefit framework assumption that decision-makers do have some awareness of the costs and benefit aspects of a choice strategy. For each aspect, the self report and the more objective measure both changed in the same direction, or both did not change. These results suggest that subjects' awareness of their behavior coincided with their actual behavior. Further, the self reports increased or decreased between different levels of two contingency factors (i.e. product class involvement

TABLE

Mean Value of Benefit and Cost Measures by Choice Condition

Involvement level/ information structure & similarity	Self report on choose the best	Number of important attributes	Self report on costs	Decision time
High				
Random dissimilar	5.58	2.91	5.75	3,15
Random similar	5.56	2.41	5.43	2,35
Hierarchical similar	5.44	2.53	5.26	2,20
Low				
Random dissimilar	5.48	2.29	5.43	2,50
Random similar	4.81	1.97	5.03	1,53
Hierarchical similar	4.82	1.97	5.13	1,49

NOTE: Higher values of self report on choose the best indicate criterion closer to choose the best. Self report on costs uses 7 point scale; higher values indicate greater costs. Decision time is in minutes, seconds.

and similarity among alternatives). These changes support Bettman's (1988) suggestion that decision-makers adapt their choice strategies to different choice conditions via tradeoffs between accuracy and effort.

The specific effects of the contingency factors can be summarized as follows. Higher levels of product class involvement and lower levels of similarity among alternatives increase choosing the best and choice strategy costs. The third contingency factor, information structure, does not affect choosing the best or choice strategy costs.

The results on product class involvement confirm past work which found that decision time rises with involvement (Jacoby, Chestnut and Fisher 1978; Tyebjee 1979).

The results on similarity among alternatives are the first to include choice strategy costs. Previous work studied similarity's effect on brand versus attribute processing (Russo and Dosher 1983) or on compensatory versus noncompensatory strategies (Biggs et al 1985). Compensatory strategies were defined as ones in which the decision-maker examined all attributes for each alternative. Such a strategy should have higher costs than a noncompensatory one, in which the decision-maker eliminated some alternatives. Biggs et al found compensatory strategies to be more frequent in similar than dissimilar sets, which suggests that choice strategy costs are *higher* for similar sets. In contrast, this study found choice strategy costs are *lower* for similar sets.

One possible explanation is that the effect of similarity depends on the number of alternatives in the set. The assumption of an interaction between these two variables would explain the contradiction. Biggs et al (1985) used three alternatives per set and this study used 12.

The third contingency factor studied was information structure. Its lack of effect on choice strategy costs seems surprising given previous work. Several studies have found that information structure affects attribute versus brand processing (e.g., Biehal and Chakravarti 1982). These measures reflect the order or structure of information processing, whereas measures of costs and choosing the best do not. Perhaps information structure only affects choice strategy measures that reflect task or structure.

Past work has also found that information structure affects decision time (e.g., Bettman and Zins 1979). These studies used written, verbal descriptions as stimuli and tested two structures: attribute and brand. The latter presents all the attributes on one alternative together, e.g., car by car. The former presents information on each attribute for all alternatives together. With written descriptions, decision times are longer with an attribute than with a brand structure (Bettman and Kakkar 1977; Bettman and Zins 1979).

The current study used real, physically present products as stimuli. With them, a hierarchical structure is the information structure closest to an attribute structure and a random structure is closest to a brand structure. But decision times do not differ between hierarchical and random structures. Nor do these two structures vary that much, due to the stimuli. In both, information is still mainly organized by brand. Thus the lack of differences in choice strategy costs between these two structures may reflect the fact that different arrangements, i.e., information structures, of real, physically present products are not distinct enough to affect choice strategies.

Thus a study that directly compares choice strategies from real, physically present products to those from verbal descriptions would give more specific information about possible biases from either stimuli. Future work could also determine whether brand and attribute structures using verbal descriptions affect choosing the best or costs other than time.

IMPLICATIONS AND CONCLUSIONS

The findings on the effects of the contingency factors should aid both policy-makers and marketing managers. The former want consumers to make good choices and should be interested in helping them choose the best. Manufacturers and retailers want consumers to buy, which is likely to mean choose the best. To increase choosing the best for a product category, dissimilar sets of alternatives in a random structure appear most useful. A random structure seems just as effective as a hierarchical one. (Random and hierarchical seem to be the only, feasible structures with real, physically present products).

The results on choice strategy costs can also be useful. For example, similar sets could make decisions easier for those with less processing ability, e.g., children. A concession stand trying to maximize service during intermission should offer similar alternatives, to encourage faster decisions. But if managers want consumers to linger, e.g., in a shopping mall, then displays should contain dissimilar alternatives.

In addition to the research ideas already mentioned, there is a need for more research to understand decision-maker's awareness of the costs and benefit generated by their choice strategies. The present study did not examine how well-calibrated the self reports were; this would be useful to confirm the current findings. Clearly, the effects of additional contingency factors could be tested. However, the purpose of studying self awareness of choice strategy costs and benefit is to better understand how subjects adapt to contingency factors. This study used self reports taken *after* the choice strategies; self reports generated *during* the choice strategy might tell more about adaptation processes.

In conclusion, this study supports the assumption that decision-makers have some awareness of the costs and benefit of their choice strategies. This finding supports a cost/benefit framework which suggests that decision-makers select a choice strategy based on the costs and benefit of various choice strategies. The results also extend our knowledge about the effects on choice strategy costs and benefit of three contingency factors: product class involvement, similarity among alternatives and information structure.

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APPENDIX

Self-Reports on Choice Strategies

A. *Questions about Choosing the Best*

*1) When I was making this choice, any coffee mug that seemed satisfactory was OK. I didn't need to find the absolute best coffee mug.

1	2	3	4	5	6	7
Strongly disagree						Strongly agree

*2) It was not very important to me to choose the best coffee mug.

1	2	3	4	5	6	7
Strongly disagree						Strongly agree

3) Please check the one phrase that best describes this particular choice.

I was looking for:

_____ any coffee mug.

_____ a coffee mug that was good enough but not necessarily the best for me, of the ones on the table.

_____ the best coffee mug for me, of the ones on the table.

B. *Questions about Choice Strategy Costs*

1) How much effort did you put into making this decision?

1	2	3	4	5	6	7
Very little effort						A great deal of effort

Questions 2-5 used the following scale:

1	2	3	4	5	6	7
Strongly disagree						Strongly agree

2) I was careful about which coffee mug I chose.

3) I thought very hard about which coffee mug to pick.

*4) I didn't pay much attention while making this choice.

5) I concentrated a lot while making this choice.

* Response to this item was reversed for scoring.

Consumer Types, Social Influence, Information Search and Choice

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ABSTRACT

This paper reports an exploratory field study of the relationships between consumer types, normative social influence, information search using personal sources, and eventual choice. Using the fashion purchases of a sample of 324 female consumers it was found that some consumers perceived clear signals from their peers which obviated the need for external information search. In contrast, some required active reinforcement of their normatively derived preferences during product evaluation, and some made product choices without peer guidance. These complex interactions between normative and informational influence were related to the individual socio-demographic characteristics of the consumers.

INTRODUCTION

This paper presents the results of an exploratory field study investigating the relationships between different types of consumer, the normative interpersonal influence of their peers, exposure to informational influence during the external search process, and eventual product choice. In particular we examine:

1. the likelihood that various types of consumer will perceive different peer group norms concerning the available assortment of products within a product category,

2. whether such normative influence is connected with patterns of external information search - especially the use or non-use of interpersonal sources during product evaluation, and

3. whether the patterns of both normative and informational influences are related to eventual purchase choice within the category.

We chose clothing styles as the stimuli for our research of the following reasons. First, the inherent social symbolism of clothing enhances the likely strength of the phenomenon under investigation (interpersonal influence). Second, the constant variety and change within this product category requires consumers to make relatively frequent and difficult choices. These decisions are therefore unlikely to become routinized or habitual - a circumstance which might make the effects of peer influence harder to isolate. Third, the nature and importance of these choices makes it feasible to rely on respondent recall as the basic source of data about the events that occurred prior to their purchase decisions.

The following sections briefly discuss the relevant literature before describing the methodology and results of this study.

BACKGROUND

Types of Consumer

It seems self-evident that individual consumers react differently to clothing fashions and indeed there is evidence for this in the literature. The early literature tends to focus mainly on innovators and opinion leaders but in a wide-ranging review of fashion research Sproles (1981) suggests as many as nine market segments. In a more recent empirical study using classification variables form the fashion literature Midgley (1983) found only four groups, namely 'high status', 'profashion', 'singles' and 'uninvolved'. His study provides the impetus for the current paper as it also *relates* market segments to patterns of information search.

The idea that influence and choice processes might vary across market segments would not seem to be controversial, yet few of the influence or information search studies in the literature adopt such a stance. A segment-based perspective would also enhance the practical benefits of the research to the marketing decision-maker. The challenge, of course, is to build a useful theory of how different types of consumer make their purchases decisions. Hopefully the results reported here shed light on some aspects of such a theory.

Search, Influence and Choice

The study of personal influence in the context of clothing has a venerable tradition, going back beyond Katz and Lazarsfeld (1955) to Simmel (1904). The need of individuals to both conform to peer norms, and to distinguish themselves from other groups in society, is well documented in this literature. Personal influence processes have also been examined in other consumer settings. For example, work on reference groups by Venkatesan (1966) and Witt and Bruce (1972). In his work on social comparison Moschis (1976) distinguishes between active influence and passive (observational) influence, and more recently Price and Feick (1984) distinguish between normative social influence and informational influence. They see normative social influence as 'conforming with the expectation of others' (Cohen and Golden 1972) while informational influence occurs as the consumer attempts to resolve the product evaluation task by the collection of external information. Thus the study of personal influence forms one element of the broader investigation of consumers external information seeking behavior.

A number of studies have identified various patterns of information search including the active use of information from peers, the use of information from media and salespersons, and also those consumers who appear not to search to any great degree (eg. Claxton, Fry and Portis 1974). Olshavsky and Granbois (1979) thought that active search-based (informational) influence might be more relevant for functional products, while the more passive conformity to group norms might be more relevant to symbolic products such as clothing. Midgley (1983) essentially argues that nature of influence and information search might well depend on the type of individual. He presents evidence to demonstrate the co-existence of both active information search and other more inferential processes for different types of consumers in the purchase of men's suits, and evidence that different processes were associated with different market segments. Also, Price and Feick (1984) argue that normative influence could set a frame of reference within which informational processes might be used to resolve some facets of the decision. In a study of consumer durable purchasing they concluded that informational influence is more prevalent than shown by prior research. Their study, however, did not allow the 'formal testing of informational and normative influence as rival motivational hypotheses'. Nonetheless, it is arguable that individuals can be exposed to either normative or informational influence, or exposed to both in some complex manner, and that the precise nature of this exposure depends on both their characteristics and the decision they have to make.

Relationship of Influence to Types of Consumer And Choice

Midgley (1983) found some support for the idea that individuals with status or courtship motivations will display different search and influence processes to those lacking such motivations. In particular he found that for fashion items those higher status individuals (concerned to make socially correct decisions) appeared not to actively seek information from peers, but probably inferred the decision either form group norms or from their spouses. In contrast his 'singles' (who displayed some fashion leadership characteristics) appeared to actively consult their peers, possibly in order to evaluate the wide range of new styles. Finally, those consumer types without these basic and strong motivations either displayed extensive search patterns (his attitudinally based 'pro-fashion' segment), or did little apparent search at all (the 'uninvolved').

Unfortunately, while Midgley's (1983) study included both normative and informational influence measures their relative role was not separated in the analysis. Furthermore, and in common with much of the literature, the choice of style was not examined in depth. This is an important limitation of prior research in that consumers generally have to choose between product forms and/or brands - a choice which presumably may be influenced normatively or informationally. Yet many studies simply examine the act of category purchase - thereby ignoring some possibly interesting comparative aspects of choice behavior.

In this study we find that different market segments do perceive quite different peer norms, that some peer norms are strong enough to allow purchase choice to be made without external search of personal sources, and that some norms require the active reinforcement of peers during the product evaluation phase. We also find that the interaction of consumer types, peer norms and information search has a markedly varied impact on the likelihood that the consumer will make a socially 'correct' choice form the product assortment.

METHODOLOGY

The research instrument was a pre-tested, self-completed questionnaire which was mailed to a stratified random sample of women aged 18 years and older in Sydney, Australia. After editing, 324 completed questionnaires were obtained - which represented a response rate of 31%. The questionnaire included a wide variety of items concerning clothing purchase, only some of which were relevant to this paper. Also included were high-quality reproductions of nine fashion styles. These styles had been pre-selected by clothing designers as being prototypical of those available at the time, and as appropriate to a specific situation. The questionnaire contained a description of this situation (going to a dinner party) and respondents were asked to relate their answers to this context. By this means the situation - specific nature of clothing was controlled for.

The variables of interest to us here included a set of seven measures of an individual's sociodemographic characteristics, and nine measures of the individual's self-perception of how their friends might react to them wearing each of the nine styles. Friends' reactions were measured on a set of seven point favorable to unfavorable scales. The latter were defined as measures of perceived normative social influence. Both the individual characteristics and the normative influence measures were separately cluster analyzed by K-means techniques (MacQueen 1967) to produce parsimonious and easily understandable taxonomies for further analysis. For the individual characteristics a three cluster solution was an adequate representation of the data, while for the friends' reaction measures four clusters were needed. (The criteria used to select these cluster solutions were: face validity based on the prior research referenced above, adequate cell sizes for further analysis, and indicative F statistics).

Respondents were also asked a variety of questions concerning recent purchases of clothing similar to any of the nine styles shown in the questionnaire. ('Recent' was defined as within the last three months). Related to this purchases behavior was a set of twelve measures of information search and shopping patterns. We used these to create an index of whether the individual made their most recent purchase with the active involvement of their peers, or whether they made this decision without such assistance. This index was defined as the measure of informational influence. Finally, respondents were

TABLE 1

Types of Consumers[a]

Individual Characteristics	Active Parents	Higher Status	Young Singles
Fashion Interest	Average	Low	High
Purchase Experience	Average	Lowest	Highest
Marital Status	Married	Married	Single
Age Range	30s & 40s	50s & 60s	20s & 30s
Children at Home	2	0	N/A
Employment Status	Home	Home	Working
Social Status	Low to Middle	High	Middle
Percentage of Sample	56%	12%	33%

a: Interpreted from the results of cluster analysis

asked which of the nine styles they had bought recently. These purchases were then contrasted with the informational influence index and a measure of whether or not the style purchased conformed with the perceived expectations of peers to create a three way classification. See Tables 4 and 5 below.

Cross-tabulation was used for most of the analyses presented here - with the adjusted standardized deviation of each cell being the primary statistic of interest (Haberman 1973). Note that we formed taxonomies or indices on separate sets of variables which were then cross-tabulated. An alternative approach would be to cluster analyze all the measures simultaneously. However, we have reservations about simultaneously clustering measures from quite different conceptual domains. Also, simultaneously clustering all measures may run greater risks of capitalizing on chance than the procedure adopted here.

RESULTS

The three types of consumers which we identified form the cluster analysis of individual characteristics were labeled 'Young Singles', 'Active Parents' and 'Higher Status'. The profiles of these clusters are shown in Table 1 and bear a reasonable, though not perfect, resemblance to prior work in this area (eg. Sproles 1981, and Midgley 1983).

The four clusters reflecting the perceived reaction of friends to the individual wearing each of the nine styles can be described as follows. The first was a cluster who though their friends would react positively to them wearing six of the styles, and would be indifferent to the remaining three. We labeled this cluster 'Peers Favor Most' (26% of the sample). The second was a group of individuals who considered that their friends would react quite negatively to three of the styles and would be indifferent to the rest. We labeled this cluster 'Negative Peers' (39% of the sample). The final two clusters were comprised of individuals who thought their friends would react quite positively to some styles and quite negatively to others. Since the focus of our paper is not on which particular styles received negative or positive evaluations, and since one of these clusters was small, we combined them into one group which we then labeled 'Peers Discriminate' (36% of the sample).

Are Different Types of Consumers More or Less Likely to Perceive Different Peer Group Norms?

Table 2 displays the highly significant relationship ($p < 0.0001$) between the 'Types of Consumer' taxonomy and the "Perceived Normative Influence" taxonomy. As shown by the adjusted standardized residuals the 'Young Singles' were most likely to perceive their peers as discriminating between styles, and less likely to perceive their friends as being either mainly positive or mainly negative. Hence the 'Young Singles' expected their peers to provide clear market signals as to which styles were 'in' and which were 'out'. At the other end of the spectrum both the 'Active Parents' and the 'Higher Status' did not expect to receive discriminating reactions from their friends. Indeed, both groups were strongly associated with the 'Negative Peers' pattern. However, the 'Active Parents' cluster also demonstrated some association with the 'Peers Favor Most' classification. Midgley argued that fashion consumers without the strong motivations of a single lifestyle, or of a higher status position, might well have no one dominant pattern of behavior.

TABLE 2

Type of Consumer Versus Perceived Normative Social Influence [a]

	Peers Favor Most	Peers Discriminate	Negative Peers
Active Parents	1.6[b]	- 4.3	2.9
Higher Status	- 0.8	-1.8	2.5
Young Singles	-1.1	5.8	- 4.7

a: Chi-square was 40.0 which with 4 degrees of freedom was significant at the $p < 0.0001$ level. Minimum expected frequency was 8.0 and the table was based on 290 respondents.

b: Adjusted standardized residual.

TABLE 3

Perceived Normative Social Influence Versus Reported Informational Influence [a]

	Peers Favor Most	Peers Discriminate	Negative Peers
Did Not Buy	- 0.1[b]	- 2.0	2.1
Informationally Influenced	1.5	0.3	-1.6
Purchased Without External Search	-1.5	2.2	- 0.8

a: Chi-square was 9.2 which with 4 degrees of freedom was significant at the $p < 0.06$ level. Minimum expected frequency was 16.9 and the table was based on 324 respondents.

b: Adjusted standardized residual.

TABLE 4

Perceived Normative Social Influence Versus Conformity of Style Choice [a]

	Peers Favor Most	Peers Discriminate	Negative Peers
Did Not Buy	- 0.6[b]	-1.9	2.4
Bought Highly Favored Styles	5.6	2.9	N/A
Bought Other Styles	- 4.5	- 0.7	4.8

a: Chi-square was 45.0 which with 3 degrees of freedom was significant at the p< 0.001 level. Minimum expected frequency was 20.2 and the table was based on 324 respondents.

b: Adjusted standardized residual.

Is Normative Influence Related to External Search?

Table 3 displays the significant relationship between perceived normative social influence and reported informational influence. The first notable result in Table 3 is that those respondents who perceived their peers as viewing some or all of the styles positively were much more likely to make a category purchase than those who thought their peers would be negative. The second result is that the 'Peers Favor Most' perception was associated with external information search and consequent exposure to informational influence. In contrast, and for those who made a purchase, the 'Peers Discriminate' perception was most strongly associated with the *absence* of external search for peer information. It could be that the perception of clear normative signals form their peers obviated the need for search when making an actual purchase - at least for some individuals.

Are Patterns of Normative and Informational Influence Related to Eventual Choice?

Table 4 presents the significant relationship between perceived normative social influence and conformity of style choice, while Table 5 displays the significant relationship between reported informational influence and conformity of style choice. 'Conformity of Style Choice' was defined within the context of the normative social influence groups. That is, did the individual purchase a style that was highly favored by their peer group or did they purchase another style less favored? Hence there is a structural zero in Table 4 because those respondents who perceived their peers as negative towards the styles could not, by definition, make a 'favored' purchase. Tables 4 and 5 were also difficult to compare in that while normative social influence can legitimately lead an individual not to make a purchase this is not so for informational influence. As measured here informational influence could only occur within the context of an actual purchase. This is a significant methodological issue for both our study and the literature in general; and one we will return to in the subsequent discussion.

Table 4 contains some interesting results, especially when contrasted with Table 3. First, the very strong association between the 'Peers Favor Most' normative grouping and the purchase of a 'Highly Favored' style. This, of course, is because of the fact that these individuals' peers favored 6 out of 9 styles. It was therefore relatively easy for them to make a 'socially correct' purchase. The more striking result was that despite these lower risks of an incorrect style choice this group was still more likely than the others to conduct external information search (as shown in Table 3). Second, any purchase by those respondents who perceived their peers to be negative had, by definition, to be of a non-favored style. Perhaps the more interesting result here was that 47% of this 'Negative Peers' group actually make a purchase, and in doing so were less likely to conduct information search amongst their peers than the other normative groups (again from Table 3). Third, those respondents who perceived their peers to discriminate were also likely to purchase a 'favored' style. The risks of an incorrect social decision were greater here

TABLE 5

Reported Informational Influence Versus Conformity of Style Choice [a]

	Informationally Influenced	Purchased Without External Search
Bought Highly Favored Styles	1.7 [b]	-1.7
Bought Other Styles	-1.7	1.7

a: Chi-square was 3.0 which with 1 degree of freedom was significant at the $p < 0.10$ level. Minimum expected value was 27.4 and the table was based on 164 respondents.

b: Adjusted standardized residual.

as the normative social influence for this grouping highly favored 3 out of 9 styles, strongly disliked 2 out of 9, and was indifferent to 4 out of 9 (the 'disliked' and 'indifferent' forming our 'other styles' category). While some of the 'Peers Discriminate' grouping did purchase socially incorrect styles (perhaps because they did not involve their peers in the actual purchase - Table 3) the stronger association was for them to purchase the 'Highly Favored' styles.

Table 5 was only marginally significant but does provide some evidence that (all other things being equal) informational influence during purchases was more likely to reinforce social norms, while its absence increased the likelihood that a non-favored style was purchased. The "Did Not Buy" category was dropped form this Table because informational influence was defined only to occur in the context of an actual purchase.

DISCUSSION

There appear to be three main conclusions which can be drawn from this study. First, only those fashion involved individuals with a single lifestyle perceived that their peers would give them clear signals about which items of the available product assortment would be highly favored. Signals that were strong enough to obviate the need for external information search for many of the purchases made by this segment, and signals which despite the absence of search were quite likely to result in a socially correct decision in a risky choice situation (2 out of 3 chance of being wrong). The rest of the market either saw general support for most styles or a degree of negativism/indifference toward the available styles. Second, where individuals saw general support for most of the product assortment they were more likely to actively seek reinforcement for their decision by involving their peers in the actual product evaluation process. That is, these individuals probably used informational influence within the context of normative social influence. Third, where individuals saw their peers as being negative or indifferent to the available styles they were more likely not to buy, but if they had to make a purchase (for reasons not measured here) they possibly may have avoided collecting more (confusing?) peer information.

Thus our study provides some evidence that individual characteristics, normative social influence and external information search interact in a complex manner. There are, however, a number of problems in generalizing these results. First, the problem of 'not buying' alluded to earlier. We did not measure any information search which was conducted but where the individual failed to make a purchase. As far as we know neither do most of the studies in the literature. Hence we cannot be completely confident that 'informational influence' is primarily associated with the 'Peers Favor Most' perception. It could be that a different type of information search resulted in the 'Did Not Buy' category. Second, we only examined information search using one type of personal source. Information can be obtained form other sources such as media or salespersons. Third, our study is subject to the usual limitations of post hoc surveys which rely on respondent recall.

However, despite these limitations we hope that this study has been useful in demonstrating both that the phenomena studied may be more subtle than previously conceptualized, and that there is good potential for constructing more predictive theories in the area.

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Preserving Consumer Autonomy in an Interactive Informational Environment: Toward Development of a Consumer Decision Aid Model

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ABSTRACT

The growing information industry has not yet widely incorporated a decision aid model for the consumer as part of an interactive data base system. Several models have been developed or discussed which would provide the consumer with more information and, to varying degrees, make recommendations concerning product purchase. This paper presents some of the issues involved in developing an integrative consumer aid model as well as some of its limitations.

INTRODUCTION

Consumer behavior research has focused a great deal of attention and effort upon understanding how consumers make decisions. Attitude modeling, multiattribute judgments and brand choice models have been extensively discussed and researched in the marketing literature. Much less discussion and research has centered on normative consumer choice models (Sheth 1980). Yet in the growing consumer information industry, the implications of such models for consumers, manufacturers, retailers and sales techniques should be of concern to the marketing discipline.

Increasing consumer affluence combined with advances in new product technology have resulted in the production and distribution of more technically complex products. One side effect of the rapid introduction of such products is the advent of the well-documented information vacuum (Maynes 1979; Scherhorn 1985; Grunert 1984). In response to the consumer need created by this vacuum a growing consumer information industry is emerging. This information industry consists not only of such well known institutions as Consumers Union and government regulatory agencies, but also includes numerous advice publications such as *Changing Times*, *Money*, and self-help shopping guides. As Naisbitt (1984) has so aptly noted, "the information society is no longer an idea --- it is a reality."

A recent development in information provision technology is the introduction of the interactive Videotex system, which allows users to directly access information from a central data base and display it in their homes or businesses, or in other locations such as libraries. One such application in the United States is Comp-U-Store, which offers a shopping and browsing service in which the customer specifies the type of product, brand preference (if any), and desirable features; the system then displays a list of the products that satisfy these parameters.

Given the increasing acceptance of personal computers and related developments in decision support systems (see Bonczek, Holsapple and Whinston 1984; Sprague and Carlson 1982; Sprague and Watson 1986), the opportunity exists for operationalizing systems that facilitate decision making in complex, ill-structured, multi-criteria, situations, perhaps as a part of a such a videotex system. The methodology consists of integrating data management, model handling, and user interface facilities into a uniform environment in which the database component constitutes the cornerstone of the system (Jelassi, Haug, and Swamidass 1986).

The purpose of this paper is not to build an explicit interactive consumer aid model per se, but rather to review attempts to build such models and to present the framework connecting a number of relevant issues concerning their development and use. First, the evolution of consumer decision aid models will be examined with a description of four existing models. Next, the concepts and steps involved in the development of an integrative consumer aid model will be presented. This will be followed by a discussion of the limitations associated with development of such models.

THE EVOLUTION OF CONSUMER AID MODELS

The objective of consumer decision aid models is to provide the "right" information so that consumers can make "better" decisions based upon the specification of the "ideal" amount of a characteristic that the best product might provide (Bettman 1975). One of two perspectives can be adopted when specifying product characteristics and their weights. First, the scores and weights of the various product characteristics could be provided by external sources (for example *Consumer's Reports* recommendations or the FDA's nutritional requirements). The second perspective is based on the premise of consumer autonomy and incorporates the consumer's own specification of the "ideal" levels of certain product characteristics. The former approach has been called "policy normative" (Bettman 1975) and is based on the premise that the intent of such models should be "educating" the consumer to make "better" purchase decisions, whereas the latter is more appropriately referred to as "processing normative" and is intended to aid the consumer in processing the appropriate purchasing information. In practice, however, the distinction is not always clear; both orientations could be seen as a type of policy. The focus of this paper is on a type of hybrid model where the scores or levels of the various product characteristics are provided by an outside testing agency such as Consumers Union and the product attribute importance weights are provided by the individual consumer.

The importance of and need for any type of approach has been the focus of much debate (e.g., see Scherhorn 1985; Hjorth-Anderson 1984). Does the consumer need such a model and what are the public policy implications that emerge when such models are implemented? If one holds that information is readily available in a usable and low cost form and that the consumer is generally able to make rational (logically consistent) purchase decisions based on this information, then the conclusion is that consumer aid models of any type should be conceded marginal significance at best. However, the evidence indicates that these are not appropriate assumptions. The existence of informationally imperfect markets characterized by unjustified price dispersion (extensive price dispersion unexplained by utility-conferring properties of the product) is well documented (Sproles 1977; 1986; Dardis and Gieser 1980; Maynes and Assum 1982). The existence of these inefficient markets, in turn, is attributed to the fact that consumers consistently fail to obtain and utilize relevant information while manufacturers refuse to provide information through advertising in a rationally usable form.

Furthermore, evidence suggests that even when consumers are presented with relevant information, information processing biases often result in selection of a suboptimal alternative. Hogarth (1980) notes that the bulk of processing biases cited in the literature result from (1) task variables such as time pressures, amount and complexity of information, (2) inability or unwillingness to expend mental effort and (3) inconsistency in applying a judgmental rule. A related problem often faced by the consumer is his or her inability to articulate and/or select "appropriate" product attributes as criteria in their decision processes. Jacquet-Lagreze and Shakun (1984) conclude that the mitigating effects of such task factors suggests that the buying decision process could be much more efficient if it was augmented by some type of consumer decision support system.

Before entering into a discussion of the issues and concepts involved in building a consumer aid model, it would be useful to briefly describe four efforts at model building in this area. One major contribution in this area was the development of a product quality model by Maynes (1976). The explicit purpose of Maynes' model is to help the consumer determine the extent to which a specimen possesses the service characteristics he or she desires (1976, p. 542). Maynes defines quality as a weighted average of characteristics which comprise the product's ability to provide satisfaction. In Maynes model both the characteristic weights (desirability) and their scores (utility obtained from that variety) are assigned by the individual consumer. Once quality is determined in this manner, the purchase decision is facilitated by building a *Price-Quality Chart* from which the consumer can choose a product that would allocate his income so that each dollar spent yields approximately the same utility, or quality (i.e., buy the desired quality at the lowest possible price).

A second approach to enhancement of consumer decision making is offered by Thorelli (1974). Thorelli suggests a two-pronged approach which (1) involves the establishment and maintenance of minimum requirement levels of various product characteristics by some regulatory agency, and (2) requires firms to indicate the quantity of these characteristics on the product's label. The consumer is then able to make informed decisions which will presumably result in better product choices.

A different approach is taken by Geistfeld's (1977) TEA (technical efficiency approach) model which attempts to aid the consumer in determining, for a given set of characteristics, which brands are too expensive. The model focuses on the way in which changes in brand prices affect the ability of a given brand to provide characteristics efficiently. Characteristic values are provided by objective measures such as calories and protein per pound. After the product set has been reduced by the model to only efficient varieties, other criteria such as personal preferences and threshold levels, presumably provided by the consumer, are used to determine the final variety to be purchased.

One of the primary goals of the approach developed by Jacquet-Lagreze and Shakum (1984) is to enable the consumer to learn in an efficient way what his/her preferences and goals are relative to currently available products. The model involves four phases (with feedbacks among them): (1) selecting criteria and an admissible set of alternative products, (2) searching for consistency between the decision maker's holistic preference and an analytical model of it, (3) assessing a compromise preference model, and (4) evaluating the alternative products using the compromise preference model. An example of a commercial model that uses these steps is PREFCALC (Euro-Decision 1983), a micro-computer software package intended to help decision makers assess their preferences in a multi-criteria situation.

BUILDING A NORMATIVE CONSUMER MODEL: CONCEPTS AND STEPS

The preceding models represent substantial contributions toward enhancing the ability of consumers to make better product choices. However, each of these models contain only a subset of those elements which must be included if a comprehensive consumer aid model is to be developed. For example, Maynes relies upon the consumer to specify the set of desirable product attributes (thus attempting to preserve consumer autonomy), while Thorelli focuses on insuring the availability of relevant information as well as external expertise. The major advantage of the step-wise model building approach proposed below is that it attempts to systematically integrate all of the major elements identified in previous research (e.g., information availability, consumer autonomy, and the availability/input of expert information) in order to develop a comprehensive consumer decision making aid.

For the model discussed in this paper, two assumptions are made: (1) the decision maker has explicit values or goals and is to decide how to make the best choice among available alternatives, and (2) the decision maker will choose to behave in a logically consistent manner, that is, choose to maximize expected utility of desired characteristics in a particular product category. The steps involved in structuring a decision problem and the corresponding steps in the model development are outlined in

Exhibit 1. These steps and their interrelationships are now briefly considered.

Step 1

To develop such a model, a definition of product is needed to delineate the set of items from which the alternative will be chosen. As an example, Lancaster's (1971) concept of a product grouping starts with the idea that it is the characteristics of a product rather than the product itself which provide consumer satisfaction. According to Lancaster's definition, goods which yield the same characteristics can be defined as members of a "generic goods" class and analyzed as brands in an industry. Lancaster asserts that the relevant characteristics should be defined not in terms of people's reactions to the good, but rather in terms of objective measurement (such as calorie content or watts per channel).

Another definition of product is provided by Maynes (1976, p. 53): "the set of goods which, for some maximum outlay, will serve the same general purpose in the judgment of the purchasing consumer." The maximum outlay specification in the definition serves to make for more meaningful product groupings. Thus a Mercedes-Benz sedan, due to the price, would not be classified as a compact sedan even though in terms of size and a number of other characteristics it would qualify.

Another possibility is to let the consumer determine the consideration set, perhaps based on prior experiences, which he specifies as a subset of choice alternatives from a menu of alternatives which the model builder has determined meet the criteria for a product category. This last method of delineating "product" is the most attractive in terms of consumer understanding and appeal, but might lead to a less than optimal decision. The issue involved here is the extent to which the model builder believes education and normative model building need to go hand in hand. For instance, suppose an alternative initially deleted from consideration by the consumer is the most optimal. The model could be built to handle this by incorporating a function which points out to the consumer the superiority of an eliminated alternative, and asks the consumer to consider it as a feasible option.

In whatever manner the product grouping is specified, in order to make logical comparisons, different specimens within a product class should have similar characteristics. The exact product delineation should depend upon the model's sponsor and the user's purpose. For instance, if the model were part of a local independent information system then products should be delimited by local geographic availability. On the other hand, if the model is part of a nationwide TV shopping system then it could include all brands of that product available through that service. Finally, if the decision aid was located at the point-of-purchase (e.g., in a mall) then it would include all products meeting the criterion available at that shopping location. It should be made clear to the user exactly how this product grouping was determined since the correctness of the decision is limited by the product grouping included in the model.

Step 2

The second step involves determination and measurement of the product attributes or characteristics to include in the data base. The identification of a complete set of relevant characteristics poses a problem. Unless prompted, research indicates that consumers tend to use relatively few of the attributes available to them (Jacoby, Szybillo and Busato-Schach 1977). Due to the technical complexity of many products, consumers may be unaware of some of a product's characteristics. Furthermore, relevant characteristics differ from commodity to commodity. Again, if an "important" characteristic is omitted the result may be a suboptimal purchase decision. It would appear, however, that such characteristics may be identified by substantive experts. For example, Thorelli and Thorelli (1977) have suggested a number of generic characteristics as deserving of attention. In the Jacquet-Lagreze and Shakum (1984) model the decision support system indicates a list of characteristics frequently considered to be important, and requires the decision maker to specify the subset of characteristics to be used.

After identifying the relevant characteristics each must now be measured in commensurable units. The measure of a characteristic must be on a cardinal scale rather than an ordinal scale. One must be able to say whether brand X has n times as much of a characteristic as brand Y. Again substantive experts are needed, for example test engineers for physical products and professionals trained in their respective fields for services. Indeed, most evaluations of characteristics will require a high degree of subjective expert judgment. However, in order to insure credibility, defining and measuring products characteristics should be carried out by an independent testing organization such as Consumer's Union. This point should be made clear to the consumer/user of the model.

Step 3

The object of this step is to determine the consumer's attitudes toward the relative importance of the characteristics. Importance weights should be provided by each individual consumer through the interactive system. The weights should be assigned by the consumer or transformed by the computer program so that they sum to one, quantifying them in the form of probabilities. Setting an importance weight at zero in effect excludes it from consideration. Under this method, the relevant characteristics have been identified by independent testers and presented to the user; however, the consumer can still exercise autonomy by deciding whether to include the attribute in the model and personal preference as to its importance. In order to make the task easier for the user, it is possible to do this in a series of steps beginning with ranking of the characteristics in terms of importance, then translating the rankings to ratings (Edwards 1977). Also, in many situations, assigning equal weights to the characteristics can be satisfactory (Einhorn and McCoach 1977) and should

EXHIBIT 1

PURCHASING DECISION PROCESS AND CORRESPONDING STEPS IN MODEL DEVELOPMENT

Decision Process	Model Development
Step 1: Structuring the problem - What are the alternatives - What are the key uncertainties - At what level of detail does the problem need to be characteristics	Definition of product - Model builder/user's purpose - Should contain same or similar structured
Step 2: Assessing consequences - How adequate are the measures of the dimensions on which the alternatives are to be evaluated - How should the different dimension be scored	Determine relevant attributes - Identification of a relevant set of characteristics -Use of an expert agency - Measurement in commensurable units
Step 3:Assessing Uncertainties - What information is relevant to the uncertainties	Determining Preference for each characteristic - Set importance of weights so sum to one
Step 4: Evaluating Alternatives - What criterion to use	Apply Decision Rule - Use linear compensatory model - Alternative with highest expected value is best - Use conjunctive rule - Specify minimum levels of attributes
Step 5: Evaluating Alternatives in Terms of Price - Want best product for money	Cost Function Evaluation - Depends on model's specification
Step 6: Sensitivity Analysis - How wrong are the consequences and uncertainties	Determinationof Importance - Use loop in model
Step 7: Choice - Which alternative has the greatest expected value	Ordering and selection - Listing of stores, quantities available, method of payment, etc.

be included as an option of the model. The interactive system could also be designed with the option of using either a rank ordering or a direct assignment of weights.

A different approach for assessing preferences is taken by PREFCALC (Euro-Decision 1983; Jelassi et al. 1986), it includes two different methods: (1) a direct method that asks the decision maker to provide an importance rating for each characteristic (as discussed previously) in order to estimate an overall analytical preference; and (2) an indirect method that asks for the decision maker's holistic rank ordering of selected products/alternatives. If the decision maker provides the relative importance of each characteristic directly, then the system proposes a utility function of the preferences by displaying the relative weight of each selected characteristic. If the decision maker decides to rank order the products/alternatives, then the system checks if the rank order is consistent with a computed additive utility function. Both methods can also be used interactively to check for consistency between the two. This enables the decision maker to discover hidden characteristics which perhaps better express the underlying values, tastes or needs of the decision maker.

Step 4

Step 4 involves the application of a decision rule. The outcome of this step is the generation of a list of all alternatives by decreasing utility value. While a variety of decision rules are available, conceptually, the most straightforward strategy is the linear compensatory model. The overall worth of each alternative brand is calculated by summing each alternative's scores of the characteristics as weighted by the importance weights determined in step 3. The normative rule is to choose the alternative having the highest value. Under a set of not-too restrictive assumptions, this is quite a good choice model. First, all the information concerning the alternatives is explicitly considered. Second, the decision maker has assigned weights to each dimension which reflect the extent to which he or she is willing to `trade off' one characteristic against another. Third, the linear-compensatory model has been shown to have good predictive robustness (Dawes and Corrigan 1974).

Apart from problems of measurement (and hence commensurability), the principal issue concerning the appropriateness of this model for choice is the extent to which the characteristics are independent of each other. Two forms of lack of independence are relevant. The first occurs when two characteristics are highly correlated (Curry and Faulds 1986). If both are included as relevant characteristics then adding the weighted dimensions of the linear model will involve double-counting and be inconsistent with the scheme for weighting the dimensions. Isolating the few attributes of the physical product that correlate near zero will convey the most information to the consumer. Second, there may be lack of independence in the sense that a combination of characteristics is more or less valuable to the decision maker than their weighted sum. However, the linear model described is not able to incorporate such interactions.

There is one departure from the additive approach that could easily be handled at this point in the model. The linear compensatory model could be preceded by (or combined with) a conjunctive rule in which the decision maker sets certain cut-off points on the characteristics such that any alternative that falls below a cut-off is eliminated. For example, the model might include a threshold level for certain safety features, or for other product characteristics which are particularly important to the consumer. Use of the conjunctive rule before calculation of the expected values would tend to reduce the choice set.

Step 5

Step 5 involves integrating product cost as a factor into the decision model. There are several ways to deal with the cost function, depending upon the objective and data bank of the model. The most straightforward method (and the one supported by the PREFCALC system <Euro-Decision 1983>) is to simply include price as one of the characteristic variables. In this way the consumer can set maximum and minimum prices through the conjunctive step.

An alternative approach would be for the model to present the product value scores along with their associated prices. This method permits the consumer to compare quality among alternative brands for a particular price. Immediately eliminated would be dominated alternatives (those specimens that offer less value at a higher price than another alternative). The remaining alternatives would be ranked by value and price. Then moving from top to bottom the consumer could make an evaluation as to whether the improvement in value offered by successive alternatives is worth an increase in cost. To help make this determination, the model could include a program which would implement the general utility-maximizing rule: spend your income so that, at the margin, each penny spent on purchases yields the same increment of utility (value).

A final method, recommended by Thorelli and Thorelli (1977, is to divide the brands (models) into price classes and then rank them within each class. This approach would allow the consumer to consider the trade-offs in moving up or down in price product categories. This last approach is highly recommended since in terms of both ease of user comprehension as well as its similarity to brand processing normally carried out by the consumer.

Step 6

Since subjective weights are involved, the consumer may want to conduct a sensitivity analysis to observe the extent to which the decision is sensitive to changes in value weights or price selection (assuming a price cutoff approach was used). This could easily be incorporated with a loop or series of loops in the model. In fact, the sensitivity analysis, like the interactive preference elicitation procedure, would tend to facilitate the learning process for the consumer.

Step 7

Ordering and/or selection of location is the final step in the model. If the model is sponsored by a shop-at-home service, then completion of the transaction would consist of the consumer answering a series of questions such as quantity ordered, size, address for delivery, and method of payment. A local information system might merely generate a listing of stores in the area where the chosen alternative is available, perhaps including the current price offered at each location.

LIMITATIONS OF CONSUMER AID MODELS

A model such as the one described above offers great promise as a decision aid. It directly addresses the three sources of processing bias identified by Hogarth. However there are several limitations which should be considered when building and marketing such a model. First, the model does not specifically define the product category, nor make interproduct comparisons, such as comparing a motorcycle to the family automobile, or public transportation versus the bicycle.

Second, many product purchases involve group decisions. However, the model described above does not explicitly incorporate group weights. A group decision model would require incorporation of three specific characteristics: a jointly acceptable database of underlying facts, jointly acceptable definitions of alternatives/products, and mutually understood definitions of characteristics and preferences (Jarke and Jelassi 1986).

Third, for products in which the price is highly volatile, negotiable or for which trade-ins are allowed, the model would be less useful. Fourth, attributes such as pre-sale and point-of-purchase service (location, opening hours, parking facilities, display, credit, etc.) would be difficult, although feasible, to incorporate into such a model.

Fifth, the market into which the product category falls will to a large extent determine the model's utility. Maynes (1976, p.75) has described four types of markets which incorporate a consumer oriented concept of information: (1) quality variable, informationally imperfect; (2) quality variable, informationally near-perfect; (3) quality uniform, informationally imperfect; and (4) quality uniform, informationally perfect (information being defined in terms of quality-price correlation.) Obviously the model would be most useful for products falling into the first category (such as washing machines or cameras), and less useful for those in category four (such as gasoline or shares of General Motors stock).

Sixth, the decision rule is a linear model and as such does not take into consideration diminishing returns. (For example, going from .3 to .5 on fuel mileage is assumed to be equal to going from .8 to 1.0.) Seventh, unlike the Consumer Inquirer Program (see Appendix F of Thorelli and Thorelli 1976) designed at Indiana University in 1971, this model does not hold consumer education as one of its major goals (although this may be an indirect benefit), even though the program would tailor recommendations to personal needs and preferences.

Finally, such a model focuses on characteristics which are amenable to quantification and standardization. It ignores factors such as style, shape, and other esthetic elements. For instance, it does not make sense to say for the characteristic of shoe fit that one pair of shoes fits twice as well an another pair --- only that it fits better. For services, this means that such important techniques as courtesy, understanding, trust and communication are not included in the characteristic set. Thus the model may indicate a brand or service provider as having the best overall quality, but be completely unacceptable to the individual consumer in terms of "appearance", psycho-social characteristics or, in the case of a service provider, level of individualized attention. Hjorth-Andersen (1984) points out that weighted sum quality scores may be appropriate only in cases where customers are likely to have homogeneous preference structures.

Maynes (1976) indicates that this problem can at least be partially mitigated by having characteristic scores determined by categories of users. For instance, teen-agers may have a different perception of convenience than do middle age consumers buying the same product. Thorelli and Thorelli (1976) suggest that testing organizations include a frank and open discussion of psychosocial aspects along with recommendations. This last suggestion could easily be incorporated into an interactive system along with a pictorial representation of the product which would help the consumer make subjective evaluations. Jacquet-Lagreze and Shakun (1984) suggest dividing subjective criteria into two types: those which use objective characteristics (e.g. classifying the product through test of durability, strength, component costs, structural integrity, and performance), and those which use subjective characteristics which will require the consumer to make a personal evaluation of each alternative (e.g. the shape of a car could be evaluated on a scale as unacceptable, ordinary, attractive, or outstanding). Another method for including esthetic elements would be use of ratings from a consumer panel.

Overall, these generalized model limitations may not be as important to the model builder who is designing a model for application in a particular situation as is developing a clear definition of what the model can and cannot do, and the communication of its specific functions to the user. Probably the single most important criterion is the maintenance of a current data base. Price, feature quality, and availability of products must be continually updated. Additionally, the credibility of the testing agency must be recognized. The usefulness of the data and services offered must be apparent. This, in turn, will build confidence and efficiency in its use, two factors recognized as important to diffusion of models.

CONCLUSIONS

In the midst of a growing consumer information industry an opportunity exists for the development of an interactive normative consumer model. Although several models have been developed, none have received widespread application. This paper attempts to review these methods and identify some of the relevant issues concerning their development and implementation. An approach is adopted in which the focus is on maintaining consumer autonomy while capitalizing upon the expertise of professional testing agencies. A simple linear compensatory model was offered as a good choice rule. However, even though such a model would be useful in overcoming processing biases, many obstacles presently hinder adoption and implémentation. Ultimately, consumer utilization of information systems, like other products, will depend on how the service is priced, promoted and distributed (Capon and Lutz 1979). Clearly there is considerable need for research to identify characteristics of information systems which are desired by the consumer, and to determine how these characteristics can be transformed into a viable system.

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A Test of the Learning Hierarchy in High- and Low-Involvement Situations

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ABSTRACT

The learning hierarchy suggests various sequences of consumer response to print advertisements. Three such sequences are tested in situations of both high and low involvement. The results indicate that learning hierarchies reasonably represent the consumer response in both situations. In particular, a modified version of the learning hierarchy which includes indirect, as well as direct, effects appears to provide the best predictions of choice processes.

INTRODUCTION

The learning hierarchy is a simple causal chain model of communication effectiveness and specifies two causal linkages: cognition leads to affect which, in turn, leads to conation. Some version of this hierarchy has been used as a planning tool in advertising for as long as 50 years, and it has been referred to as the "learning hierarchy" for more than ten years. The learning hierarchy is deemed to be most appropriate for explaining consumer responses to advertising when print media are used or under conditions of high involvement. In this context, involvement was originally conceptualized by Krugman (1965) as "the number of conscious 'bridging experiences,' connections, or personal references per minute that the viewer makes between his own life and the stimulus. This may vary from none to many." Thus, it has been hypothesized that the process of communication impact may be different depending upon degree of involvement or the particular media employed.

Krugman's (1965) alternative to the learning hierarchy is the low-involvement hierarchy, which posits that affective development follows, rather than precedes, conative development. Specifically, the low-involvement hierarchy is thought to be most appropriate for broadcast media and low-involvement situations.

In their synthesis of information response models, Smith and Swinyard (1982) suggest certain circumstances under which the learning hierarchy may apply to low-involvement message topics. Specifically, Smith and Swinyard (1982) have pointed out that exposure to an advertisement for a low-involvement product may lead directly to purchase. That is, for a low-risk or low-involvement product, trial involves low consumer costs.

Accordingly, the key questions, as examined in this study, are: 1) for low-involvement situations, can exposure to a print advertisement result in a positive affective, as well as cognitive, response? and 2) if so, is this affective response predictive of behavior? If the answer to both of these questions is affirmative, then the learning hierarchy may be appropriate for explaining consumer responses to advertising in low-involvement situations.

THREE POSSIBLE LEARNING HIERARCHIES

As the above discussion suggests, it may be necessary to modify the original conceptualization of what constitutes the learning hierarchy. At the most basic level, the model suggests that cognition (often operationalized as recall or awareness) leads to affect (or attitude toward the brand); and affect, in turn, leads to conation. This simple hierarchy remains attractive because of parsimony, simplicity, and practical value. However, recent theoretical work suggests that a second dimension of affect--namely, attitude toward the ad--may be useful to include (Mitchell and Olson 1982). For example, attitude toward the ad (ATT_a) could be included in the model as a precursor to recall. This follows Moore and Hutchinson's (1983) contention that ads which produce extensive affective reactions may increase attention and thus improve message recall. Intuitively, it seems that ads which are well liked may also be well remembered.

A second modification of the learning hierarchy involves the addition of indirect effects. For example, there may be a direct link between cognition and conation; that is, advertised brands which are well remembered are likely to be included in a consumer's consideration set. Especially in the case of an impulse item (e.g., low involvement) advertising may lead the consumer directly from awareness to intention. Petty and Cacioppo's (1981) concepts of peripheral and central processing routes are relevant here. Under the central route, issue-relevant information such as brand attributes may be the most relevant for forming purchase intentions; this path is represented in the Simple Hierarchy through an "Attitude toward the brand-behavioral intention" ($ATT_b \rightarrow BI$) link. Under the peripheral route, purchase intentions may be formed due to non-content cues in the situation. These non-content cues may include facts recalled about the ad which are not highly internalized. Lutz (1979) provides an example of how this peripheral route may be relevant for the recall $\rightarrow$ BI link. A particular consumer may drive Hertz Rent-A-Cars not because of salient and positively evaluated attributes of the company (ATT_b), but instead because the consumer remembers that O. J. Simpson endorses the company (peripheral route). Although Petty and Cacioppo (1981) developed the theory of alternative routes with attitude change in mind, the theory seems equally relevant to purchase intentions, as the rent-a-car example illustrates.

A third modification involves investigating the multiple paths connecting cognition, affect, and conation. In many formulations of hierarchical models, it is assumed that there are no direct paths between stages which do not follow one another sequentially. However, evidence is accumulating which suggests that some of these out-of-sequence effects may occur. For example, Mitchell and Olson

(1982) have found that ATT_a might be an important mediator of ATT_b. In a similar manner, Shimp (1981) has argued that ATT_a may have a direct influence on choice behavior. A third model, then, represents the case where advertising response constructs are allowed to influence one another nonsequentially. At the core may be a simple hierarchy-of-effects model; however, nonsequential paths are also expected to exist simultaneously with sequential ones.

THE STUDY

Figure A presents the three models that will be examined in this study; these competing conceptualizations are labeled: the simple hierarchy model, the extended hierarchy model, and a saturated model. Cognition is operationalized as recall of facts about the advertised brand. Affect is divided into two constructs: attitude-toward-the-ad (ATT_a) and attitude-toward-the-brand (ATT_b). Conation is also separated into two constructs: behavioral intention (BI) and choice behavior (CB). As in past formulations, all paths between the constructs are expected to be positive.

Here, the appropriateness of the learning hierarchy is examined for print advertising, and an effort is made to determine whether or not some version of the learning hierarchy may be applicable to low involvement, as well as to high involvement message topics. Alternative versions of the learning hierarchy are tested against one another; and, in this sense, different theories of consumer response to advertising are set in competition.

Of course, the models represented in Figure A do not exhibit all possible relationships between the constructs. For example, as previously mentioned, it has been proposed that conation could influence affect. However, this possibility is not considered since print advertising is used and the learning hierarchy seems more appropriate. Additionally, no reciprocal relationships are posited, which is in accord with the previous theoretical work in this area (e.g., Smith and Swinyard 1982). Also, causation is not allowed to flow backward through time. For instance, recall is measured on day after ATT_a; so, in this instance, recall is not considered as a cause of ATT_a.

In this study, the alternative learning paths are examined in a situation where there are print ads for a new brand in an established product class. Two product classes are employed--ice cream (which is classified as a low-involvement message topic) and cameras (which is classified as a high-involvement message topic). One purpose of the study, then, is to determine whether or not different hierarchies are required to account for the advertising responses that result for high- versus low-involvement product classes.

There are many approaches to involvement. For example, the concept can refer to "issue" involvement--the degree to which the consumer cares about a particular issue or outcome. Alternatively, the concept can refer to involvement with or the importance of a particular purchase situation. In this study, involvement is conceptualized as topic- or message-involvement--the degree to which the consumer "cares about" a specific product or service. Seen from this perspective, a particular product is not inherently high- or low-involving because of some objective criteria, but rather is a function of the consumer's perspective or perception, and can differ across consumers. Thus it is not possible to classify certain product categories, a priori, as eliciting high or low consumer involvement. In this study, high- and low-involvement products are defined from a consumer perspective; and Buchanan's (1964) relative involvement scale is used to separate a high-involvement from a low-involvement product on an individual basis. Given this categorization of message involvement, the three hierarchical models shown in Figure A are tested against one another in terms of their ability to explain the sequence and processes of consumer responses to print advertisements.

SAMPLE

The participants in the survey were 164 consumers, recruited from a suburban shopping mall in a major metropolitan area. These respondents, after being identified as potential purchasers of ice cream and cameras, signed up to participate in the sessions. Questionnaires were administered to groups ranging in size from 6 to 11; respondents were paid $10 for their participation after the conclusion of the last session. Fourteen respondents were excluded from the survey due to incomplete or inconsistent responses, and twenty-five respondents were excluded following manipulation checks, resulting a sample size of 125.

STIMULI

The stimulus objects consisted of two print advertisements for new, fictitious brands. Fictitious brands were used to eliminate the effects of prior promotional campaigns. The ads appeared in a booklet along with other advertisements and short articles that might appear in a national news magazine. All ads were designed and produced by a major advertising agency to adhere to realistic standards of quality. The presentation of stimuli was randomly rotated so as to eliminate any ordering effects.

MEASUREMENT

Data to estimate these models were gathered in three sessions. In the first two sessions, subjects were exposed to print advertisements for a group of products, including ice cream and camera brands. The ads were embedded in material that might appear in a magazine. At the start of the first session, Buchanan's (1964) relative involvement scale was administered to ensure that respondents found cameras to be more involving than ice cream. Those who didn't exhibit involvement scores in the expected direction were omitted from the sample. At the conclusion of the second session, ATT_a was assessed through the use of an abbreviated version of the Wells (1964) reaction profile consisting of the four items: enjoy, interest, like, and good. In the third session, which occurred one day after the second, questions were administered to operationalize recall, attitude, purchase intention, and choice processes.

Ad recall was operationalized with a test of understanding of the ad, administered the day after it had been seen. Respondents played back what they could remember about the ads, unaided, and then answered five true/false questions about each ad, based on facts contained in the ad. This latter method constitutes an aided measure of message recall and is similar to the approach used in the Ayer model of new products (Claycamp and Liddy 1969).

The empirical variables associated with ATT_b consist of four evaluative bipolar adjective scales. This is the method traditionally used by Fishbein and his associates to measure ATT_b (Fishbein and Ajzen 1975).

Purchase intention is measured using Juster's (1964) intentions scale (which assesses the probability that a purchase will occur) and with a group of three semantic differential scales concerning behavioral intention. These three semantic differential scales were summed to form a single, composite score.

For ice cream, choice behavior is measured by giving subjects an opportunity to buy one of several ice cream brands using their reimbursement money. Choice of the advertised brand is coded as 1; choice of a competing brand or no brand is coded as 0. Since cameras are too expensive for this approach, a simulated purchase, using artificial money, is substituted. In this last respect, conditions were not the same for the two product classes. Neither choice decision is truly natural, but the ice cream condition seems to be more ecologically valid than the simulated purchase condition for cameras.

MODEL FORMALIZATION

The increasing application of causal models with latent variables in marketing represents a substantial methodological advance for at least three reasons. It enables (i) explicit modeling of measurement residuals, (ii) better identification and elimination of spurious relationships, and (iii) tests of theoretical relationships by use of latent variables. In this study, three competing models are represented in Figure A. They can all be represented by two general sets of equations, the structural relations and the measurement relations. In terms of predictor specification the structural relations can be written:

$$E(\underset{\sim}{\eta}/\underset{\sim}{\eta},\underset{\sim}{\xi}) = \underset{\sim}{\beta}*\underset{\sim}{\eta} + \underset{\sim}{\Gamma}\underset{\sim}{\xi} \qquad (1)$$

where, $\underset{\sim}{\eta}$ = (m x 1) is a column vector of unobserved criterion variables; $\underset{\sim}{\xi}$ = (n x 1) is a column vector of unobserved predictor variables; $\underset{\sim}{\beta}*$ = (m x m) is a matrix of criterion coefficients; $\underset{\sim}{\Gamma}$ = (m x n) is a matrix of predictor coefficients.

The measurement relations are:

$$\underset{\sim}{y} = \underset{\sim}{\Lambda_y}\, \underset{\sim}{\eta} + \underset{\sim}{\xi} \qquad (2)$$

$$\underset{\sim}{x} = \underset{\sim}{\Lambda_x}\, \underset{\sim}{\xi} + \underset{\sim}{\delta} \qquad (3)$$

where $\underset{\sim}{y}$ = (p x 1) is a column vector of criterion measures; $\underset{\sim}{x}$ = (q x 1) is a column vector of predictor measures; $\underset{\sim}{\Lambda_y}$ = (p x m) is a matrix of regression coefficients of y on $\underset{\sim}{\eta}$; $\underset{\sim}{\Lambda_x}$ = (q x n) is a matrix of regression coefficients of $\underset{\sim}{x}$ on $\underset{\sim}{\xi}$; $\underset{\sim}{\varepsilon}$ = (p x 1) is a column vector of endogenous variable measurement residuals; and $\underset{\sim}{\delta}$ = (q x 1) is a column vector of exogenous measurement residuals.

Estimation

The purpose of the analysis is twofold: (1) to explain choice behavior and (2) test hypothesized causal orders among the latent variables. The first objective is akin to traditional regression analysis with emphasis on "explained" variance in the dependent variable. The second objective is related to that of factor analysis with emphasis on "explained" covariance. In order to maximize the former and yet model the observed variable-unobserved relationship as specified in Equations, (2) and (3), we need to minimize the trace of $\underset{\sim}{\psi}$ (the variance-covariance matrix of $\underset{\sim}{\zeta} = \underset{\sim}{\eta} - E(\underset{\sim}{\eta})$), the trace of $\underset{\sim}{\theta_\varepsilon}$ (the variance-covariance matrix of $\underset{\sim}{\varepsilon}$), and trace of $\underset{\sim}{\theta_\delta}$ (the variance-covariance matrix of $\underset{\sim}{\delta}$). In order to test the causal structure we need to compare the covariance (correlation) matrix of the latent variables with the covariance (correlation) matrix of the latent variables as derived from the causal structure. We make no assumptions about the causal nature of the observed variable indicators with respect to the structural relations, nor do we make any distributional assumptions. Further, the measures are not treated as alternative measures of the same thing (as in the true score theory) but rather as indicators with some degree of specific variance unrelated to their respective latent variables. The model and estimation approach that best satisfies the above is Wold's PLS (Partial Least Squares) method.

RESULTS

Following the procedure developed by Fornell, et al. (1982), the three models are examined with respect to convergent, discriminant, and nomological validity. The models will also be examined with respect to causal structure. The results for all six models (three low involvement, three high involvement) are summarized in Table 1.

Convergent Validity

Convergent validity can be defined as the degree to which two or more attempts to measure the

FIGURE A

Three Models of Communications and Choice Behavior

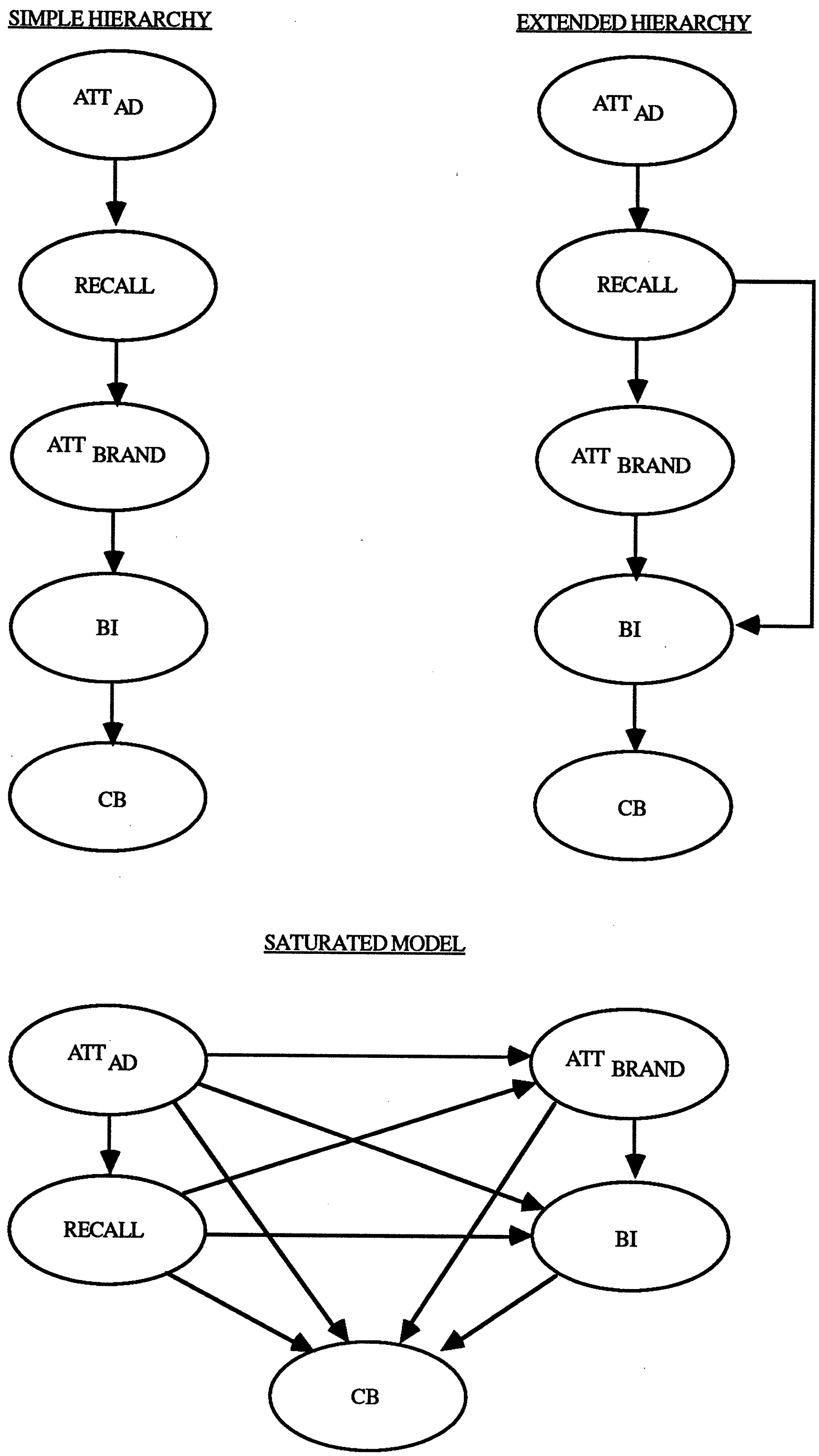

TABLE 1

Evaluation

Convergent Validity

ρ_{vc}	M^2	Model:		
	100%	.52	*Simple:*	Low Involvement
	100%	.58		High Involvement
	100%	.52	*Extended:*	Low Involvement
	100%	.58		High Involvement
	100%	.52	*Saturated:*	Low Involvement
	100%	.58		High Involvement

Discriminant Validity

$\rho_{vc} \geq R^2_{\eta_i,\eta_j}$		
75%	*Simple:*	Low Involvement
100%		High Involvement
75%	*Extended:*	Low Involvement
100%		High Involvement
75%	*Saturated:*	Low Involvement
100%		High Involvement

Nomological Validity

R^2	$\bar{R}^2$	RSM		
.78	.35	.074	*Simple:*	Low Involvement
.58	.25	.180		High Involvement
.78	.36	.055	*Extended:*	Low Involvement
.57	.28	.067		High Involvement
.79	.37	---	*Saturated:*	Low Involvement
.59	.29	---		High Involvement

Note:
Convergent validity is expressed as a proportion of the satisfaction of the criterion that $\rho_{vc} \geq .50$. Thus, if all indicators in a model pass this test, convergent validity = 100%. That is, 100% convergent validity means that all model constructs passed this test.

Discriminant validity is expressed as a proportion of the satisfaction of the criterion that $\rho_{vci}, \rho_{vc} \geq R^2_{ij}$.

R^2 is the coefficient of determination with respect to the final endogenous variable.

$\bar{R}^2$ is the mean of R^2's for all endogenous variables.

RSM (Root Mean Square Residual) is the fit index for the causal structure.

same construct through maximally different methods are in agreement. That the methods be "maximally different" is an ideal that indicates the rigor of the empirical test rather than a precondition of analysis. The degree of "agreement" among the methods used can be assessed by the average variance shared with a construct ρ_{vc}. Thus from Equation (2), the variance shared by the construct h_j estimated by different measures y_{ij} is given by:

$$\rho_{vc\eta} = \frac{\sum_{i=1}^{1} \lambda^2 y_{ij}}{L}, \text{ for L measures of } \eta_j \text{ and } j = 1 \ldots m \qquad (4)$$

and similarly for $\rho_{vc\xi_k}$, $k = 1 \ldots n$.

A condition for satisfying convergence is that the value of ρ_{vc} for a construct be greater than 0.5, i.e., the true variance should at least be greater than the error variance.

An alternate global statistic to compensate for the effect of increasing numbers of constructs is the ratio of the variance shared in the model to the number of measures and constructs:

$$M^2 = \frac{\sum_{i=1}^{p} \lambda_{y_i}^2 + \sum_{i=1}^{q} \lambda_{x_i}^2}{(p + m) + (q + n)} \qquad (5)$$

By this formula, values of M^2 will range from 0 to 1 and will be high when measurement error is low and when a minimum number of constructs is specified. The value of M^2 can also be calculated for any subset of the measurement model.

As summarized in Table 1, all six models tested achieved convergent validity according to the criterion that each construct, on average, share more variance in common with its indicators than it does with error. This fact is also revealed in the measurement model as, in the majority of cases, the correlations between indicator and construct are larger than .85. Thus, from evaluating the r_{vc} statistics, evidence of convergent validity is found for all the models tested.

Further, in all models, M^2 is calculated using the first twelve variables. Choice behavior is not included since convergent validity cannot be assessed for this construct with only a single measure available. In brief, M^2 represents the ratio of the variance shared in the model to the number of measures and constructs. It is not surprising that the M^2 values are similar for the three hierarchical models investigated, since the number of measures and constructs remains constant in all of the models. The high-involvement models seem slightly superior to the low-involvement models (.58 vs. .52) in terms of convergent validity, but the M^2 values seem acceptable for both situations.

In summary, the simple hierarchy, the extended hierarchy, and the saturated model all seem to be acceptable in terms of convergent validity. However, results of the convergent validity tests are not sensitive enough to select one of these models as superior to the others; the simple hierarchy may be preferable in the interest of parsimony.

Discriminant Validity

Fornell et al. (1982) demonstrate how PLS can be used to assess discriminant validity, the degree to which a construct differs from other constructs. If the squared correlation between any two constructs is lower than ρ_{vc} for a construct, then there is evidence of discriminant validity. That is, discriminant validity is indicated if the variance shared between any two different constructs is less than the variance shared between a construct and its measures.

For all three high-involvement models tested, each of the constructs with multiple measures shares more variance in common with its indicators than with other constructs in the model. In the low-involvement measures, one of the constructs fails this test. Specifically, the relationship between behavioral intention and choice process is stronger than the relationship between behavioral intention and one of its indicators (the composite of the semantic differential measures). The problem may lie in the fact that the choice process follows so closely upon the heels of the BI measure. In a field study, considerable time would likely elapse between forming a behavioral intention and the actual choice. Other variables, such as distribution or availability, would then intervene causing these two constructs to diverge. Here, in a laboratory setting, these measures may be taken too close together to achieve the degree of discrimination that is desired. From another perspective, the problem arises not because of the high association between BI and choice, but because of the relatively low loading between BI and the semantic differential used to measure BI. In fact, more than half of the variance associated with the semantic differential scale is error variance. That is, the semantic differential approach does not seem as satisfactory as Juster's (1964) probability approach in this instance. One solution would be to delete the summated semantic differential measure, but this would leave only one indicator for behavioral intention. Alternatively, all conative measures could be collapsed into a single construct, but this would inhibit comparisons with the high involvement product where this problem does not arise. Instead, it was decided to retain two conative constructs and to keep both indicators of BI, although one of these indicators appears inferior.

Examination of Explained Variance

Table 1 summarizes the amount of variance explained by the alternative models. For the low-involvement situation, 17% of Recall variance is explained; 28% of ATT_b variance is explained; 17% of BI variance is explained; and 78% of choice variance is explained. A similar pattern is observed for the simple hierarchy when the high-involvement situation is investigated. In sum, the simple hierarchy model is moderately successful.

The amount of explained variance does not increase appreciably when moving from the simple hierarchy to the saturated model. In a like manner, the simple hierarchy appears superior to the saturated hierarchy for the high-involvement product. The amount of explained variance does not appreciably increase with the addition of six new paths. In this instance, the simple hierarchy seems to provide the most parsimonious representation of the data without sacrificing explanatory power.

Nomological Validity

Nomological validity is used here to mean the degree to which predictions of constructs in the model are verified. Thus, this definition of nomological validity is construct specific and applicable only to endogenous constructs.

Table 1 summarizes the findings with respect to construct validity. First, through an examination of the coefficient of determination (R^2) for the final endogenous variable, it seems as if there is not much difference between the three models tested. For the low-involvement product, about 78% of the variance in choice behavior is explained; and for the high-involvement product this figure is around 58%. There is a tendency for more variance to be explained as more paths are added, but this tendency is very slight. At the most, only a 2% increase in explained variance is gained by adding extra paths.

A similar pattern emerges when examining the root mean R^2 ($\bar{R}^2$) for all endogenous variables in a model. For example, on average, 35% of the variance is explained for the low-involvement endogenous constructs in the simple hierarchy. This figure increases to 36% for the extended hierarchy and increases again to 37% for the saturated model. Similar results are obtained for the high-involvement product. Relatively little explanatory power is gained by adding extra paths.

Finally, the root mean square residual (RSM) is examined. This represents a fit index for causal structure, with lower values indicating better fit. Such an index is not available for the saturated hierarchy since it, by definition, has a perfect fit. Of the two remaining models, the extended hierarchy appears superior, since RSM improves from .074 to .055 for the low-involvement data and from .180 to .067 for the high-involvement data. In short, evidence is found that the extended hierarchy provides a better representation than does the simple hierarchy. This finding appears particularly relevant for the high-involvement situation where the RSM is more than halved by the inclusion of one extra path coefficient.

DISCUSSION

Summary of Results

Three variants of the learning hierarchy were tested using two product categories designed to differ from one another in terms of topic involvement. The success of the involvement manipulation was checked through an application of Buchanan's relative involvement scale; each subject was allowed to have his/her individualized involvement score for the relevant product categories. All three models tested were acceptable in terms of discriminant and convergent validity. Since the explanatory power of the more complex, saturated hierarchy did not increase appreciably, this model was rejected. Upon closer examination, the extended hierarchy appeared to be superior to the simple hierarchy in terms of fitting the causal structure, as revealed by the RSM index. Both models were equivalent in terms of explaining the variance in choice behavior.

That the saturated model can be rejected has some important implications for communication research. Recently, there has been some uneasiness about the simple hierarchical model, and individual studies have indicated that certain nonsequential paths may be important. Here, however, it appears that, overall, little is gained by adding these extra paths to the basic, simple hierarchy except for the recall-behavioral intention link. The extended hierarchy, which includes this link, is not much more complex than the simple hierarchy; it contains but one additional path.

It is also important to note that choice behavior is more successfully explained for the low-involvement product (R^2 = .78) than for the high-involvement product (R^2 = .58). One explanation for this may be that respondents perceived the simulated choice task to be more relevant for low- as opposed to high-involving products. Related to this point, it may not take as many variables to to explain the choice of a low-risk product, as compared to the choice of a high-risk product. As Smith and Swinyard (1982) have pointed out, an advertisement for a low-involvement product can more directly lead a consumer to trial. Thus, advertising effectiveness measures may be better able to predict trial in a low-involvement situation. And, in this sense, the learning hierarchy may be *more* appropriate for low-involvement than for high-involvement products.

Advertising Effectiveness: Theory and Measures

The results of this study point out some interesting facts pertaining to the measurement and theory of advertising responses. With respect to measurement, it seems that advertising research has made some progress. For example, most measures have low error variances. Similarly, the loadings are uniformly high. The same pattern emerges for both the high- and low-involvement processes. In particular, the measurement of ATT_a and Recall seem to be especially refined. ρ_{vc} levels for these constructs are particularly high, ranging from .78 to .88. The abbreviated Wells (1964) reaction profile and the aided recall of advertising facts, as developed by Claycamp and Liddy (1969), seem to operate a successful measures of the constructs they were designed to operationalize.

The semantic differential scales used to operationalize ATT_b and BI are somewhat less successful, but still appear good enough in that all tests of discriminant and convergent validity are passed for the high-involvement process. The one measure that does operate rather poorly in this data set is the semantic differential scale used to operationalize BI; for both product categories, more error variance is exhibited than variance shared with the measured construct. In contrast, the Juster (1964) scale used to operationalize BI through a probability approach appears to be much more satisfactory and correlates very highly with the construct it is designed to measure. This scale certainly deserved further attention in the marketing literature.

Unfortunately, most of the scales described above are particularly well suited for laboratory studies but appear to be of limited value for more naturalistic, field surveys. This, in turn, limits the advancement of advertising theory. For example, Krugman's (1965) low-involvement hierarchy is rarely tested, partly because of the difficulty of measuring consumers' in-store reactions. The low-involvement hierarchy suggests that a conscious perception of the advertising message does not take place until the consumer is at the moment of purchase. Measurement in the store, at the moment of purchase, remains a problem despite the fact there is increasing interest in monitoring in-store behavior.

It is in this sense that advertising measurement procedures lag behind advertising theories and impede theoretical advancement. Nineteen years after Krugman first introduced the low-involvement hierarchy, his theory remains popular but largely untested. With the introduction of electronic scanner data and other in-store procedures, we may be in a better position to assess and advance theories about how advertising works.

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The Link Between Involvement, Use Innovativeness and Product Usage

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ABSTRACT

Product usage plays a central role in consumer behavior. Unfortunately, the utility of the concept is yet to be realized due to poor conceptual definition and inadequate operationalization. In this paper, the authors identify two important dimensions of product usage - usage frequency and usage variety - and develop reliable, valid measures for each. They use a longitudinal study to examine the relative influence of two consumer characteristics - Involvement and Use Innovativeness - on both dimensions of usage. The results highlight the need to distinguish between usage frequency and usage variety when studying usage. The implications of this study for future research are discussed.

INTRODUCTION

Product usage has been studied, in the past, in conjunction with expertise and involvement (Zaichkowsky 1985b), and is shown to affect product class knowledge and consequently the extent of information search (Bettman and Park 1980, Johnson and Russo, 1984). However, the evidence in the literature relating product usage to other constructs such as expertise and involvement seems incomplete because past studies have looked only at *frequency* of usage (how often used), and not at *variety* of usage (different ways in which used). This raises two important research questions, which we seek to address in this paper: What are the dimensions of product usage? How do we develop reliable, valid measures of usage?

A related research issue is how two key consumer characteristics, Involvement and Use Innovativeness, influence product usage. Some researchers have examined how usage frequency is affected by Involvement (Bloch 1981; Zaichkowsky 1985a, 1985b) and Use Innovativeness (Price and Ridgway 1983), but have ignored the effect on usage variety. Further, no study in the past measures Involvement, Use Innovativeness (UI) and Product Usage concomitantly, so there is little evidence on either the relative effects of Involvement and UI on product usage or on the extent to which Involvement and UI interact to affect usage. One of the objectives of this study is thus to explicitly examine the linkage between these constructs.

DIMENSIONS OF PRODUCT USAGE

Typically, product usage has been mentioned in the literature in relation to information strategies used by the consumer *before* the focal purchase. For example, past usage experience has been considered as an important influence on future purchases (Bettman and Park 1980; Johnson and Russo 1984). Few research studies have, however, looked at product usage as post-purchase consumption behavior. The manner in which a customer actually uses the product is likely to have an impact on the post-purchase evaluation (e.g. satisfaction) process, which in turn has implications for repurchase. The importance of studying product usage as a consumption experience is thus evident.

We have classified product usage as having two dimensions:

(1) Usage Frequency; and,
(2) Usage Variety.

This is analogous to the two dimensions of product usage suggested by Zaichkowsky (1985b): depth of consumption and breadth of consumption.

Usage Frequency refers to how often the product is used, regardless of what it is used for.

Usage Variety refers to the different ways in which the product is used, and to the different types of situations in which it is used.

We will illustrate the differences between the two types of usage with an example. Consider two consumers: one who uses a personal computer for two hours everyday, just for word-processing; another, who also uses the personal computer for two hours each day, but for video games on the first day (personal entertainment), for numerical spreadsheets on the second day (office work), for word-processing on the third day (personal), and so on. Both consumers have an identical usage frequency; however, the second consumer uses the product in multiple ways and in a variety of situations, and therefore has a higher usage variety. Usage variety is thus an important aspect of multi-functional products such as personal computers or VCRs. These products offer consumers the use of multiple features or functions. However, little research has been conducted on the variety dimension of product usage.

Further, post-purchase usage of multi-functional products may involve more than merely using the product. Product usage may require operational knowledge, which has to be acquired in some fashion: from a manual, or from other family members or friends, or by observing other users. For example, in the case of VCRs, the consumer may easily operate the basic functions such as "play" or "rewind", but may have to learn how to use special features such as the pre-programmed recording feature. These information acquisition methods, used by consumers during post-purchase consumption, have not been addressed adequately in past research.

INVOLVEMENT AND PRODUCT USAGE

Several researchers in marketing have examined the relationship between Involvement and product usage and usage-related behaviors (Bloch 1981; Tyebjee 1979; Zaichkowsky 1985a, 1985b). Bloch (1981), in a study using automobiles, reported significant relationships between involvement and usage-related behaviors such as seeking product usage information, performing repairs and maintenance, and taking intensive care of

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the product. Zaichkowsky (1985b) also found a positive relationship between involvement and usage frequency. However, any possible link between involvement and usage variety has not been explored, and we intend to investigate if such a linkage does exist.

USE INNOVATIVENESS AND PRODUCT USAGE

Involvement is not the only construct to explain the degree and types of product usage. Of the three types of variety seeking behaviors identified in the literature, viz. variety seeking in purchase, vicarious variety seeking, and Use Innovativeness (UI), UI has been shown to have a relationship with product usage (Hirschman 1980; Price and Ridgway 1983). Price and Ridgway (1983) demonstrate that UI is related with aspects of product usage such as "the use of a previously adopted product in a single, novel way", or "using a currently owned product in a variety of ways". They argue that UI leads to variety seeking behavior in the usage context, since consumers with a high UI tend to have high creativity and may try to use the product in multiple ways. Thus we expect UI to have a strong relationship with usage variety, especially in the case of multifunctional products.

Based on our discussion, we hypothesize on the following relationships between UI, Involvement and Usage:

H1: Involvement and UI each have a positive relationship with usage frequency and usage variety; however, Involvement has a higher positive impact than UI on usage frequency, but a lower positive impact on usage variety.

Involvement relates to the consumer's degree of product interest, and to his/her readiness to talk to others about the product (Bloch 1981; Richins and Bloch 1986). Thus, a highly involved consumer is more likely to resort to interpersonal communication about the product. Involvement does not necessarily require expertise: an involved individual may use the product for the same purpose over and over, thus having a high frequency but relatively low variety. Use Innovativeness, on the other hand, relates to the different, new ways in which a customer wants to use a product. This is more likely to create the need for building operational knowledge about the product. Further, the use innovative person is more likely to be independent and creative and seek information from sources such as user manuals, which tend to be more technical in the case of multi-functional products. This leads us to Hypothesis 2.

H2: Involvement has a higher positive impact than UI on usage-related interpersonal communication, but UI has a higher positive impact on information search from manuals.

METHOD

Five multi-functional products were used for this study: VCRs, personal computers, microwave ovens, 35mm cameras, and food processors. The choice of these five products was based on several reasons: (a) they are likely to be used frequently within a household; (b) they offer scope for usage variety due to their multiple functions/features; (c) they may be relatively complex to operate and therefore require some amount of learning effort prior to usage or during usage.

A convenience sample of 575 households participated in the study. Each household was used for collecting data on one product. A key respondent was chosen in each household to report on the usage (See table 3 for # of respondents for each product). The respondent was typically the male or female head of household, and had been involved in the purchase of the product, and was currently one of the primary users of the product. Care was taken to ascertain when the households had acquired the product, and which households had acquired the product as a gift. For the data collection, a questionnaire and a diary were developed. The questionnaire contained measures of UI, Involvement, Product Usage, and demographic information. The diary was designed to collect the following information regarding product usage: the specific purpose for which the product was being used, the usage situation, the exact time and date of usage, the length of time for which the product was used in each case, and which family member(s) had used it.

Prior to the data collection, the sample was randomly divided into two equal parts for each product. At the start of the study, the questionnaire was administered to one half of the sample. Two weeks later, all respondents were given diaries and asked to record their product usage as and when it occurred. The diary study was conducted for a period of six weeks (42 days). The diaries were collected from the respondents every two weeks. After the diary study, the questionnaire (self-report) was administered to the other half of the sample. This before-after design was used to control for the testing effect.

MEASURES OF PRODUCT USAGE

Product usage measures were obtained from two sources:

(1) subject's self-report (questionnaire)
(2) subject's daily diaries of actual usage

In the self-report, usage frequency was measured by asking respondents to classify their usage into one of six categories (ranging from "more than once a day" to "less than once a month"). For usage variety, respondents had to classify themselves into one of six categories ranging from "used all available functions" to "used hardly any functions" (See bottom of Table 2).

In the diary study, usage frequency was calculated on the basis of the actual number of days (out of a maximum of 42 days) for which they used the product. Usage variety was obtained on the basis of the number of different functional uses over the six week study. The respondents reported all the applications for which they had used the product as well as the different functions which had been used each time (See Table 1). For cameras, usage variety was classified by the number of features or functions used such as electronic flash, light exposure, shutter speed, telephoto lens, etc. Similarly, for a VCR consumer who used just "movie rental," the

TABLE 1

Measurement of Usage Variety For Four Products From Diary Data

VCR PERSONAL	COMPUTER
1. Movie rental	1. Word processing
2. Recording a TV show (to watch later)	2. Spread sheets
3. Recording a TV show while watching other	3. Computer game
4. Watching the previously recorded program	4. Bookkeeping
5. Slow motion picture	5. Graphics
6. Connecting to camera	6. Printing
7. Pre-programmed recording	7. Communication (Modem)
8. Recording & watching the program on the same day	8. Computer language
9. Combined use of multiple functions	9. Combined use of multiple functions

MICROWAVE OVEN	FOOD PROCESSOR
1. Heating previously cooked food	1. Blending/mixing (e.g.combining better and flour)
2. Defrosting food (e.g. frozen meat)	2. Grating/grinding (e.g.grating cheeze for pizza)
3. Boiling water (e.g. for a cup of coffee)	3. Chopping (e.g. chopping onions for soup)
4. Cooking food	4. Slicing (e.g. slicing cucumber for salad)
5. Using for frozen packaged food (e.g. TV dinner)	5. Shredding (e.g. shredding cabbage for coleslaw)
6. Setting a timer for delayed cooking	6. Mincing (e.g. mincing garlic)
7. Inserting a temperature probe cable	7. Puree
8. Hold or keep warm features	8. Kneading (e.g. kneading dough)
9. Combined use of multiple functions	9. Combined use of multiple functions

* Note that for a consumer who uses the product in all the above ways, the usage variety score = 9. For a VCR consumer who uses just "movie rental," the usage variety score = 1, even though his frequency for that use may be very high (e.g. every day).

usage variety score was 1, even though the usage frequency score based on watching rented movies could be very high (e.g. every day).

Most multi-functional products were used by more than one individual in a household. Only the target respondent's usage data was used for the analysis. We also determined the mode of acquisition of the product (purchase vs. gift) since this could potentially affect product usage.

In addition, measures were developed for several usage-related behaviors: the frequency with which the user referred to a product manual, the frequency with which (s)he communicated with friends/peers in order to learn how to use the product.

MEASURES OF INVOLVEMENT

In this study, we wished to measure *enduring* product usage, or usage over time. We also wished to capture both dimensions of usage: usage frequency and usage variety. In the context of product usage, involvement must, therefore, comprise enduring involvement and situational involvement (Zaichkowsky 1985a). Enduring involvement refers to fundamental

TABLE 2

Correlations Between Self-Report Usage and Diary Usage

	VCR	PC	Microwave Oven	Camera	Food Processor
Usage Frequency	.459[a]	.440[a]	.376[a]	281[a]	.417[a]
Usage Variety	.266[a]	.238[a]	.080[b]	.091[b]	.305[a]

a: $p < .01$
b: n.s.

Measures of usage in self-report

Usage Frequency - 1: more than once a day, 2: once a day, 3: a few times a week, 4: once a week, 5: once a month, 6: less than once a month
Usage Variety - 1: all of functions, 2: most of them, 3: a half of them, 4: a little than a half, 5: a few of them, 6: very little

(For measures of usage in the diary method, see Table 1)

ongoing interest with a product (Bloch 1981; Houston and Rothschild 1978). While enduring involvement is relatively stable over time, the situational involvement is contingent on the situations encountered. Situational involvement results from importance of the intended use of the product, brand availability, time constraints, presence of significant others, product cost, and product complexity (Houston and Rothschild 1978; Antil 1984; Bloch and Richins 1983). Of these, the first three factors typically affect only pre-purchase behavior, while the last three factors can affect post-purchase usage behavior as well. The semantic differential scale developed by Zaichkowsky (1985a) captures both enduring involvement and situational involvement. Hence, we have used the same scale to measure product involvement for our study. Another advantage of the semantic differential scale was the ease of administration across the five product categories.

MEASURES OF USE INNOVATIVENESS (UI)

UI was measured using a 44-item scale devised by Price and Ridgway (1983). The items were meant to capture the five dimensions of UI: creativity/ curiosity, risk preferences, voluntary simplicity, creative re-use, and multiple use potential.

MEASURES OF USAGE-RELATED BEHAVIOR

The following measures of usage related-behavior were obtained from the respondents: (1) how often they had referred to the product manual since purchase; (2) how often they had referred to the manual to find new uses for the product; and, (3) how often they had talked about operation of the product functions and different applications of the product with someone else. Of these, the first two measures relate to manual reference, while the third relates to usage-related communication.

RESULTS

The Involvement scale was found to be reliable and valid. Coefficient alpha was 0.92 and item-total correlations showed similar magnitudes across the five product categories as in Zaichkowsky (1985a).

Since Use Innovativeness is a personality characteristic, independent of a particular product category, the respondents of the five product categories were aggregated for checking the validity and reliability of the UI scale. As found in Price and Ridgway (1983), four factors were identified for UI and relatively high item-total correlations were also found in this study. Generally, coefficient alphas for each of the five subscales and correlations between the subscales and total UI scale exhibited a similar pattern, but were higher than those in Price and Ridgway's (1983) study.

No significant differences were found (on the scores for Involvement, UI and Usage) between the two groups - one which had responded to the self-report questionnaire before the diary study, and the other which had responded after the diary study.

Interestingly enough, no differences in usage patterns were found (within each product) between those who had acquired the product as a gift vs. those who had made the purchase. Also, no differences in usage patterns were detected based on length of ownership of the product (for instance, between those who had the

TABLE 3

Relationships of Involvement and UI with Product Usage and Usage-Related Behavior

Measures		VCR	PC	MICRO	CAMERA PROCESSOR	FOOD
# of respondents (total=575)		123	116	116	105	115
Self-Reported Usage						
Usage Frequency	INV	.402[a]	.401[a]	.408[a]	.333[a]	.379[a]
	UI	.016[d]	.069[d]	.238[a]	.214[b]	.209[b]
Usage Variety	INV	.226[a]	.292[a]	.264[a]	.012[d]	.408[a]
	UI	.208[a]	.126[c]	.235[a]	.034[d]	.354[a]
Diary-Based Usage						
Usage Frequency	INV	.060[d]	.248[a]	-.101[d]	.269[a]	.157[c]
	UI	-.092[d]	.164[b]	-.033[d]	.237[a]	.205[a]
Usage Variety	INV	.102[d]	.110[d]	-.101[d]	.205[b]	.137[c]
	UI	.022[d]	.001[d]	.030[d]	.260[a]	.220[a]
Usage-Related Behavior						
Communication with others	INV	.112[d]	.452[a]	.292[a]	.332[a]	.396[a]
	UI	.065[d]	.150[c]	.107[d]	.170[b]	.218[a]
Manual Reference	INV	.078[d]	.061[d]	.130[c]	.092[d]	.376[a]
	UI	.093[d]	.130[c]	.054[d]	.142[c]	.129[c]

[a]: $p < .01$
[b]: $p < .05$
[c]: $p < .10$
[d]: n.s.

product for three months vs. those who had it for five years). This seemed to suggest that usage patterns stabilized at fairly early stages of the ownership.

The correlation between Usage Frequency and Usage Variety, obtained from the diary data, was low across all product categories (< 0.3). This seems to suggest that while usage frequency and usage variety can be expected to have some correlation, they represent two different aspects of usage.

Correlations of Usage Frequency scores on the self-report and the diary were consistently high and significant (See Table 2). The validity of the usage frequency measures thus seem to borne out by the convergence in the two methods.

The self-report scores on Usage Variety did not match very well with the diary scores. Most subjects reported that they had tried all or most of product features or functions across the five products, while the diaries suggested that they used only a few of the features available. For instance, we found that very few households used sophisticated features such as slow motion picture and pre-programmed recording features of a VCR, or the delayed cooking and temperature probe features of microwave oven. Hence, the low correlation between the usage variety scores on the self-report and the diary. This seems to indicate that, at least for this study, the diary was a more reliable and valid method of measuring usage variety.

On a product-wise basis, the correlations of involvement and UI with usage frequency, usage variety, and usage-related information strategies are shown in Table 3. Note that both the self-report scores and diary scores have been considered for usage.

Most propositions in Hypothesis 1 found support. The results show that Involvement and UI are positively related to Usage Frequency and Usage Variety, and in most cases the relationship is statistically significant. Involvement consistently had a higher impact than UI on usage frequency. However, both UI and Involvement seemed to have a significant impact on usage variety. Even though Involvement is product specific and UI is a general personality trait, UI seems to have a similar effect on usage variety in a relative sense. However, the interaction effect of UI and Involvement on usage frequency or usage variety was not statistically significant.

Hypothesis 2 also found partial support. Involvement had a statistically significant relationship with interpersonal communication resorted to by users of the product, and the magnitude of this relationship was higher than that of UI. However, in the case of referring to product manuals, no clear relationship emerged. Although UI was related with information search from manuals in the case of three products ($p < 0.1$), so was Involvement in the case of two products. A possible explanation is that the search for technical information could have been mediated by the user's current operational knowledge levels. Since we did not control for this variable, we cannot ascertain the veracity of this speculation.

LIMITATIONS

The study may have certain limitations. Because of the nature of the product usage, more female subjects were used for two products: microwave oven and food processor. In general, the subjects belonged to the high education, high income bracket: however, the demographic variables did not create any significant differences in UI, Involvement or Product usage; nor did the demographic variables mediate any of the hypothesized relationships. Primary users of the product were allowed to self-select themselves in each household and this could have created a problem. For the categories of camera and food processor, a larger percentage of subjects acquired their product as gift (although no differences in involvement or usage were found between those who purchased the product and those who acquired it as a gift). Finally, it was not possible to control for history effects on product usage during the six-week diary study.

DISCUSSION AND IMPLICATIONS

In this study, we have shown the need to study both dimensions of product usage, Usage Frequency and Usage Variety, especially in the context of products which offer the potential for multiple use. In the case of multi-functional products, it is important to differentiate the functional features (such as auto defrost, auto temp and pre-programmed cooking of a microwave oven) from product attributes or benefits (economy, efficiency). Usage Variety is based on the functions available in a product. The evidence also seems to indicate that product-specific involvement, rather than Use Innovativness, is the dominant consumer characteristic in explaining product usage, especially usage frequency and usage-related behavior.

In the past, the impact of usage on variables such as amount of information search has been studied using just usage frequency. Usage variety is a rich construct that offers the potential to explain certain aspects of consumer behavior such as variety seeking and associated information search, or exploratory consumption (Holbrook and Hirschman 1982).

Product usage has, till now, been measured using subjective self-reports rather than objective usage records (Price and Ridgway 1983; Zaichkowsky, 1985a and 1985b; Bloch 1981). In this study, we have used a self-report procedure as well as a diary data collection method. The validity of the usage measures was established by comparing the data from the two methods. Based on our findings, we suggest the use of a diary method to study variations in actual usage patterns over time.

The study also showed that while the consumers reported a high usage variety on the self-reports, their actual usage variety was much less. For example, only 4 households reported that they had used the pre-programmed recording feature of a VCR. This rather heavily advertised feature is the basis on which some of the models are differentiated. Yet, the low usage may suggest that ownership of such features (for later usage) may be more important for the consumer rather than actual usage. Future research needs to look at whether consumer satisfaction is driven by the ownership of a variety of features, or by actual usage of such features.

Oliver and Bearden (1983) found a significant relationship between involvement and post-purchase evaluation, but wonder why this relationship exists. We suggest that since there is evidence from past studies (Bloch 1981; Zaichkowsky 1985b) as well as our study to suggest that involvement is related to product usage, a research issue worthy of investigation is whether product usage mediates the relationship between involvement and post-purchase evaluation.

While the disconfirmation paradigm has been the most effective in explaining consumer satisfaction, the unexplained variance is still large. One variable which may help out is product usage. If consumers invest a large sum in a product which has sophisticated auxiliary features, but find that they use only a few of these features, the low usage may lead to dissatisfaction. Also, if a consumer bought such a product expecting to use it frequently, but never did, the resulting usage disconfirmation may result in dissatisfaction. This type of phenomenon can be expected more often in the case of durable or "important" products (Bloch and Richins 1983), which offer usage variety.

This study examines the product usage of only the primary users in each household. However, in the case of multi-functional products such as the VCR, product usage extends across several family members including children. In fact, it is possible that the higher the usage of the product among the entire household, the higher the satisfaction of the head of the household who purchased the product. Joint usage of products is thus an area worthy of research especially since it has implications for consumer satisfaction.

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Must Consumer Involvement Always Imply More Information Search?

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ABSTRACT

Current theory holds that high consumer involvement in a product's purchase will lead to extensive pre-choice information search. A modification in this theory is proposed, namely that information search is high only when the product is functional or utilitarian; when the product serves psycho-social or expressive goals, the consumer would not seek much information, a high level of involvement notwithstanding. Data from 231 housewives supported the hypotheses. Implications for future research are outlined.

The consumer choice literature now recognizes the important role of involvement as a determinant of how much brand information the consumer will search. The more involved consumers are deemed to seek and utilize more information about brands (Lastovicka and Gardner 1979, Mitchell 1981, Bloch, Sherrel, and Ridgway 1986). This paper proposes and investigates one modification in the current research on this topic. We propose a broad classification scheme of products -- namely, functional and expressive, and hypothesize that pre-choice information search differs across these two product types, high levels of consumer involvement notwithstanding. Such a product classification is implicitly recognized (not necessarily under these labels) by marketing professionals, but its information search effects have not been formally investigated before.

Differences between Functional and Expressive Products

It is proposed that the information search effects of involvement differ between what will be called here *functional* and *expressive* products. These products are best described, borrowing Udel's words, as those where a consumer derives satisfaction from the physical performance of the product (functional) and those where consumer satisfaction stems from his/her social and psychological interpretation of the product (expressive) (Udel 1964). A product is functional when its physical performance is of overriding concern. It is expressive when such physical performance is either of secondary importance or is assumed away, and when the consumer focus instead turns to the expressive quality of choice objects. Expressive quality refers to a product's ability to express its user's personality, or self-concept, or mood, as well as enable a consumer to experience these entities.

By these definitions, detergent, headache remedy, vacuum cleaner, etc., will be examples of functional products; perfume, designer clothes, souvenirs, etc., will be examples of expressive products. These are our expectations about *averages*; the meaning of a product for different consumers could of course range widely.

Our motivation for examining the functional/expressive distinction in the context of involvement came from the fact that in the literature involvement has been seen as inevitably associated with a great deal of information seeking and high cognitive effort. To single out one example, Houston and Rothschild (1977) suggest *involvement matrix* as a measure of response involvement; according to this measure a highly involved person will examine many features of a product or many issues in a political race. That might well be, but the case of a blind-faith, non-issue based, emotional voter, and of a consumer purchasing perfume or a music album come to mind. The person in these instances may "care" a lot, (i.e., be involved) and yet manifest little "cognitive" activity; rather his choice may be dictated by emotional enchantment with an alternative. Accordingly, the involvement in the purchase of expressive products is here termed as expressive involvement, and that in the purchase of functional products as functional involvement. Although most products will have a central tendency of being deemed functional or expressive by a majority of consumers, this involvement typology is *not* attached to products per-se. Rather, an individual consumer's orientation toward a product will determine the typology. Thus, it is a person-product dyad variable.

Previous researchers have linked involvement to the extent of information processing (e.g., Beatty and Smith, 1987). We hypothesize that although involvement will influence information search during brand decision process, such influence will be mediated by the functional/expressive character of involvement. Specifically, when involvement is expressive, the psychological interpretations of the product rather than its inherent features are of relevance. And, one *can* explicitly seek information about the latter, while the former, i.e., the psychosocial interpretation is largely ideosyncratic and less susceptible to explicit information search (c.f. Markus 1977, Holbrook and Hirschman 1982, Mittal 1983a, 1983b, 1987). Therefore, it was hypothesized here that in the case of expressive involvement compared to functional involvement, consumers will:

H_a: Use *fewer* sources of information

H_b: Do *less* extensive brand comparisons, and

H_c: Examine *fewer* brand features.

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FIGURE 1

When I buy detergent:

I do not care at all about which detergent I buy	1--2--3--4--5--6--7	I care a great deal about which detergent I buy

METHOD

Data for this research came from a mail survey of 300 consumers randomly sub-sampled from the Consumer Panel of the Bureau of Business Research, University of Pittsburgh. 240 responses were returned within 3 weeks, and no follow-up was considered necessary. Of these, 231 questionnaires were usable.

In this survey, female members of the household, who were identified by name, were asked to rate statements of involvement and choice processes for each of the 15 specified products selected to represent a wide range of involvement: detergent, jeans, automobile, stereo, perfume, headache remedy, music album, dry cell batteries, facial tissue, canned peas, salt, light bulbs, pen, and dry milk.

Measures

Independent Variables. Level (i.e., magnitude) of involvement and its type (viz., functional/expressive) were measured as two independent variables. The level was used to delineate high involvement products, and the type was used to further classify high involvement products into functional and expressive groups.

Involvement (Level). Our interest was in identifying a measure which is more specific to the *brand purchase decision* (as opposed to a general product class involvement). This measure was deduced from Kassarjian's (1978) argument: "Because we *care* about brands, or packaging, or information processing, we assume that the average consumer also *cares* ... but the average consumer who blithely purchases, consumes and discards the product most likely *couldn't care less* (emphasis added)." This view of involvement implies that consumers are casual in buying some products, caring little about which of several available brands they buy; in other instances consumers are concerned about and careful in choosing their brand. In the research to be reported, involvement was operationalized, therefore, as the *'degree of caring'* for what a consumer may choose from among several alternatives of a product.(See figure 1.) The measure in fiqure 1 should not be confused with brand-commitment. It is not necessary that the consumer already have a brand in mind to care about; rather the measure taps a "mind-set" that the consumer brings to the brand-choice task.

This rating was obtained for each of the 15 products. Additionally, respondents were also asked to directly indicate whether they considered their "degree of caring" for each specified product as "high" or "low."

Functional/Expressive Type. First, the following introductory statement was provided. "People may not purchase these products for the same reason. They may buy some products mainly to fulfill psychological or emotional needs such as expressing their personal image or personality type. On the other hand, they may buy other products expecting, mainly, a satisfasctory performance of its physical function. For those products, they would be very concerned about whether the product works as it is supposed to." The respondents were then asked to assign the "high" involvement products (i.e., the products which they assigned to "high" category in the previous question) to one of the two categories: l) where functional needs are more important than psychological (or emotional) needs, and ii) where psychological or emotional needs are more important than functional needs. Suggestions for refinement of this scale in future research are made later.

Dependent Variables. Information Seeking was measured by the statement, "I normally seek information from various sources about this product before buying it"; *Brand Comparison* was measured by the statement: "I normally compare several brands of this product before making my selection." Each statement was rated on a 5 point scale (1 = not al all, 5 = very much so). To measure *Number of Features,* respondents were asked to write down the product features they would consider in their brand selection.

ANALYSIS

Measure Reliability and Validity.

Reliability Test. Reliability of the involvement (i.e., "degree of caring") measure was assessed through a test-retest procedure by eliciting the same measure (for the same 15 products) from the respondents after 3 months via a follow-up questionnaire. 147 of the 231 respondents returned the questionnaire in this second study. The reliability coefficients for individual products ranged between 0.41 and 0.70, all statistically significant ($p < 0.001$). The reliabilities are somewhat lower than desired, and would seem to be so due to the use of a single item measure.

Face Validity. Mean involvement scores (standard deviations) on the "degree of caring" scale for products, in the decreasing order were: automobile 6.32 (1.23), perfume 5.89 (1.61), music album 5.70 (1.80), detergent 5.60 (1.54), stereo 5.43 (1.79), headache remedy 5.29 (1.93), wine 4.88 (2.02), facial tissue 4.35 (1.86), jeans 4.30 (2.03), canned peas 4.14 (2.03), dry cell batteries 4.08 (1.82), salt 3.55 (2.17), light bulb 3.47 (1.73), pen 3.28 (1.88), and dry milk 2.96 (2.08). In relative terms, therefore, salt, light bulb, pen, dry milk, etc., were deemed by our respondents as low involvement products;

TABLE 1

TEST OF DIFFERENCES BETWEEN "LOW" AND "HIGH" INVOLVEMENT PRODUCT GROUPS ON THREE DEPENDENT VARIABLES (USING T-TEST PAIRS)

	Information seeking		Brand comparisons		Number of features used	
	Mean	s.d.	Mean	s.d.	Mean	s.d.
Low involvement	1.72	.66	2.01	.75	1.38	.40
High involvement	2.92	.78	3.23	.75	1.74	.59
p level	.001		.001		.001	

automobiles, stereos, perfume, headache remedies, etc., were considered high involvement products.

Convergent Validity. In another study, 138 consumers rated 12 products on the "degree of caring" measure and two other statements thought also to tap the involvement construct. These latter statements concerned "the importance of the right selection of the brand," and "concern with your selection outcome." The "degree of caring" measure correlated well with these two items: r=.75 and .67, respectively. (These results indicate convergent validity not in terms of Campbell and Fisk's Multitrait Multimethod procedure, but rather in that the employed measure correlated well with other items purported to measure the same concept.)

Criterion Validity. Three criterion variables (namely, information seeking, brand comparisons, and number of features used were analyzed with T-test (pairs) across "low" and "high" involvement product groups. (Products within each group may have varied from respondent to respondent. Products were placed in the "low" or "high" group according to the respondent-specific direct rating of the product on the "degree of caring" measure.) The results presented in Table 1 show that the "degree of caring" measure had implications, as expected, for the 3 criterion variables.

Validity Checks for Functional/Expressive Involvement Classification

Face Validity. Detergent, automobile, stereo, and headache remedy were assigned to the "functional category" by 99.5%, 90.9%, 86.3%, and 87.7% of the respondents. Perfume, music album, and wine were assigned to the expressive category by 85.5%, 83.2%, and 61.5% of the respondents, respectively. Jeans were assigned about equally to both categories.

Convergent Validity. A test of convergent validity for the *Type* of Involvement measure was furnished by data from the follow up study (mentioned earlier). In that study, Type of Involvement was measured using the same statement as in the main study. In addition, respondents were asked to rate each product with respect to the extent to which: a) the expected functional performance (Statement 'A') and b) "the type of person they were and what others might think of them" (Statement 'B') were the main considerations in their brand selection. If the Type of Involvement measure was validly answered, then the scores on Statement 'A' should be higher for product-person dyads (PPD's) categorized as functional than for product-person dyads categorized as expressive. The converse should be the case for scores on Statement 'B'. These expectations were borne out by the data. On Statement 'A', functional PPD's scored higher than did expressive PPD's (M = 4.62 and 3.90, respectively, t = 5.65, p<.001). On Statement 'B', Functional PPD's scored lower than did Expressive PPD's (M = 1.71 and 2.51 respectively, t = 10.31, p<.001).

Test of Hypotheses

From among the products assigned to "high" involvement category, two further categories were created:

- *Product-Person Dyad Group A (High Involvement Functional Group).* This consists of those products which were assigned by the respondents to the "Functional" category.

- *Product-Person Dyad Group B (High Involvement Expressive Group).* This consists of those products which were assigned by the respondent to the "Expressive" category.

For each of the two product-person dyad (PPD) groups identified above, we computed an average score for each respondent for the level of involvement measure and the three dependent measures. To

TABLE 2

REPEATED MEASURE ANOVA FOR VARIOUS DEPENDENT VARIABLES BETWEEN FUNCTIONALAND EXPRESSIVE PRODUCT GROUPS USING "LEVEL-OF-INVOLVEMENT" AS COVARIATE

	Extent of information seeking		Extent of brand comparisons		No. of features used	
	Functional product group	Expressive product group	Functional product group	Expressive product group	Functional product group	Expressive product group
Mean	3.11	2.88	3.43	3.23	1.90	1.63
S.D.	0.979	1.140	0.86	1.06	0.76	0.63
Sum of squares (d.f.)						
Between measures (treatment)	5.140 (1)		4.082 (1)		7.129 (1)	
Covariate	0.685 (1)		0.160 (1)		0.787 (1)	
Error	149.509 (182)		110.533 (182)		48.493 (182)	
Mean sum of square						
Treatment	5.140		4.082		7.129	
Covariate	0.685		0.160		0.787	
Error	0.821		0.607		0.263	
"F" statistic						
Treatment	6.26[b]		6.72[b]		27.05[a]	
Covariate	0.83		0.26		2.99	

[a]p < 0.01
[b]p < 0.05

illustrate, if for a particular respondent, PPD Group 'A' contained three products and PPD Group 'B' contained 5 products then, we summed up, for that person, the 3 individual product scores for Group 'A' and 5 individual product scores for Group 'B', on, say, "extent of information seeking" measure, and divided by 3 for PPD Group 'A' and by 5 for PPD Group 'B'. All subsequent analyses employ the average scores within a PPD group.

Note that specific products (and also their number) in the above groups may have differed from respondent to respondent. This procedure for creating the functional and expressive PPD's was employed to allow within-product individual variations. Pooling whatever products a respondent deemed functional and likewise pooling products that were deemed expressive was a preferred procedure to the alternative of performing a product by product analysis. This was because our hypotheses concern the conceptual categories of functional and expressive PPD groups, not about "concrete" products.

To test the hypotheses, repeated measure ANOVAs were run on each of the three dependent variables with PPD Groups 'A' and 'B' considered as replications. Although these groups were distinguished by the type of involvement, and although both groups were high on level of involvement, the precise magnitude or *level* of involvement could vary nonetheless. Therefore, level of involvement was used as a covariate.

The results furnished in Table 2 show that, as hypothesized, the extent of information seeking, the extent of brand comparisons, and the number of features used are more for functional than for expressive PPD groups. All these differences are statistically significant at $p < .01$. Notably, however, the covariate, viz., involvement, itself did not show statistical significance (See Table 2). These results are discussed below.

SUMMARY AND DISCUSSION

Based on respondent ratings, products were assigned to functional or expressive involvement categories. On the aggregate level, product assignments were congruent with intuitive expectations. Moreover, for products assigned to the functional group, expected functional performance was the dominant basis of brand choice; and, for expressive products, personality associations dominated.

We tested the functional/expressive distinction only for those products which the respondents classified as "high" on involvement. Our thinking presently is that because at the low level of involvement, consumers did not "care," it did not matter what type of involvement the consumer experienced. An alternative research design would be a 2x2 design with two levels of involvement and two types of involvement; one could then test for involvement magnitude X type interaction. This remains a task for future research.

In the present research, the level of involvement (used as a covariate in Table 2) did not have any statistical significance for the 3 information search variables. This result does not refute the effects of involvement over its entire range; it does show nonetheless, that in a fairly wide range (say, 4.30 for jeans, to 6.32 for auto) at the upper end, *not* the *level* of involvement but its *type* (functional/expressive) influences the information processing activity.

This finding is explainable in terms of other related ideas in the literature. Expressive products, as we employ this term here, do not as easily lend themselves to content or feature discriminations. When brands need to be assessed on personality or image associations, the evaluation is likely to be holistic (Zajonc 1980, Zajonc and Marcus 1982, Mittal 1983b, Holbrook and Hirschman 1982). It is therefore reasonable to expect reduced levels of information "seeking" and fewer brand features considered. As regards brand comparisons, although one *can* and may certainly compare several brands, the personality images are created entirely by marketer-communications or social communications. If a consumer finds a particular image appealing and self-congruent (e.g., Sirgy 1982), he/she would develop a liking, even enchantment with that brand (Hirschman and Holbrook 1982). The brand preferences can thus be developed by day to day exposure to product communications, making pre-choice comparisons quite superficial if not unnecessary.

Two probable counter-explanations must be addressed. First, it might be argued that there should be differences in the nature rather than in the number of features considered. For example, while a functionally involved tennis racket buyer would use product-based evaluative criteria, an expressively involved buyer might be concerned with such criteria as: Does my tennis hero John McEnroe use this brand? Or, would my teammates be impressed by my choice? Our point then would be that for expressive PPD's at least the product-based features will be used to a lesser degree. Even this limited assertion would have important implications. Moreover, product evaluations based upon considerations other than a product's intrinsic features will not require much explicit, episodic information acquisition; such appraisals will more likely emerge from everyday social observations.

Secondly, it may appear that expressive products (e.g., perfume) by nature have fewer features to consider and seek information about. Objectively, this is not true. Perfumes for example have ingredients, floral/herbal/woodsy/musk/spicy types of essences, "notes," "composition," "character," "intensity," "persistence," etc. (Cf. Jesse 1951). If consumers do not know or do not appraise these features, it is because they do not perceive them to be relevant to their goals in the product's purchase.

Most other research on involvement has been situated within a levels-of-involvement framework and has accordingly been focussed on effects due to magnitude differences in involvement (e.g., Petty, Cacioppo, and Schumann 1983; Beatty and Smith 1987). Laurent and Kapferer (1985) took a more inclusive view of the domain of involvement and did find hedonic and "sign" value aspects of involvement to be distinct from its "performance-risk-importance" aspects. They found further that the extensive decision processes were influenced more strongly by the risk-importance facet than by sign value or hedonic facets. Our results support this pattern of findings.

An important limitation of our research was the use of a direct self-report measure to classify products into functional or expressive PPD groups. A suggestion for future research is that these PPD groups may be created based upon respondent rating of the importance of a specified list of goals. These goals may be classified as predominantly functional or expressive by expert judges. Observations may be placed into functional or expressive categories depending on whether the importance scores summed and averaged across functional goals exceed the similar scores for expressive goals. Although our classification showed face validity, improved measures (multi-item, as for example in Zaichkowsky 1985, and also less direct) are no doubt desirable in replication studies.

Despite the use of single item measures (necessitated by our need to employ a large number of products) our data are clear in showing that the functional or expressive nature of involvement matters. Involvement is "caring," the opposite of nonchalance, so it is only logical that one asks what in the nature of products (more precisely, in the nature of product-person dyad) is that "caring" due to. Depending upon whether the orientation of one's caring is functional or expressive, one's pre-choice brand decision process would be accompanied by more *or* less information processing. Our results are corroborated by Park and Young's recent (1986) results where they found that "orienting" the subjects into a "cognitive" or "affective" mood influenced the subjects' processing of the information in an advertisement. Our results also provide a theoretical basis for understanding the efficacy of different advertising approaches. In a "quit-smoking" campaign, for example, the use of popular teenage model Brooke Shields would be expected to be more effective than a "harmful-effects" message for expressively involved teenagers. And the use of the "McDonald's and You" theme in McDonald's response to Burger King's comparative offensive a few years ago would be expected to influence consumers by orienting them into an expressive mode of involvement in the brand selection. These are, we believe, sufficient grounds for further study of the functional/expressive orientation of involvement with more refined measure development.

Conclusion

While the causal influence of *level* of involvement on information processing is not questioned, it seems oversimplistic to assume that higher involvement will always lead to more information seeking. Rather, whether a consumer deems a product as primarily functional or primarily expressive will be a significant moderator. In the case of expressive orientation of consumer involvement, the pre-choice information seeking that a consumer will engage in is likely to be less.

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Memory and Cuing Effects on Decision Framing

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ABSTRACT

This paper examines how advertising messages can influence the decision criteria people recall in decision framing. Decision framing occurs at the start of a decision episode. In framing, consumers "decide how to decide". One important framing activity is identifying decision criteria, typically from memory. We discuss a person's decision-framing schema and the process by which decision criteria are recalled from it. We propose that ads can influence recall of decision criteria through cuing the activation of the schema during ad processing. In addition, certain message strategies encourage selective retrieval of decision criteria, while others encourage associative retrieval.

INTRODUCTION

How do marketing messages influence the way consumers frame buying decisions? Framing refers to cognitive activities, conscious or automated, that structure a decision problem. In framing, consumers deal with five elements of the impending problem: 1) the products and 2) the product attributes (if any) to be considered; 3) the way attribute levels will be defined; 4) the decision-making procedure or heuristic to use: and 5) situational parameters to take into account. Framing occurs at the start of any decision process, and the initial framing can strongly influence the final buying decision.

"Frame change" processes have been largely ignored in persuasion research, which has focused instead on attitude change, i.e., how persuasion campaigns influence a person's product-specific beliefs and feelings. Frame change research deals with the process by which communications, decisionmaking experiences or decisionmaking environments influence any of the five framing activities cited earlier. Such research deepens our view of behavioral decisionmaking processes and of the ways in which marketing campaigns affect buying decisions.

In this paper, we study how advertising influences attribute saliences, i.e., which attributes are recalled as decision criteria during initial framing. We focus on overt persuasive attempts to influence attribute saliences, rather than on less direct interventions (e.g., coincidental overlaps among rival ad camapigns, Wright and Rip 1980, or external events that prime partricular buying goals, Bettman and Sujan 1987). We also focus on decisions in unfamiliar, complex product categories, in which the subset of attributes people consider may be especially subject to external influence.

We will first discuss the concept of a decision-framing schema and why cuing a framing schema is important in the frame change process. We then discuss factors that affect the relative salience of product attributes as decision criteria, and how various advertising messages may affect this.

THE IMPORTANCE OF CUING A DECISION-FRAMING SCHEMA

A decision-framing schema is a packet of procedural knowledge pertinent to framing activities. This includes knowledge about specific mental operations and larger decision heuristics that could be executed; knowledge about prior framings in the same or related product domains; and expectation-type knowledge about elements of the problem, e.g., about what types of products may be available or about relative attribute importances. A framing schema may exist for a particular product category (e.g., how to decide among fitness centers), at a more general level (e.g., how to decide among complex, risky products), or both.

This type of schema is distinct from a product category or brand knowledge schema, which contains content knowledge about a particular category's (brand's) perceived characteristics, one's utilities for those characteristics, one's global attitude toward the category (brand), etc.

We propose that changes in framing tendencies only occur when somone's decision-framing schema is activated in memory. In general, then, advertising messages will influence how someone frames a buying decision only if the person activates her framing schema while processing the message. Further, when people process ads they rarely activate their framing schema unless explicitly cued to do so. They are more likely to activate either a brand knowledge schema or an advertising schema, which help them evaluate the advertised brand or interpret ad executions and tactics. These are generally the message processing goals of most consumers. We doubt that people normally activate a framing schema when they encounter an ad because the task of deciding is not immediately salient or because they do not expect to learn much about decision framing from ads.

This theorizing leads to the hypothesis that *ads will have a greater influence on attribute saliences in framing when message content explicitly cues a framing schema than when there is no such cuing.* Cuing the framing schema means using language or images which draw attention to the concept "me, deciding among products like this" at the outset of ad exposure.

EXPECTED ATTRIBUTE IMPORTANCE AND MESSAGE STRATEGY

One factor that should affect selective retrieval of an attribute and hence its salience as a decision criteria is its expected decisionmaking importance. Expected decisionmaking importance is a person's a priori prediction about the probable importance of an attribute in an upcoming decision among brands in a product category. An attribute has high expected importance if a person expects that differences on that attribute among the products to be considered will be strong determinants of her final brand preferences.

We believe that expected importance is encoded in memory as a property of attributes in someone's decision-framing schema (an attribute of an attribute rather than an attribute of a product). We propose that this property guides selective recall in framing; attributes encoded as high in expected importance are recalled first, ceteris paribus. If someone expects to find minor differences among brands, or differences which evoke similar evaluative reactions, she attaches low expected importance to that attribute. If she expects to find attribute levels which she will evaluate quite differently, the attribute's expected importance is high.

When prior decisionmaking experience has not created clear expectations about attribute importances, marketing communications may exert strong influence on those expectations. Indirectly, ad campaigns may influence beliefs about the levels of an attribute offered by brands in the category or about the utilities consumers should place on those levels. These, in turn, can become inputs into consumers' own judgments of expected attribute importances.

We are concerned, however, with a more direct persuasion process. An advertiser can offer explicit coaching about attribute importance to increase the chance that a target attribute will be treated as an important decision criteria. This coaching should *explictly assert that a target attribute (TA) is important to consider because rival products differ substantially on that attribute in ways that will strongly influence a consumer's personal welfare.* We call this a Basic Attribute Importance message (Basic, for short).

The coaching in a Basic message will affect the target attribute's salience by influencing selective memory search during framing. However, memory retrieval in framing can also be affected by other factors. Associative network models of memory draw attention to the bonds connecting elements as an important influence on retrieval processes. We reasoned that message impact may be strongest when message content affects both selective recall and associative retrieval processes. So we studied the effects of a Basic coaching message in conjunction with attribute-to-attribute bondings.

We hypothesize that bonding a target attribute to an already salient attribute (ASA), in addition to coaching that the TA's expected importance is high, increases the TA's salience in framing more than coaching without this bonding. The bonding strategy is to assert that the ASA and the TA are both important and should both be considered in decisionmaking. This type of bonding message may overcome any interference and counterarguing effects which may undermine a Basic message.

Another type of bonding is between the target attribute and less salient attributes, which may act as decoys. The message might mention one or two attributes, which are not viewed as all that important, along with the TA. The inclusion of these other attributes may result in a partlist cuing effect, so that the salience of the ASA goes down and hence the relative salience of the TA goes up. This effect probably would not hold up over time, since it depends on the recent rehearsal of the part list.

ATTRIBUTE SALIENCE VS. ATTRIBUTE IMPORTANCE IN FRAMING

When someone self-frames a decision, she relies on recall, and our theorizing deals with factors that affect recall processes. A logical measurement, therefore, is free recall of attributes as decision criteria.

This is a different phenomenon from what is measured either by direct questions about attribute importance or by indices of actual attribute importance derived from conjoint analysis. In administering those measures, a researcher frames the decision problem for the respondent, rather than letting the respondent self-frame it. In asking someone to rate attribute importance on scales, the researcher names attributes for the respondent to consider. Likewise, in conducting conjoint analysis, a researcher presents respondents with product portfolios which explicitly name attributes to be considered. In both cases, the researcher begins by drawing attention to a group of attributes. Any between-attribute differences in salience that existed in people's minds due to ad exposure might be muted by this.

One possibility is that it uniformly eliminates any ad-induced salience differences because people all accept the researcher's framing and do not bother tapping their own framing schema. Another is that all audience members still do their own framing, asking themselves, "Of these attributes they've made me think about, which do I not want to use as my decision criteria?" If so, the prior attribute saliences will determine their responses. A third middle-ground possibility is that some people do one of these and some do the other, which in effect can mute the between-attribute differences due to ad exposure.

Our hypothesis was, therefore, that ad-induced differences in attribute salience which show up in self-framing measures may disappear or be weaker in a measure of actual attribute importance which names attributes at the outset. To test this, we took a conjoint analysis measure of actual attribute importance in addition to the more pertinent free recall measure of attribute importance.

SUMMARY

In summary, the theorizing suggests that ad messages which cue the decision-framing schema, present a basic message, or present an attribute-to-attribute bonding message may increase the salience of an attribute in the decision framing schema. We ran experiments in which Cuing and Message Strategy were manipulated, and attribute salience was measured (via free recall and conjoint analysis). The results were generally consistent with the hypotheses.

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The Patient Satisfaction Concept: A Review and Reconceptualization

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ABSTRACT

This paper briefly reviews the current state of the literature concerning the patient satisfaction concept and proposes a reconceptualization of this concept to guide future research. Issues pertaining to the conceptualization, measurement, and operationalization of the concept of patient satisfaction are reviewed. Based on this review, the paper calls for further development in this concept. More specifically, we argue that careful examination of questions along the lines of "what is the patient satisfied with?" in addition to "what is patient satisfaction?" can potentially afford greater insights into the focal phenomenon.

The purpose of this paper is to review the current state of the literature concerning the patient satisfaction concept, and to make a case for its reconceptualization. In particular, it is argued that for theoretical and empirical reasons it is appropriate to consider the notion that the patient satisfaction *concept* is a construct with multiple foci. According to the view discussed here, patient satisfaction is the result of a process of evaluation (and comparison) of the service obtained from an object (e.g., a physician) in the patient's health care system. The specific contribution of the paper stems from the recognition that the health care system is not a homogeneous entity. Rather, it is composed of multiple objects or constituencies, such as the physician, the hospital, and the insurance provider. This approach may represent a natural evolution of the patient satisfaction construct *from* a concept concerned with evaluation of *global* satisfaction to a more specific formulation that specifies *what* particular object in the health care system serves as the focus of patient evaluations.

This paper is organized around three parts. First, we review the patient satisfaction literature from conceptual, taxonomical and empirical perspectives. Next, we build the case for multiple foci of patient satisfaction evaluations. Finally, we discuss implications of the proposed approach to future research into patient satisfaction.

REVIEW OF THE LITERATURE

Conceptual Issues

Hulka and her associates attempted to undertake the initial steps in the conceptualization of the patient satisfaction concept (Hulka, Zyzanski, Cassel and Thompson 1970; Zyzanski, Hulka and Cassel 1974). These researchers defined "satisfaction" as the patient's "attitudes toward physicians and medical care." (p. 430; Hulka et al. 1970). More specifically, a composite index of an individual's evaluative judgements concerning the quality of medical care received from physicians, nurses and other relevant sources is hypothesized to represent the individual's level of "satisfaction". Within the patient satisfaction literature, this conceptual definition has been widely accepted (Wolinsky 1976; Hines et al. 1977; Doyle and Ware 1977; Ware et al. 1978; Locker and Dunt 1978).

More recent research has challenged this conceptual definition from at least three perspectives. The first perspective notes that the episode (or situation) is a major source of variation in "satisfaction" evaluations. Thus, it posits that patient satisfaction is better defined as an individual's evaluation of the quality of care in a *specific medical-care situation*; and not just as a global attitude aggregated across episodes. This argument is exemplified by a recent paper by Shore and Franks (1986). These researchers note that individual patient-physician encounters are "the basic unit of medical care" (p. 580) and, therefore, assessing satisfaction for "individual encounters may contribute to a fuller understanding of the nature of physician-patient relationship." Similar arguments have been advanced by Inui and Carter (1985).

Second, researchers in the consumer satisfaction literature take issue with the definition of satisfaction as a cognitively based evaluation of product/service attributes. Instead, these researchers contend that satisfaction is an emotional or affective response to a product or service use (or consumption) situation (cf. Oliver 1981). This position does not imply that consumers (or patients) do not make cognitive evaluations. Rather, it distinguishes both, from conceptual and empirical standpoints, between cognitive and affective evaluations. More specifically, cognitive evaluations are treated within the framework of (disconfirmed) expectations. By contrast, affective evaluations are posited as a distinct concept which results from the preceding cognitive evaluations. However, patient satisfaction researchers have argued that attribute based "satisfaction" judgements are more appropriate because they allow a more richer measure of patients' satisfaction level and identifies areas (i.e., attributes) which contribute to satisfying or dissatisfying experiences.

Third, Ross et al. (1987) argue that restricting patient satisfaction to perceptions of the "quality" of health care received is an "inherent weakness." These researchers support their position by noting that a segment of "healthy but unhappy" patients has been found in several empirical studies. Thus, Ross et al. suggest that the conceptualization of the patient satisfaction should be enlarged to include other evaluations (e.g., waiting time, costs, etc.) in addition to purely quality perceptions. Hulka and Zyzanski (1982) acknowledge this position and appear to support a more broader domain for the patient satisfaction concept. In particular, Ware, Davies-Avery and Stewart (1978) have attempted to categorize the various health care evaluations into eight distinct "dimensions."

Operational Issues

Several researchers have attempted to develop operational measures for the patient satisfaction concept. Hulka, Zyzanski, Cassel and Thompson (1970) proposed one of the earliest operationalization's; a forty-two item measure for assessing the three dimensions of the patient satisfaction concept. Of the three dimensions, only the personal quality dimension had an alternate forms reliability greater than 0.7. For the professional competence and the access dimensions the reliability was 0.63 and 0.43 respectively. When different samples were utilized, similar levels of reliability were found by Hulka and her associates. In particular, the access dimension yielded consistently poor values for consistency of responses.

Ware and Snyder (1975) proposed yet another operationalization for the patient satisfaction concept. The particular operational measure proposed had eight Likert items, and was conceptually designed to assess twenty-two dimensions of the satisfaction concept. Empirically, however, Ware and Snyder found support for four basic factors, namely, physician conduct, availability of service, continuity/convenience of care, and access to care.

More recently, Penchansky and Thomas (1981) provided an operational scale to measure the "access" component of satisfaction evaluations. These researchers posited that the access component itself is multi-dimensional. In particular, a sixteen item scale was proposed to measure five distinct dimensions, namely, availability, accessibility, accommodation, affordability, and acceptability. Using responses from a non-random sample of 287 respondents, Penchansky and Thomas found empirical evidence for the discriminant and construct validity of the proposed five dimensions of access.

Within the health care marketing literature, each of the preceding operationalizations have been utilized with some regularity. For instance, Tucker and Tucker (1985) report a study in which the operational measure proposed by Hulka et al. was incorporated. In a research to examine the sources of influence used in the selection of primary care providers, Sullivan (1984) utilized the operational measure proposed by Ware and his associates. Finally, an example of a study that used the Penchansky and Thomas scale is the research by Tucker and Tucker (1985).

In addition, some researchers have tended to develop their own measures of patient satisfaction. For instance, Scammon and Kennard (1983) attempted to assess respondent's evaluations of general and specific satisfaction using 26 seven point semantic differential items. Likewise, Andrus (1984) reports ten items used to measure consumer's satisfaction with the service that they received at the family practice office. Unlike the preceding three operationalizations, however, psychometric properties (e.g., reliability, factor analysis, discriminant/construct validity) for such indigenous scales are usually not available.

RECONCEPTUALIZING PATIENT SATISFACTION: A PROPOSAL

Two key points emerge from the preceding review of the patient satisfaction literature. First, considerable research attention has been directed toward the conceptualization and operationalization of the patient satisfaction concept. There appears to be growing consensus around the notion that patient satisfaction is a multi-dimensional (probably tripartite) evaluation of various aspects (quality and non-quality) of health care received in a specific episode. Second, much more research is needed to reconcile the diverse operationalizations and classifications schemas currently offered to conceptualize and measure patient satisfaction. What is needed is the systematic evaluation of the competing formulations so as to yield a generalizable, parsimonious, and empirically valid structure for patient satisfaction.

Although researchers have attempted to address questions along the lines of "What is patient satisfaction?", relatively less attention has been directed at issues such as "What is the patient satisfied with?" Consider, for instance, the eighty item measure proposed by Ware et al. Of the 80 items, 576 items pertain to satisfaction with a doctor, 4 utilize the hospital as the object of reference, another 4 concern medical insurance and the remaining 15 are general satisfaction items. By contrast, all of the 42 items in the Hulka et al. operationalization examine satisfaction with the doctor. Such inconsistencies underscore the importance of clearly identifying the object of evaluation inpatient satisfaction ratings.

It is a central thesis of this paper that patient satisfaction can be accurately understood as a collection of multiple satisfactions with various objects that comprise the health care system. In particular, we postulate that it would be useful for future research to: (a) identify the distinct objects (e.g., doctors, hospitals) that consumers perceive play a role in their health care; (b) operationalize the multi-dimensional concept of patient satisfaction at the level of the individual object; and (c) empirically examine the validity of this approach, that is, to investigate if satisfaction evaluations for the individual objects attain discriminant and construct validity.

Initially, at least three distinct objects that comprise the health care system can be identified; the physicians, the hospitals and the insurance providers. Organizationally, each of these objects represents a distinct constituency with its own goals and objectives. Although these objects work together to deliver medical care to individual patients, there is no guarantee that these constituencies have entirely common goals and objectives. For instance, the insurance provider may be interested in balancing the coverage with the premiums, the hospital in increasing the bed occupancy rate and the physician in the physical health of the patient. From the perspective of the patient, these objects also represents distinct individuals for interaction and communication. The patient probably interacts with an insurance agent in the process of obtaining health care, with the hospital nurses and administrators (e.g., for registration) for obtaining care from the hospital and with the physician himself/herself. These distinctions both, from an organizational and consumer interaction standpoint, lend credence to the multi-object multi-dimensional conceptualization for the patient satisfaction concept.

Nevertheless, more rigorous analysis is necessary to properly evaluate the proposed conceptualization. If supported, it would offer several directions for future research. We now turn to these issues.

FUTURE RESEARCH DIRECTIONS

A multi-object multi-dimensional perspective on patient satisfaction offers three main directions for future research. First, it posits that further development in the conceptualization and operationalization of the patient satisfaction concept is both, desirable and necessary. Issues that warrant the serious attention of researchers include: (a) identifying the distinct objects in the health care system; (b) resolving the inconsistencies in the classification schemas; (c) developing a taxonomical structure that is empirically valid; and (d) purifying (or enhancing) operational measures that assess the unique dimensions for each object. Considering the inherent complexity of the patient satisfaction concept, it seems *desirable* that such conceptual and measurement issues be addressed. This will facilitate better understanding of how patients evaluate the health care system. Such developmental work is also *necessary* if we are to understand why patients are satisfied (or dissatisfied) or what we can do to improve satisfaction levels. That is, our understanding of the sources and consequences of patient (dis) satisfaction would be more valid once issues pertaining to the conceptualization and measurement of the focal concept are satisfactorily addressed.

Second, the proposed conceptualization offers new avenues for investigation. Note much previous research has explored if patients are satisfied with their medical care. Instead of exploring such issues, the proposed conceptualization affords investigation of patient satisfaction levels with different objects in the health care system. Examples of such questions are: Are some patients more satisfied with their physicians than with their insurance providers? With what object are the patients most dissatisfied? Do the satisfaction levels for the various dimensions (i.e., expressive, instrumental and access) vary across objects (e.g., hospitals, physicians)? The presence of such differential perceptions raises new questions for further inquiry. That is, if such differential satisfaction levels indeed exist then explanations of such differences would entail investigations into the sources of patient satisfaction. In particular, sources (or causes) would need to be identified that not only explain why patients are satisfied but also why they are differentially satisfied with hospitals, physicians and insurance providers.

Finally, the multi-object perspective has the potential to offer more precise guidelines for managerial action. The measurement of the level of, and the object for satisfaction ratings allows targeting areas for more specific management programs to enhance customer satisfaction. Previous conceptualizations do not allow such precise targeting. For instance, the use of Ware et al.'s conceptualization may reveal that the major source of patient dissatisfaction is the "art of care", or in other words, the mode (not the content) in which the health care was delivered to the patient. It is clear that improving the mode of health care delivery would, in this hypothetical case, increase satisfaction. However, what is less clear is *who* should be the target for such changes? Should the nurses be trained to be more pleasant? or Should the physicians spend more time communicating with the patients? or Should the insurance agent be more customer oriented? The current operationalizations can not sort through these possibilities. By contrast, the proposed conceptualization for the patient satisfaction construct can address precisely such questions.

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Sense of Time Urgency and Consumer Well-Being: Testing Alternative Causal Models

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ABSTRACT

In this study, an experimental design was used to test a causal model that relates temporal orientation to attitude towards shopping, point-of-purchase information acquisition, and consumer well-being. The results indicate that sense of time urgency is negatively related to attitude towards shopping, information acquisition, and consumer well-being. In addition, LISREL VI was used to test alternative causal models. Four models fit the data when only the overall fit was considered. However, when the measurement model was considered separately, only two models fit the data.

INTRODUCTION

Time as a subject of inquiry has attracted thinkers over the ages, across cultures and disciplines, including a long list of contemporary social scientists in sociology, anthropology, and psychology (Fraser 1967; Cottle 1976; Doob 1971; Wessman 1973). Recently the treatment of time as a major variable in understanding consumer behavior has accelerated (Mattson 1982; Graham 1981).

Some philosophers view time as an external reality, others see it as a phenomenological internal reality. This division of beliefs focuses on the objective an subjective aspects of time respectively.

Research on time and consumer behavior, with few exceptions, has focused on objective/economic time. This perspective, however important, is only one of several possible perspectives. Wessman (1973) points out that the use of physical time in the description of human behavior is often artificial and misleading because it fails to account for the fact that human time estimates rarely match clock and calender time, and that societies and individuals demonstrate vast differences in their constructions and uses of time.

The study of psychological time takes the perspective that individuals vary in their time perception and time orientation. As observed by Wallace and Rubin (1960), time perception studies deal with extra-individual conditions where characteristics of stimuli are defined by the experimenter and involve relatively brief periods of time. While time orientation studies deal with intra-individual phenomena and span longer periods of time. Sense of time urgency is one aspect of this last category.

THEORETICAL BACKGROUND

Studies indicate that some people possess specific personality characteristics that make them more sensitive to time than others. The identification of a particular time attitude that was characterized as a "chronic, incessant struggle to achieve more and more in less and less time" surface in the clinical practice of two cardiologists who in the 1960's observed a characteristic "action-emotion complex" among patients who they had over a number of years. Although the initial focus of their research on cardiovascular disease was on the role of cholesterol and metabolic disturbances, they came to recognize a recurrent syndrome of overt "Type A" behaviors manifested by their patients who were predominantly male executives (Friedman and Rosenman 1959). A central component of this behavioral syndrome was the sense of time urgency. In subsequent papers, the time urgent Type A person was characterized as anxious to fill up time with purposeful goal-oriented behavior, to accelerate the rate of all activities, and to be excessively punctual and time oriented (Matthews 1982).

There has been increasing interest in fleshing out personality dimensions of pattern A behavior. Wessman (1973) studied the relationship between personality and subjective time and found out that people who feel harassed by, or lack control over time tended to be highly emotional, nervous, and apprehensive. In addition, they appear to have high degree of imaginative fantasy and self-absorption. On the other hand, people who feel relaxed displayed low emotionality, confidence, calmness, ability to cope with stress, and orientation to the here and now. The author stated that "characteristic ways of experiencing and utilizing time vary greatly among individuals, among dimensions that can be assessed and measured, and that these differences are meaningfully related to personality characteristics, p.103."

The importance of time urgency in Type A behavior was experimentally investigated. Bortner and Rosenman (1967) indicate that time-conscious people who work near maximum speed, have difficulty slowing down and overreact when required to slow down. Glass, Snyder and Hollis (1974) found that A's became more impatient and irritated when their activities are needlessly delayed by others.

The purpose of this research is to investigate the relationship between this sense of time urgency and consumer well-being. Generally, no empirical study tried to address this issue. Nevertheless, from the reviewed literature, a consensus has emerged that sense of time urgency is associated with negative rather than pleasant emotional states. As concluded by Calabresi and Cohen (1968), persons who are anxious and pressured about time tend to lack self-confidence and to express feelings of frustration. In Wessman's study (1973) time pressured persons are emotional, apprehensive, and nervous. In Glass, Snyder, and Hollis' study (1974), time pressured persons are likely to be impatient, and according to Type A literature, time pressured persons, though hard-driving and hard-working, do not usually derive enjoyment from what they do. This sense of time urgency may be related to consumer well-being. This relationship, however, may be mediated by attitude towards shopping and shopping behavior.

The concept of consumer well-being is widely diffused throughout the social sciences and throughout the public-policy formulating universe. Surnayi-Unger (1981) stated that "whatever the disciplinary frame reference may be, the questions underlying individual well-being are always: How well off is a person? In what sense is individual A 'better off' than individual B? And, in what sense is A better off under one set of circumstances than another?, p. 132."

Consumer well-being can be viewed and measured in different ways. At one extreme, it can be expressed in physical and biological terms; at the other extreme, it can be viewed as a state of happiness (Suranyi-Unger (1981). Whatever the view and definition may be, the concept is at the heart of the marketing concept since it reflects the extent to which the individual's wants are satisfied.

Consumer satisfaction, as a subjective indicator of well-being, is assumed to be the direct result of marketing activities. However, consumer satisfaction could also be related to the consumer instead of, or in addition to, marketplace limitations (Westbrook and Newman 1978).

It is commonly assumed that by doing a thorough search for information on a product prior to purchase an by doing careful comparison shopping, a consumer will make better decisions and then be more satisfied with the product purchased. Jacoby (1974) presented the results of two experiments designed to ascertain the influence of the amount of information available to a consumer on his/her ability to make a correct choice. The authors also suggested that satisfaction may be related to purchase decision activity. This and other studies found that feelings of satisfaction with brand choice decisions increased as respondents were exposed to greater amounts of prepurchase information. Gardozo (1965) for example, found that feelings of satisfaction with a chosen product were positively related to the effort expanded by the individual in making the choice.

Westbrook and Newman (1978) found that dissatisfaction is inversely related to the number of retail stores visited, consultation of neutral information sources such as Consumer Reports, and asking advice from personal sources such as friends, neighbors, and relatives.

Hendrix (1979) stated that "how consumers spend their time is determined by factors other than demographic and economic variables , p.35." The author called these factors antecedents and identified temporal orientation as one of them.

One of the major theories dealing with the determinants of consumers' search activities is the "economics of information". This theory is used extensively by economists (Stingler 1961). Its basic argument is that consumers will search as long as the marginal gains from this activity are higher than the marginal costs. Hornik (1984) pointed out that even the use of economic time to explain buying behavior implies some recognition of "psychological time". He stated that "individual differences occur because consumers differ in their value of time, which is though to be subjectively valued according to the opportunity cost rule, p.20."

Consumers can be seen to vary greatly in the amount of time they are willing and able to devote to the marketplace (Strober and Weinberg 1980; Jacoby 1974; Bettman 1979; McCall 1977). McGrath and Rotchford (1983) pointed out that individuals in either relaxed or harried situation can either decrease or increase, respectively, the number of activities to be performed and/or the time requirements associated with those activities.

An important branch of research concerns itself with shopping orientation. The aim is to develop a typology of shoppers, using time devoted to the act of shopping and the enjoyment derived from the activity as classification criteria. Jacoby, Szybillo, and Berning (1976) pointed out that for some people shopping may be a very enjoyable use of time without respect to the purchase of goods or services. Bellenger, Robertson, and Greenberg (1977) suggested that shoppers who value convenience exhibit a strong negative interest in shopping as a leisure activity. Tatzel (1982) described the apathetic consumer as one who does not like to shop and wants to get through the task with minimum time and efforts and cares more about convenience than price. Bellenger and Korgaonkar (1980) stated that recreational shopping and information seeking are closely associated. Beathy and Smith (1987) viewed attitude towards shopping as an alternative construct, combining the individual's beliefs about shopping benefits under the particular decision task examined. The authors found that attitude towards shopping has a great impact on total search.

Marketing literature on negative shopping attitudes suggests a relationship to a larger set of personality traits. Tatzel (1982) noted that shopping has anxiety-producing aspects, including coping with crowds and salespeople. McNeal (1985) suggested that both neurotics and antishoppers portray a set of negative traits. More specifically, low self-esteem, distrust, feelings of being threatened, rigid attitudes and pessimistic outlooks. Some of these characteristics are found to be related to a sense of time urgency (Calabresi and Cohen 1968; Wessman 1973).

The Proposed Model

Based on the previous literature review, a causal model that relates sense of time urgency and attitude towards shopping to point-of-purchase information acquisition and consumer well-being is proposed (Model 1, Figure 1). This causal model is based on the following propositions:

1. Sense of time urgency is negatively related to attitude towards shopping.

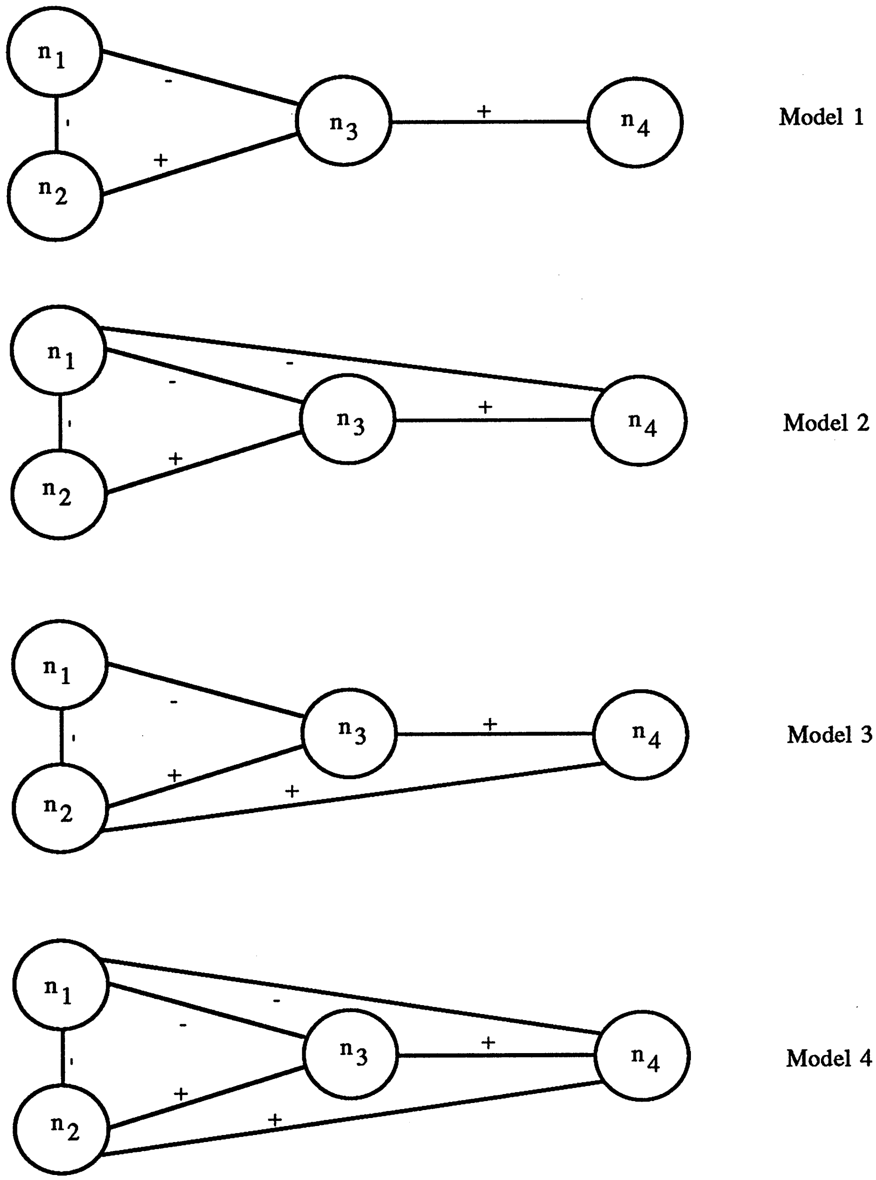
2. Sense of time urgency is negatively related to information acquisition.

3. Attitude towards shopping is positively related to information acquisition.

4. Information acquisition is positively related to consumer well-being.

FIGURE (1)

ALTERNATIVE CAUSAL MODELS



n_1 = Sense of time urgency
n_2 = Attitude towards shopping
n_3 = Information acquisition
n_4 = Consumer well-being

THE STUDY

Different pre-tests were undertaken to select the items to be included in sense of time urgency and attitude towards shopping scales, to select the two experimental products, to identify the evaluative criteria and the weights given to them by consumers, and to test familiarity with the two products selected for the study. Coefficient alpha was used to assess the reliability of the two scales (Table 1). In addition LISREL VI was used to fit one-factor confirmatory model. The results indicate unidimensionality ($p > .05$).

To test the causal model, a 350 female heads of household were contacted in person. The subjects represented a wide array of demographic and socioeconomic backgrounds. A total of 320 respondents completed the pre-experimental questionnaire that included sense of time urgency scale and demographic characteristics. From a total of 309 valid questionnaires, 80 respondents were selected to participate in the experiment; 40 of them scored high on sense of time urgency scale and the other 40 scored low.

Three weeks after completing the pre-experimental questionnaire, these 80 respondents were randomly assigned to one of the four experimental situations which combined two products (a pair of dressy shoes/dinnerware) and two decision times (two minutes/no time constraints). Subjects were presented with an information board of the type used in previous studies. Ten hypothetical brands of shoes or dinnerware were presented to the subject along with 20 different attributes that resulted form the pretest.

To avoid task complexity, each information dimension was simplified so that only a single bit would be required to determine the specific value involved. To avoid order bias, both brands and attributes were rotated. The information board was explained to the subject by the interviewer. Subjects were told that they could take information from anywhere, in any order, as much or as little as they like. Also they were told that they can keep the acquired information with them until they make their decisions or stopped after two minutes.

In order to measure the specific attitude towards shopping for either a new pair of shoes or dinnerware, each subject was presented with the eight-item scale that had passed the reliability test right before the experiment. Immediately after the experiment, subjects were asked to indicate their satisfaction with the choice they have just made.

ANALYSIS

In order to test the hypothesized causal model, LISREL VI was used. Table 2 indicates the correlation matrix. As shown in Table 3, Chi-Square, Goodness of Index (GFI), Adjusted Goodness of Fit Index (AGFI), and Root Mean Square Residual (RMR) indicate very good fit. However, when the average variance extracted was used to test discriminant validity, there was a problem. As it is indicated in Table 3, for the third and fourth constructs, the shared variance for the specific construct is less than the variance due to another construct (.685 and .778 are less than 1.228)

There are other plausible alternative models (Figure 1) that are conceptually consistent with the original model. Fornell (1983) stated that any modifications in the original model should be based on a substantive theory. The literature review indicates that lack of confidence, frustration, speed, anxiety, and impatience are major traits for those persons who seem to be rushed and pressured for time (Friedman and Rosenman 1959; Wessman 1973; Calabresi and Cohen 1968), and for those persons who dislike shopping (Tatzel 1982; McNeal 1985).

Table 3 summarizes the results of LISREL analysis. As shown in the table, the overall fit as it is measured with X^2, GFI, AGFI, and RMR, is very high for the four alternative models. However only two of them (Model 3 and Model 4) satisfy the requirement for discriminant validity. Comparing LISREL estimates for these two competing models indicate that Model 3 is better than Model 4 since the decrease in X^2 is only .69 for one df.

CONCLUSIONS AND IMPLICATIONS

This study has certain limitations. The sample is relatively small and consists of females only, the experimental setting was artificial, and the brands used in the experiment were hypothetical. Nevertheless, the results are generally positive. The results of the experiment indicate that consumers who feel rushed and pressured tend to dislike shopping and acquire less information which might in turns affect their well-being.

Much has been written and said about the 'leisure Society' in U.S. Yet many people feel rushed and pressured for time. Undoubtedly, understanding how this feeling might affect consumer behavior will help us in making decisions regarding market segmentation and marketing mix. For example, the results of this study suggest that temporal orientation (Harried/Relaxed)might be used as a basis of marketing segmentation.

To conclude this paper, the following recommendations are worthwhile;

1. Since shopping is a time consuming activity, it is important to consider consumers' temporal orientation. It seems that some consumers are harried and others are relaxed.

2. The same causal model(s) can be tested using different methods and different operationalizations. In this study a lab experiment was used and information acquisition was viewed from a point-of-purchase perspective. Replication is worthwhile using different methods and different operationalizations to see if the same results can be reached (ongoing research).

3. Using LISREL as an analytical technique can be very misleading. Unless there is a very good theory, substantive and measurement, LISREL may not be the appropriate analytical technique. Reviewing the literature indicates that most researchers report only the model's overall fit. However, it is equally important to

TABLE (1)

DEFINITIONS AND OPERATIONALIZATIONS OF THE FOUR CONSTRUCTS

Concept	Definition	Operationalization
1. Sense of time Urgency[a]	Inner feelings of being rushed and pressured, scattered, dis-organized, and running out of time	1. I often feel that time spent sleeping is wasted time. 2. I try to save minutes during the day by rushing. 3. I find waiting in line, even for a short time, very annoying. 4. I get almost panicky when I don't have enough time. 5. It upsets me when I have to postpone things I planned. 6. I am almost never bored.[b] 7. I become impatient with delays and interruptions. 8. I put aside my work and relax when I feel like it.[b] 9. I find myself speeding up the car to get through the yellow lights. 10. I don't like to stand in line at a restaurant even though it is one of my favorite eating places. 11. I have tendency to talk quickly. 12. I have a tendency to hasten conversations. 13. I feel guilty if I'm relaxing. 14. I seem to be more active than most of my friends. 15. I feel that to wait in line at a supermarket, movie theater, or a bank is not at all that bad.[b] 16. When waiting in a long line at the bank, I usually become irritated.
2. Attitude towards shopping[c]	Predispositional react in a favorable or unfavorable towards the act of shopping[d]	1. I like to shop in new shopping stores and centers as soon as I hear about them. 2. I like to spend time browsing through stores without buying anything in particular. 3. I do not enjoy shopping.[b]

TABLE (1) CONT.

Concept	Definition	Operationalization
		4. The quicker I get my shopping, done, the better.[b]
		5. I like to continue shopping after making a purchase.
		6. If I have one day off, the first thing that would come to my mind is shopping.
		7. When I am bored, I go shopping.
		8. I derive my pleasure from the act of shopping rather than the products themselves.
3. Shopping behavior	Point-of purchase information acquisition	1. Number of brands considered.
		2. Total number of informational cues.
4. Consumer well-being	The degree to which a consumer obtains the greatest possible utility from the choice.	1. Satisfaction with the choice.
		2. Closeness to the best choice.[d]
4. Consumer well-being	The degree to which a consumer obtains the greatest possible utility from the choice.	1. Satisfaction with the choice.
		2. Closeness to the best choice.[d]

[a] Coefficient Alpha=.84

[b] The scores of these items were reversed

[c] Coefficient ALpha=.76

[d] In order to measure closeness the best choice, the ten hypothetical brands were ranked using the following formula:

$$R_a = \sum_{i-1}^{k} \sum_{j-1}^{n} (w_{ij}/n)$$

where;

i=Specific attitude.
k=Number of attributes.
w_{ij}=The weight given to attribute i by subject j.
n=The pretest sample (n-118)
R_a=The rank of the selected brand (the higher the R_a, the better the rank).

TABLE (2)

CORRELATION MATRIX

	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	X_1	X_2
Y_1	1.0							
Y_2	.515	1.0						
Y_3	.405	.676	1.0					
Y_4	.393	.650	.715	1.0				
Y_5	.477	.717	.737	.651	1.0			
Y_6	.347	.677	.699	.594	.735	1.0		
X_1	.106	.137	.094	.109	-.034	.029	1.0	
X_2	.075	.380	.571	.531	.503	.409	0.0	1.0

Y_1 - Sense of time urgency (16 items, composite measurement)
Y_2 - Attitude towards shopping (8 items, composite measurement)
Y_3 - Number of brands
Y_4 - Total number of informational cues
Y_5 - Satisfaction
Y_6 - Closeness to the best choice
X_1 - First experimental manipulation (Product)
X_2 - Second experimental manipulation (Time constraints)

report the analysis of measurement model. Undoubtedly, a good theory will help solving the problem of alternative explanations, and good measures will guide against interpretational confounding. The use and abuse of LISREL is a subject of ongoing research.

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TABLE (3)

LISREL ESTIMATES: A COMPARISON AMONG FOUR RIVAL MODELS

		Model (1)	Model (2)	Model (3)	Model (4)
RELIABILITIES:					
1. Indicators	Y_1	1.0[a]	1.0[a]	1.0[a]	1.0[a]
	Y_2	1.0[a]	1.0[a]	1.0[a]	1.0[a]
	Y_3	.742	.744	.777	.783
	Y_4	.627	.629	.650	.653
	Y_5	.800	.801	.795	.799
	Y_6	.675	.674	.679	.676
2. Constructs					
	n_1	1.0[a]	1.0[a]	1.0[a]	1.0[a]
	n_2	1.0[a]	1.0[a]	1.0[a]	1.0[a]
	n_3	.854	.814	.832	.838
	n_4	.875	.848	.848	.861
CONVERGENT VALIDITY					
	n_1	1.0[a]	1.0[a]	1.0[a]	1.0[a]
	n_2	1.0[a]	1.0[a]	1.0[a]	1.0[a]
	n_3	.685	.684	.712	.722
	n_4	.778	.736	.737	.726
DISCRIMINANT VALIDITY					
	n_1	1>.230	1>.230	1>.230	1>.230
		1>.019	1>.018	1>.024	1>.020
			1>.0002		1>.002
	n_2	1>.230	1>.230	1>.230	1>.230
		1>.312	1>.235	1>.204	1>.215
				1>.037	1>.040
	n_3	.685<	.684<	.712>	.722>
		1.228	1.188	.024	.020
		.685>	.684>	.712>	.722>
		.019	.018	.209	.215
		.685>	.684>	.712>	.722>
		.230	.235	.037	.572
	n_4	.778<	.736<	.737>	.726>
		1.228	1.188	.037	.002
			.736>	.737>	.726>
			.002	.654	.040
					.726>
					.572
SQUARE MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS					
	n_1	.017	.017	.017	.017
	n_2	.390	.390	.390	.390
	n_3	.829	.826	.780	.771
	n_4	.947	.943	.906	.898

TABLE (3) CONT.

	Model (1)	Model (2)	Model (3)	Model (4)
TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATION	.716	.703	.605	.591
GOODNESS-OF-FIT				
X^2	6.27	6.24	4.92	4.23
df	11	10	10	9
X^2/df	0.57	0.62	0.49	0.47
p	0.855	.0795	0.893	0.857
GFI	0.981	0.981	0.985	0.986
AGFI	0.939	0.933	0.946	0.942
RMR	0.018	0.018	0.017	0.017

[a] One indicator, no measurement error

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An Holistic Approach to Household Management of Well Being: A Thick Description

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ABSTRACT

This pilot study of ten families examined the underlying motivations, factors, and processes involved in family management of well-being. In-depth interviews aimed at theory generation were administered. In examining the responses, an holistic approach to family well-being emerged. Families conceptualize the construct of overall well-being as being comprised of the interrelated dimensions of physical health, mental health, and material health. Hypotheses and further research questions are offered based on the analysis of this study.

BACKGROUND AND PURPOSE OF STUDY

On the whole, consumer behavior research studying family health behaviors has been limited. With the increasing American concern for health enhancement, the time is ripe for a critical examination of how consumers view preventive and curative health decisions. The household level of aggregation is chosen because most health behaviors necessitate the adoption of various family member roles in the process of choosing and engaging in preventive or acute care actions. Individual decisions, choices, and purchases pertaining to health are at least partially determined by the connectedness of the family network (Heisley and Holmes, 1987).

In order to understand the manner in which families manage their members' health, an in depth, "thick description" (Geertz, 1973) interview was conducted with the husband and wife dyad of ten households. Health issues are considered to be subsumed by the broader construct of well-being, a distinction drawn in earlier conceptualizations (c.f. Wright 1982; House 1986; Abbey and Andrews 1986; Pratt 1976). Therefore, the open-ended questions referred to "well-being" issues that each family manages to varying degrees. We were interested in all aspects of daily life which the participants felt influenced their levels of well-being. Of special interest was the role of materialism on family well-being, a relationship which some consumer researchers are beginning to systematically study (Belk 1985, 1984; Belk and Zhou 1987; Richins 1987).

PRIOR RESEARCH ON WELL-BEING

Most family role research has investigated tasks and decisions of non-health behaviors such as home financial management, food shopping (not focusing on nutrition), durable purchases, and child care. However, one study did explicitly examine the impact of gender role changes on one aspect of household health behavior. Green and Cunningham (1975) studied the impact that sex role changes have on family purchasing roles. One decision variable considered was the selection of a family doctor. They found that the wife was far more likely to handle this family health decision than the husband or a joint decision. Furthermore, wives possessing modern gender role perceptions were more likely to select the family doctor than wives holding a traditional gender role orientation. The significance of this study is the dominant role wives perform in this aspect of health behavior. Similar decisions related to physical well-being, such as selecting a health plan or choosing a hospital can be hypothesized to be largely within the wife's domain, or role expectation.

While dominant theories in consumer socialization have centered on the goal-oriented skills necessary to be good consumers (O'Guinn and Faber, 1987), the consumer socialization framework also encompasses dysfunctional relationships among family socialization agents. In his seminal review of household decision making, Davis (1976) produced a conceptualization of various strategies family members use to attain their shared or unshared objectives. Four of the strategies are especially relevant to decision making in the health products context. The strategies, or processes, are: being coerced, coalition formation, accepting the family's specialist/expert recommendation, and group problem solving. All four strategies are unique to household decision making.

Coercion, or forcing an individual to unwillingly perform a behavior, is most frequently encountered when children are directed by their parents to act in a certain manner to maintain prescribed health standards. Common examples include exhortations to "eat your vegetables," "brush your teeth," and "go to bed," all substantiated with implicit or explicit threats. Coalition formation occurs when a majority of family members implore an individual or minority to join the majority in their choice. For example, the lone smoker in the household may face extreme pressure to provide a smoke-free environment for the other family members. The group problem solving approach assumes multiple inputs from various household members will lead to a better decision regarding a health behavior than an individual could independently achieve. An example would be buying fluoridated bottled water for the home, in which family members voice their preferences as to taste and dental benefits.

Some household members often adopt a role as "expert" or "specialist"and the concomitant authority to prescribe health practices for other members. In this research, it is hypothesized that wife-mothers are more likely to be regarded as health "experts" than wives without children. Holding primary responsibility for the physical care of a child enhances the acquisition of health expertise. This proposition is based on the work of Litman (1971) in which the wife-mother was found to play the primary role of family diagnostician and decider of health services utilization. Wives without children may still be considered the family health expert, but the experience of seeking medical care resulting from childbirth rapidly increases the wife-mother's expert standing in the family.

Barber and Venkatraman (1985) suggest that the selection of a physician deserves more attention by marketers because of the serious implications of patient satisfaction or dissatisfaction. Patient satisfaction has been shown to enhance patients' psychological trust, physical well-being, compliance, and utilization of medical care. Utilization is influenced by post-purchase behavior such as repeat purchase and word-of-mouth. Conversely, patient dissatisfaction has been found to encourage doctor shopping and malpractice claims. Appropriate physician-patient communication was found to influence patient satisfaction (and continued enrollment) in a health maintenance organization (Fincham and Wertheimer, 1986). Repeat purchase and word-of-mouth behaviors (Barber and Venkatraman, 1985) directly influence the entire household because many products and services in the health care arena are based upon "family purchases." Just one disgruntled household member may seek to initiate a different purchase choice, which encompasses the entire family.

In stark contrast, the theoretical and empirical work (pertaining to family health behaviors) in other social science disciplines is richer and more eclectic. Hochbaum (1958), Kasl and Cobb (1966), and Rosenstock (1974) have developed a social-psychological model known as the Health Belief Model (HBM). The model has been somewhat successful at predicting a consumer's utilization of provider services (curative care), but has had limited success predicting preventive actions taken by family members (Langlie, 1977). Investigators in the health services field have incorporated the health locus of control variable as a modifying variable in the HBM (c.f. Lindsay-Reid and Osborn 1980; Seeman and Seeman 1983). In sum, the HBM attributes preventive and curative health behaviors to an individual's concern with health, the perceived effectiveness and cost of the action, and the individual's perceived control over his/her health.

An alternative explanation for family members engaging in health-promoting behaviors is based on a concern with physical appearance. Hayes and Ross (1987) propose that some types of healthful behaviors are practiced because people are concerned with their visible, physical appearance as much as with their health. Their survey results, using eating habits as the dependent variable, showed that most people (across all age segments) seem to be motivated by looking good at least as much as by maintaining good health.

When examining overall well-being, the role of materialism assumes a prominent position with the nonmaterialistic elements. There are some indications that heightened materialism may produce a deleterious effect on an individual's composite well-being. Material well-being may not operate in a complementary capacity with the other components of well-being. Belk (1985) cites studies in which higher materialism is associated with lower feelings of happiness and overall well-being. Such results imply that psychological well-being and other components of well-being may be adversely affected by aspirations for material goods and services. Adaptation theory provides a possible explanation for this negative relationship between material and overall well-being (Richins, 1987). Individuals adapt to a certain level of material comfort. Once that level is possessed for a period of time, the expectation level rises again, creating a gap between actual and desired material levels. This gap results in a state of continual dissatisfaction, which negatively impacts overall well-being.

Although the materialistic component of well-being is viewed differently by various researchers, the bulk of consumer behavior research has focused on material well-being, as opposed to the non-materialistic components of well-being. Alternatively, this disparate emphasis with material well-being could be considered a disproportionate focus on product satisfaction. Product satisfaction is quite different (both more narrow and utilitarian) than the concept of human well-being. While the consumption of many products affects non-materialistic elements of well-being, there has been relatively less research emphasis in this area. Similarly, when comparing research emphases on the individual consumer versus the household consumption unit, the major focus has been on the individual (Davis, 1976; Heisley and Holmes, 1987). Figure 1 summarizes the comparative research emphasis in the marketing discipline in relation to the dimensions of well-being and unit of analysis.

There is a new emphasis on non-material well-being among a group of phenomenologically oriented consumer researchers (e.g. Morris Holbrook, Elizabeth Hirschman, Russell Belk). Their current efforts, as part of the postpositivistic movement, attempt to broaden consumer behavior research by incorporating humanistic constructs from the liberal arts. Holbrook (1987) has coined the phrase "new wave" to describe this research. The significance of the new wave research to this paper is the increasing acceptance of humanistic, multidisciplinary explanations of consumer phenomena. The right side of Figure 1 is increasingly recognized as important grounds for understanding consumer motivations. The goal of this paper is to widen the knowledge domain of consumer behavior by describing the salient well-being issues and patterns as reported by the families in this pilot study.

RESEARCH OBJECTIVES

Based on the preceding discussion, the following research questions were addressed in this pilot study.

1. What are the most critical issues which impact a family's well-being?

FIGURE 1

		Consumption Focus	
		Material Well-Being (Product Satisfaction)	Physical/Mental/ Spiritual Well-Being
Unit of Analysis	Individual	High level of emphasis	Low level of emphasis
	Household	Low level of emphasis	Very low level of emphasis

2. How does the family conceptualize the well-being construct? What are dimensions or components of overall well-being?

3. Does household well-being differ from the sum of the individual members' well-being?

4. Which family members are experts in what areas of health, and how do they evaluate other family members' level of well-being?

5. Why do various family members engage in health behaviors (preventive or curative)? Which behaviors are considered preventive actions?

METHODOLOGY

Open-ended questions were administered to ten families, eight of which had either children or stepchildren. Interviews were conducted in family homes, work sites, and a restaurant. A judgment sampling procedure was used, producing a sample of families heterogeneous in terms of age, stage in the family life cycle, ethnicity, and religious affiliations, and location within the western state. Most families were middle class with total household income over $50,000. The length of the interviews ranged from 90 minutes to five hours, with an average length of two hours.

The purpose of the study was to generate theories, insights, and hypotheses which will be incorporated in a larger study aimed at more specific well-being behaviors. "Thick" description does not lend itself to summary statistics and analyses which typify quantitative studies (Belk et al. 1988). It does provide an excellent vehicle for gaining significant insights before launching a larger, theory testing study (Bonoma, 1985). Because of the open-ended nature of this study, we had no a priori hypotheses to test, but were guided by the general social science perspectives delineated above. Respondents were encouraged to provide any comments relating to family well-being, either as a result of an interviewer's question or otherwise. Specific behavioral questions were also asked in the areas of preventive activities, exercise, diet, medical care, and risk-taking behaviors. While numerous patterns, themes, and relationships emerged from our study, we will devote the majority of our results analyses to the issue of how families conceptualize the construct of well-being, and consequently manage well-being activities. With each succeeding interview, it became clear that an holistic approach is needed to understand the complex, multifaceted construct of family well-being.

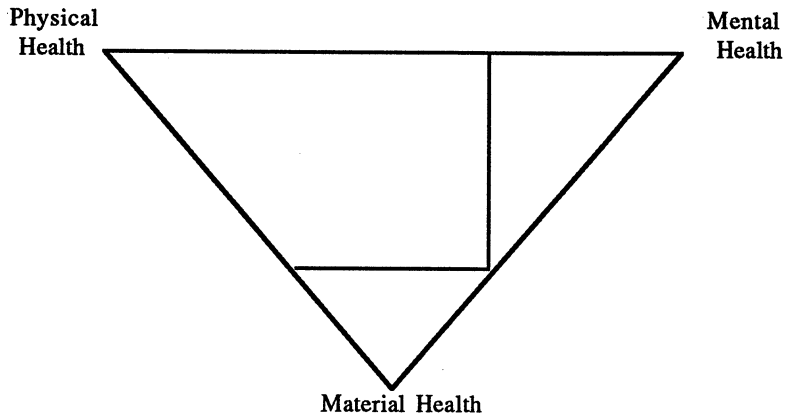
RESULTS-AN HOLISTIC APPROACH

The family members interviewed consistently regard well-being as a tripartite concept. The triad consists of physical health, mental health, and material health (see Figure 2). Strategies, issues, tradeoffs, and themes pertaining to each of the three dimensions are summarized in the balance of this article. Divisions of the area of the triangle in Figure 2 are based upon the families' rank ordering of importance attached to each subcomponent of well-being. A discussion of the interrelated nature of these components is provided after each component is evaluated.

PHYSICAL HEALTH

As previously stated, most explanations for preventive health behavior focus on health beliefs (Rosenstock 1974), locus of control (Seeman and Seeman 1983), or social concerns for physical appearance (Hayes and Ross 1987). Our research in the family context disclosed another important determinant for protective health actions. Parents instill beliefs in their children concerning the efficacy of preventive actions. They then feel obligated as responsible parents for proper child habit formation during the formative years. Interestingly, children seem to accept such guidelines as "law," and ironically become role models for their parents. Families noted this phenomenon in areas of seat belt usage, snacking, and dental (flossing, fluoridation) behaviors. In fact, the parents feel guilty and are often ridiculed by their children for parental deviations

FIGURE 2



(e.g. clandestine snacking) from their established household guidelines. Therefore, the notion of "practicing what one preaches" seems to be an important motivation for many preventive health behaviors practiced by parents.

Risk-taking behaviors (e.g. skydiving, owning firearms, smoking) among adults are engaged in less often with the addition of children to the home. Parents feel a heightened responsibility to reduce life-threatening activities or behaviors for the benefit of the other family members. A dominant theme emerging is the ambivalence parents' experience in establishing allowable risk-taking practices for their children. One father reluctantly allowed his 11 year-old son to bicycle along a busy highway, an action precipitated by his son's claims of "dad's fanaticism about danger." We label this theme as the overprotective versus nurturance dilemma. In attempting to understand the rationale for engaging in certain health-impinging behaviors, attention should be given to the parent-dyad socialization process, as reviewed by Moschis (1987).

In exercising activities, men appear to be motivated to exercise mainly by the intrinsic enjoyment of the activity. A major inhibitor to husband-wife coparticipant exercising is the disparate skill levels between partners. As proposed by Hayes and Ross (1987), we found wives are spurred to exercise more so by concerns for physical appearance, while both sexes seem equally knowledgeable and desirous of the long term health benefits. Although exercise is considered consequential to physical health, dietary habits were considered the most critical contributor to physical well-being. Most households exhibit severe skepticism in regards to new food products, or new uses for established products. A recurring criticism from the families is the premature marketing of products before satisfactory safety testing is established. This theme of natural versus artificial has led to altered consumer behaviors such as closer examination of ingredient/nutrition breakdowns and decreased reliance on the popular media for dietary information.

MENTAL HEALTH

In explicating the nature of family well-being, the theme of family time versus time alone was evinced. In most families, at least one parent was considered a borderline or full-fledged "workaholic." In such situations, the other spouse has assumed the responsibility to coordinate family members' schedules and activities to maintain the necessary amount of family time. Furthermore, the other spouse typically monitors the perceived need for family time among the children and workaholic spouse. The families disclosed that many well-being problems are caused by lack of shared family time. Again, an alternative hypothesis suggesting the basis for some exercise activities lies in the perceived need for maintenance level family time, with physical benefits of secondary importance.

Regardless of traditional or modern household role structures (Scanzoni 1977), the husband/father emerged as the family expert in the area of mental health (while wife/mothers were the physical health experts). Reported activities which fathers engage in to maintain desired mental health levels include counseling, guidance, and mediation. In assessing their childrens' overall well-being, the dominant indicator is the degree of "being quiet," which often signifies an internalization of personal problems. This quietness indicator is also utilized the most by spouses in evaluation of their partner. Rising stress levels have precipitated major adjustments (e.g. moving out of urban area, occupation change) designed to elevate the entire family's well-being, even in the face of diminished well-being for a given individual in the family.

MATERIAL HEALTH

The importance of material well-being on overall well-being differed among families largely by the stage of the family life cycle. Young families with relatively more children placed large importance on material wealth impacting the family's well-being, in the sense that parents feel responsible to provide a certain level of material comfort for their children. Comments such as "giving our kids the best start possible" were frequently given. The overriding theme was one of debt avoidance, and being content with "enough to get by on." Parents feel great concern that they and their childrens' lives will be controlled by financial or (indirectly) employing institutions. Interestingly, several families indicated that the refrigerator content is their primary indicator of material well-being for a given month. We found that there is an existence and awareness of an income-food choice relationship.

CONCLUSION

In constructing an interpretation, based on our thick description study as to how families conceptualize and manage well-being, we observed that it is inappropriate to examine one dimension (e.g. just physical health) outside of the context of the other dimensions. Families simultaneously balance and consider the three reported dimensions, at least on an implicit level. Physical health is considered an enabling (or necessary) condition which makes it possible for the family to attain desired emotional and material lifestyles. Because of this conceptualization, we have partitioned the relative areas of Figure 2 on the basis of their contribution to overall well-being (the entire area of the triangle). This view of family well-being can be considered an holistic approach, involving interdependencies among the dimensions of well-being.

Future family research efforts focused on the increasing consumer attention to health activities and products need to examine such behaviors in the context of overall well-being management. The roles of parents and children in maintaining, balancing, and restoring well-being, both individually and as a unit, needs explication. Traditional views of utility maximization and product satisfaction may not be appropriate when studying nonmaterial consumption behaviors. The study reported here indicates that an understanding of family health behaviors requires a multidimensional framework, as the "whole" is truly different than the sum of the individual dimensions of well-being.

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Context Effects in Consumer Judgment and Choice

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ABSTRACT

A set of diverse views on so-called attraction and substitution effects are presented. These views include questions of the very existence of the effects, examinations of possible mediators of the effects and finally, an investigation of the process underlying attraction and substitution. Although different methodologies may be responsible for some of the disagreement, and different mediating factors may exist, it is suggested that a more fundamental problem exists. Specifically, it is argued that we are relatively uninformed with respect to any process which might be responsible for producing these violations of the regularity principle. In order to fully understand the attraction and substitution effects it is necessary to examine the processes which produce them.

This special session is intended as a forum for a set of diverse views on context effects, with special attention paid to the so-called "attraction effect" (a phenomenon in which choice is influenced by the addition of an inferior alternative into a choice set). The papers to be presented represent a wide range of persons doing work in the area, and cover three general themes. First, there is some debate over the very existence of the attraction effect.

Are Attraction and Substitution Effects "Real"?

Stewart suggests that the attraction effect is a measurement artifact, and in fact a consequence of the inadequacy of the commonly used stimuli (e.g. scale ratings or verbal descriptions of "quality") to provide sufficient sensory information on which to base a reliable judgment. He argues that sensory attributes are essentially multidimensional in nature, and treating them as unidimensional constructs relieves them of any meaning. Consequently, he argues, if real products were being tested and experienced, rather than simple descriptions of them being considered, consumers would base their choice on meaningful information and the attraction effect would vanish.

Some support for his position is presented in a study in which subjects experienced and then made a choice of 1) beer (using a between subjects design) and 2) chocolate (within subjects). In each case, the addition of a dominated alternative had no impact on choice of the dominant brands.

A counter to this position is taken by Puto, who finds evidence to support the existence of the effect using real products in a mail-order catalogue context. While Stewart's argument with respect to product experience still may hold (the "sensory experience" on the part of consumers is limited to visual experience, and the effect may be quite different than a shopping trip to a department store) given the size and importance of catalogue shopping, it is difficult to dismiss the importance of the attraction effect in this demonstration. Hence, even though Stewart's demonstration of "meaning's" importance is useful, the attraction effect itself may still be important in understanding consumers' choice behavior.

Mediators of Attraction and Substitution

The second general theme of this session is an investigation into possible mediators of the attraction and substitution effects. Simonson's paper reflects this general theme and implicates the role of choice justification in producing the effect. In an interesting replication of Huber, Payne, and Puto (1982) he collected subject protocols while choices were being made. His results suggest that one influence of the dominated alternative is to make the dominating alternative more easily justified, both to oneself and to anyone else. In a second study which adds support to this notion, subjects in a within subjects design were exposed to a series of gambles. Each gamble had three possible outcomes, associated with certain probabilities. Subjects were instructed to select one of the three choices in each of the gambles. They were also informed that at the end of the experiment, one of the gamble-choice sets would be selected at random, and the gamble chosen by the subject would actually be played, with the subject receiving any resulting outcome in cash. Even when the choice was made "real" (and strong incentive presented to make an optimal choice), a strong attraction effect was again found.

Kardes, Herr & Marlino present a paper testing the notion that the effect might be considered in terms of classic social judgment theory (an idea noted by Farquhar and Pratkanis 1987). Specifically, the dominated alternative might serve as an anchor for judgments of the dominating alternative. This suggests that both the attraction effect and the substitution effect (in which a dominated choice actually decreases the probability of choosing the dominating alternative) may be mediated by contrast and assimilation effects, respectively. While the authors had little trouble finding context effects, the direction of the effects were generally difficult to predict. Moreover, there was little correspondence between judgment-specific and choice-specific context effects (see Kardes, Herr and Marlino, this volume). The authors interpreted these findings as casting doubt on the role of assimilation and contrast effects on producing substitution and attraction effects. Although there is little question that the judgment effects exist, their magnitude is often small (see Farquhar and Pratkanis, 1987) and their actual impact on choice is probably not what drives the discrete choice effects discussed here.

The Process of Attraction and Substitution

In an especially insightful piece, Farquhar and Pratkanis critically examine the empirical evidence on the failures of the regularity principle and the reasons for their failure. The regularity principle of discrete choice theory asserts that an individual's choice probability for a given alternative cannot be increased (or decreased) by adding (or deleting) alternatives from the choice set. Regularity is a fundamental property for many choice models. Indeed, regularity is often regarded as "a very weak property, which almost everyone believes to be true of choice probabilities" (Luce, 1977; p. 218).

Well-known exceptions to the regularity principle occur when constraints are imposed on the choice process. Less obvious, yet more challenging violations of regularity can occur when the choice context includes options like decoys (e.g.Tyszka, 1977; 1983; Huber, Payne, and Puto, 1982) or phantoms (Farquhar and Pratkanis, 1987), or when choice behavior is contingent upon other elements in the problem context. Farquhar and Pratkanis here discuss results of their recent experimental research that seeks to understand the processes underlying violations of regularity.

SUMMARY

All of the papers share a common focus that the context in which choices are presented may play an important role both in the judgment of individual attributes as well as the ultimate selection of a chosen alternative. While the papers share this surface similarity, an important difference is found in the Farquhar and Pratkanis paper, in which a fundamentally different approach emerges. Specifically, they address the issue from a "process perspective", which allows them to examine *how* the context in which choice is made affects the choice process itself.

Both readers of and participants in this session should leave with a clearer understanding of 1) the attraction effect itself, 2) different methodologies for its detection, and 3) the process underlying the attraction and substitution effects.

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On the Meaningfulness of Sensory Attributes: Further Evidence on the Attraction Effect

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ABSTRACT

Two studies of the attraction effect suggest that it is eliminated when sensory experiences with the product are provided in place of verbal or numeric descriptors of sensory attributes. Implications of these findings for future research on consumer choice are offered.

There has recently been considerable interest in consumer choices that appear to violate axiomatic theories of individual choice behavior such those offered by Luce (1959, 1977) and McFadden (1986). Particular interest has focussed on consumer choices that appear to violate the assumption of independence of irrelevant alternatives or regularity principle, which holds that the probability of choice of an alternative relative to other alternatives in the choice set cannot be increased or decreased by the addition or deletion of alternatives in the choice set. It is now quite clear that violations of the regularity principle do occur under a number of different circumstances (Kamakura and Srivastava 1984, Currim 1982). For example, it is quite clear that multistage decision processes involving a screening phase may produce such violations (cf. Hauser 1986, McKelvey 1981, Farquharson 1968), as can the use of decision strategies involving a meta-rule (Corbin and Marley 1974). Tversky (1972) has also shown that "the addition of an alternative" to an offered set hurts alternatives that are similar to the added alternative more than those that are dissimilar to it. This is the well known similarity effect. Farquhar and Pratkanis (1987) have shown that the addition of a superior, but unavailable alternative (a phantom choice alternative) may produce small shifts away from an alternative less similar to (and nondominated by) the phantom toward an alternative that is more similar to (and dominated by) the phantom. Finally, several researchers have demonstrated an attraction effect, whereby an alternative that is completely dominated or relatively inferior to other alternatives produces a shift in choice from a less similar alternative to a more similar alternative when added to the choice set (Huber, Payne and Puto 1982, Huber and Puto 1983, Ratneshwar, Shocker, and Stewart 1987).

Such violations of the regularity principle have important implications for research on consumer choice and an understanding of the boundary conditions of such violations, and the regularity principle itself, is important for both decision theorists and consumer researchers. Explanations for certain violations of the regularity principle are readily available. It is generally recognized that by placing particular constraints or structure on a choice task, such as particular agenda or decision strategies, violations of regularity may be observed.

Explanations for the similarity effect (Tversky 1972) are also available. The influence of phantom choices, while less well researched, has been attributed to changes in the importance weights assigned product attributes. More specifically, it appears that the introduction of an asymmetrically dominating but unavailable alternative serves to increase the importance of the attribute on which the phantom dominates the more similar and inferior alternative, with a resulting shift of choice toward the inferior alternative and away from the nondominated and dissimilar alternative.

Of the several demonstrated violations of the regularity principle, only the attraction effect has defied explanation. Huber, Payne, and Puto (1982) and Huber and Puto (1983) offered several explanation for the effect but did not provide an empirical test of all the hypotheses they offered. Where data were available to examine particular hypotheses, they failed to provide support. More recently, Ratneshwar, Shocker, and Stewart (1987) suggested that the introduction of an inferior alternative into a choice set may change the meaning of descriptors of product attributes, particularly when those descriptors take purely numeric form. An empirical test of this hypothesis demonstrated that the use of more meaningful verbal descriptors could substatially moderate the attraction effect. The effect was not completely eliminated, however, by this manipulation. Indeed, in one product category, beer, this manipulation appeared to have no effect on the size of the attraction effect. Ratneshwar, Shocker, and Stewart (1987) speculated that in the two product categories where the attraction effect persisted even after the use of verbal attribute descriptors, the descriptors were still not meaningful enough to eliminate the attraction effect. They cite some protocol data to support this hypothesis and suggest that since the two product categories in which the attraction effect persisted involved sensory attribute information (taste in the case of beer; riding comfort in the case of automobiles), the verbal descriptors were not adequate to meaningfully communicate product information.

At the heart of the explanation offered by Ratneshwar, Shocker, and Stewart (1987) is the view that decision makers must search for meaningfulness within context when presented with product descriptors (such as simple numeric descriptors of quality) that do not otherwise carry information content. Thus, they argue, a quality rating of 50 in a world of two products with quality ratings of 50 and 70 means something quite different when a third alternative with a quality rating of 30 is added. Such a view is consistent with work on context effects in choice (Payne 1982, Chakravarti and Lynch 1983). It also receives some support from the work of Farquhar and Pratkanis (1987) on phantom choices. These researchers found that the introduction of a phantom alternative tended to lower the rating of the dominated alternative on the dominating attribute. Further, the attribute rating was lower the more superior the dominant phantom alternative on the attribute.

Thus, it appears that the meaningfulness of product descriptors plays an important role in choice processes. Descriptors that are not otherwise meaningful must be interpreted within the context of the choice task. This appears to be particularly true when attribute descriptors take the form of a simple numeric rating as is common in many studies of choice. Nevertheless, there is no evidence to suggest that increasing the meaningfulness of attribute descriptors will entirely eliminate the violation of the regularity principle described by the attraction effect. The failure of Ratneswar, Shocker, and Stewart (1987) to eliminate the attraction effect in cases involving sensory attributes raises the need for further research and a more compelling explanation for the effect.

The present paper is designed to investigate the hypothesis that the attraction effect is directly associated with the search for meaningfulness within context by empirically examining the hypothesis of Ratneshwar, Shocker, and Stewart (1987), which suggested that their verbal descriptors were insufficiently meaningful to subjects to eliminate the attraction effect. The paper will offer two empirical studies of choice that provide respondents with the opportunity to evaluate the sensory properties of a product in the most meaningful way possible, by direct experience. Before presenting these studies, however, we will offer a brief discussion of sensory attributes and prior studies of the attraction effect.

Sensory Attributes of Product.

It is, perhaps, unfortunate that prior studies of the attraction effect have used beer as a product stimulus. The majority of consumers cannot differentiate among the tastes of most popular beers (Consumers Union 1984), and it is generally recognized that brand image is a primary determinant of product choice. Thus, a rating of the quality of taste is not generally consistent with the way consumers interact with this product. Even among those consumers whose tastes are sufficiently educated to comprehend a verbal description of the quality of a beer's taste, brand image may effect choice even when it is not explicitly provided the consumer. Indeed, Ratneshwar, Shocker, and Stewart (1987) reported that some of their subjects sought to infer brand from price, then choose a product based on this inferred brand. These factors make beer a decidedly unrepresentative product in many respects.

Even without the problems specific to the use of beer, choices involving sensory attributes pose significant problems. Prior studies of the attraction effect (and numerous other choice studies) have tended to treat sensory experiences as simple unidimensional attributes that can be represented by a single rating of quality or a few simple words. Yet, it is not really clear what the "quality" of a given sensory experience means to the consumer. The Huber, et. studies (1982, 1983) offered consumers only a single number to represent quality. The Ratenshwar, et. al study (1987) provided an elaborated verbal description of taste, but it is not clear that even this elaborated description provided much product information.

The problem with prior studies is their over-simplification of the sensory experience. Almost all sensory experiences, at least those typical of consumers' everyday experiences, are multidimensional. A summary number or statement representing the quality of a sensory experience fails to recognize the inherent multidimensionality of such experiences and the possibility that numerous different combinations of these dimensions may result in the same summary judgment of quality. Yet, if it is the underlying dimensions that consumers use to evaluate preference, rather than a single summary judgment of the "quality" of the experience, consumers may find summary statements of quality less meaningful, if not meaningless.

It is certainly true that a variety of factors contribute to the sensation of taste (Alpern, Lawrence, and Wolsk 1967). In the case of a product like beer, such factors as its temperature, level of carbonization, odor, appearance, and texture or consistency may influence preference and perception of taste in addition to the actual sensation at the taste buds. Thus, there may well be a basis for the Ratneswhar, et. al (1987) hypothesis that their failure to eliminate, or even moderate, the attraction effect in the case of beer may be attributable to the failure of even their elaborated product descriptions to provide meaningful information on which to base choice. It may be that only by providing consumers with the actual sensory experience can we obtain a choice based on information genuinely meaningful to consumers. The two studies reported below examine this issue.

STUDY ONE

Study one was designed as a simple extension of prior studies of the attraction effect using beer. As in prior studies, price was used as one product attribute. Like prior studies, the second attribute was taste. Rather than offering a verbal or numeric description of taste, however, consumers were provided with the opportunity to actually experience the taste of the product alternatives. Consistent with the arguments advanced above, it was hypothesized that the attraction effect should not be observed under this condition. Thus, it was hypothesized that there should be no net shift of choice shares between two non-dominating alternatives when a third inferior alternative is introduced into the choice set.

Consistent with prior studies, a between subjects design was employed to avoid the potential for demand effects associated with remembering prior choices and self-consistency. Indeed, in the only published study to date that has used a repeated measures design (Burton and Zinkhan 1987) found directional, but not statistically significant support for the attraction effects.

Subjects

Subjects for the study were forty-four students enrolled at a large university in the Western United

States. All subjects were between 21 and 32 years of age, and all reported drinking beer at least once a week. Thirty-five of the subjects reported having a single preferred brand, six subjects reported alternating purchases between two preferred brands, and three subjects stated they were indifferent with respect to most popular brands of beer.

Product Alternatives

We noted above that discrimination of taste differences among popular brands of beer is difficult for the average consumer. For this reason two "super-premium" beers with significant sensory taste differences were selected for use in the study. The first product used was a nationally distributed golden Pilsner beer. The second product was a multi-regionally distributed dark beer noted for its strong malt character. These two beers were also assigned a price point. The golden Pilsner beer was assigned a price point of $3.79 per six pack; the dark beer was assigned a price point of $4.69 per six pack. These two beers, which represent currently available brands will be defined as the dominant brands.

In order to test the attraction effect in this study it was necessary to find or create an inferior beer. This is particularly difficult to do in a category such as beer because of the difficulties associated with taste discrimination in the category. After some pre-testing with several products the inferior brand was created from a "house brand" of golden beer by leaving the beer in an open container to allow it to go flat. This flat beer was then diluted with distilled water in a ratio of one part water to two parts beer. Pre-tests suggested that such a beer was considered inferior to the nationally distributed brand of golden beer, though not always with 100% accuracy. This relatively inferior beer was assigned a pure of $3.99 per six pack.

Procedure

Subjects were told that they were involved in a test of a new product. Twenty subjects were presented a two alternative choice task involving only the two dominant alternatives. Ten subjects were presented with the dark beer first and ten were presented with the golden beer first. Subjects were told the suggested retail price of the beer, then asked to taste each beer. The beer was presented in a deep dark brown mug designed to mask the color of the beer. Prior to each tasting subjects ate an unsalted cracker and sipped from a glass of distilled water. The beer was served at a temperature between 45 and 55 degrees Fahrenheit. No brand information was provided.

Twenty-four subjects participated in a three alternative choice task. Order of presentation of the three alternatives was rotated so that each alternative appeared in the same relative position an equal number of times. The same presentation and tasting procedure was followed as was used in the two choice alternative.

Following the presentation of product alternatives, subjects in both the two alternative and three alternative conditions were asked to select their preferred beer. They were then asked to describe their thinking in arriving at this choice.

Choice Results

In the two alternative condition 70% of the subjects (14 out of 20) selected the golden Pilsner beer, while 30% (6 out of 20) selected the dark beer. In the three alternative task 62.5% of the subjects (15 out of 24) selected the golden Pilsner alternative, 29% (7 out of 24) selected the dark beer, and 8% (2 out of 24) selected the relatively inferior golden product. These results suggest that no attraction effect was present in the three alternative choice task. While the relatively inferior product appears to have taken a share of the choices that might otherwise have gone to the dominant golden beer, there was no shift in the choice share of the dark beer, as would be expected when the attraction effect is operative.

Protocol Results

The retrospective protocols obtained from the subjects revealed rather simple choice rules, as might be expected when only two or three alternative differing only on two attribute dimensions are presented. Among subjects in the two alternative task, the most commonly reported decision strategy was to infer brand from taste or price, and use this inferred brand as the basis for choice. Sixty percent of subjects in this condition mentioned such a rule. Three of the subjects (15%) reported using a simple lexicographic rule, "buy the cheapest," while a fourth subject reversed this rule to "always buy the best (most expensive)." Three subjects (15%) reported that they selected the product that tasted best, and one subject reported using a trade-off rule, "an acceptable taste, for the lower price."

Among subjects in the three alternative condition the same decision rules were manifested. However, perhaps because of the care with which the inferior product was created, there were more mentions of taste. A number of subjects commented that the inferior beer was "flat" or "watery." Seven subjects (29%) stated that they rejected the product out of hand. These subjects then used other strategies to select from among the other products. As in the two alternative case, the most common strategy employed appeared to be to infer brand from price or taste, then select an alternative based on this inferred brand. Fifty percent of the subjects (12) in the three alternative condition used some variant of this rule. Interestly, the two individuals selecting the inferior product used this rule. Five subjects (21%) used a simple lexicographic rule, first eliminating the inferior product, then selecting the lowest priced brand that remained. Two subjects reported they always bought the most expensive brand; two subjects appeared to use a trade-off strategy, after eliminating the inferior beer; and three subjects stated they selected the beer that tested best.

Additional questioning of subjects in both groups suggested that many subjects had difficulty differentiating the tastes of the two "super-premium" beers used in the study. This may explain the small number of subjects who used the taste attribute in deciding between these two beers. Subjects used terms like "acceptable," "tastes like my regular brand," and "good-tasting" to describe these beers. This inability to differentiate the two superior alternatives does not necessarily suggest that the product information lacked meaning. Indeed, the choice strategies that were used by many of the subjects were quite rational for the circumstance where alternatives are equivalent on one attribute. The taste experience provided a meaningful indication that products did not differ with respect to an important attribute.

STUDY TWO

As noted above, most studies of the attraction effect have employed between-subjects designs, and for good reasons. A disadvantage of such designs, however, is that the effects of adding an alternative to the choice set must be measured in the aggregate rather than at the individual level. Thus, there is no opportunity to determine what happens to the choice processes of a given individual when a new alternative is introduced. The second study was designed to examine individual choice processes, and the way they change upon introduction of a new alternative. As in the first study, one of the product attributes was taste. In this study a within-subject design was employed in order to directly examine changes at the individual level.

Subjects

Subjects for this study were sixteen undergraduate students enrolled at a major university in the Western United States.

Product Alternatives

The product alternatives used in the study were chocolate candies prepared by a professional confectioner. The product alternatives were prepared as follows. All alternatives were approximately one ounce in size. One alternative was made with a dark, semi-sweet chocolate. A second alternative was made with a sweet milk chocolate. The third alternative (the inferior alternative) was made with a dark chocolate and a minimum of sugar.[1]

Procedure

Subjects were presented the dark, semi-sweet chocolate and the milk chocolate. They were told that a candy company was considering the introduction of a new chocolate candy and was experimenting with flavors in order to determine the best taste for their market. They were also told that some types of chocolate are more expensive to produce than others. Thus the dark, semi-sweet chocolate (identified only as product S), if introduced, would have to sell for $.75 per five ounce bar (15 er ounce), while the milk chocolate candy (identified only as Product T) would sell for $.60 per five ounce bar (12 er ounce). Subjects were asked to taste each product, then select a preferred alternative. Half of the subjects tasted Product S first, half tasted product T first. Subjects were asked to rinse their mouths and eat an unsalted cracker prior to each tasting. After tasting each of the two alternatives and indicating their preference, subjects were asked to explain the reasons for their choose.

At this point, a third inferior alternative (labeled product B) was introduced. Subjects were told that the manufacturer had developed a third flavor, which if produced, would sell for $.65 per five ounce bar (13¢ per ounce). Subjects were asked to taste each of the original two alternatives and the new alternative.[2] The same tasting procedure involving rinsing and eating a cracker was used as was followed in the two alternative choice task. Subjects were again asked to select a preferred flavor. Following an indication of their preference, subjects were asked to explain the reasons for their selection.

Results

In the two alternative task, ten subjects selected the milk chocolate and six subjects preferred the dark, semi-sweet chocolate. Among fourteen of the sixteen subjects, taste appeared to be the only attribute considered in their selection; subjects selected the product they described as "tasting best" or "I like the taste of this one better." The difference in price between those two products was apparently not large enough to influence choice and several subjects said as much. The remaining two subjects reported using a trade-off rule, stating that the "better" or "richer" tasting chocolate was worth the extra cost to them. In both of these cases, the dark chocolate was preferred.

If the attraction effect were operative in this study, one might expect to see a net shift of choices from the milk chocolate alternative to the less sweet, dark chocolate alternative, since the inferior alternative was more similar to the dark chocolate alternative in terms of sweetness, relative chocolate content, and texture.

In fact, no subject changed their preferred product as a result of the introduction of the inferior product. Subjects appeared to regard the inferior product as unambiguously inferior to the other products and commented on its lack of sweetness, its bitterness, and its "crumbly" texture. As in study one,

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[1]A certain amount of sugar is required to hold the chocolate together. The use of lesser amounts of sugar tends to change the texture of a candy as well as its perceived sweetness. A difference in texture is also present between dark, semi-sweet chocolates and milk chocolates, the former tending to be harder, the latter creamier. Thus, the perceived taste of these candies is the outcome of at least three factors: type of chocolate, amont of sugar and other ingredients used, and texture of the candy in the mouth.

[2]To reduce the demand effects in the study, the original two brands were re-introduced and labeled A and C. The same price points were employed, however.

subjects tended to eliminate the inferior alternative out-of-hand, then move on to select a preferred brand from the remaining two superior alternatives. Since taste differences in the two superior alternatives were quite discernible, and taste preferences apparently well established, at least among subjects in the present study, the choice was made quickly and with certainty.

DISCUSSION

The two studies presented in the present paper suggest that the attraction effect, as it has been identified in the literature, need not always be a factor in consumer choice. Previous studies have established that meaningful verbal descriptors of product attributes can eliminate the attraction effect in cases other than those involving alternatives with sensory attributes. The present studies suggest that the attraction effect may be eliminated even in cases where sensory attributes are involved, if sensory experiences with the product alternatives are provided. This supports the speculation of Ratneshwar, Shocker, and Stewart (1987) that sensory attributes may be difficult to describe verbally in a meaningful way. These results also reinforce the view of these same authors that the attraction effect results from ambiguity in product attributes and the resulting use by consumers of context cues to establish the meaning of product descriptions.

There is little doubt that violations of the regularity principle associated with the attraction effect can and do occur, since the effect has been independently replicated by several researchers. The present studies, taken together with prior studies, would appear to suggest that the meaningfulness (or meaninglessness) of product descriptors produces this effect. One way to look at this effect is similar to the explanations given for other violations of regularity. Other violations of the regularity principle, such as agenda effects, have been interpreted as the result of placing constraints on the structure of the choice task. The attraction effect may also be viewed as growing from constraints placed on the choice task. In the case of the attraction effect, it is not the structure of the task that is the constraint, however, it is the degree to which product descriptors provide (or fail to provide) product attribute information that is meaningful without reference to attribute information regarding other products.

The attraction effect appears to represent a potential problem for studies of consumer choice. Studies to date suggest that it may be a particular problem when numeric attribute descriptors are used and with at least some types of sensory attributes. This suggests the need for careful pre-testing of product stimuli prior to their use in studies of consumer choice. It also raises the question of the frequency with which consumers are confronted with such constrained choice tasks in the natural environment. It is likely that such choice tasks are common among inexperienced consumers or in new product categories where consumers lack a basis for inferring meaning from product information. The extent to which the effect is found in yet other settings remains to be determined.

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Some New Light on Substitution and Attraction Effects

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ABSTRACT

An experiment was conducted to examine the mediation of substitution and attraction effects (Huber, Payne, and Puto 1982). Following Farquhar and Pratkanis (1987), it was hypothesized that assimilation in judgment would lead to substitution in choice and that contrast in judgment would lead to attraction in choice. Although context effects were found in both judgment and choice, the judgment-choice relationship was rather weak ($r = .29$, $p < .03$). The results are interpreted in terms of Tversky et al.'s (1988) compatibility principle.

INTRODUCTION

A great deal of research has shown that the manner in which consumers evaluate a target brand depends upon what background or contextual brands are salient at the time of brand choice (Burton and Zinkhan 1987; Huber, Payne, and Puto 1982; Huber and Puto 1983; Ratneshwar, Shocker, and Stewart 1987). For example, consider the case in which one brand dominates another on one dimension but is dominated on a second equally important dimension. When a third, "decoy" brand is added to the choice set, the choice probabilities for the two original brands change. Sometimes the decoy takes disproportionately more share from the similar (target) than from the dissimilar (competitor) brand, and sometimes the decoy increases the probability of choosing the target brand. These effects are known as substitution and attraction effects, respectively. The purpose of the present study is to examine the mediation of these effects.

Social judgment theory (Sherif and Hovland 1961; Sherif, Sherif, and Nebergall 1965) suggests one plausible explanation for substitution and attraction effects (see Farquhar and Pratkanis 1987). If a decoy serves as a reference point for judging a target brand, then judgments of the target should be displaced toward the decoy (assimilation) when the decoy is positioned near the target and judgments of the target should be displaced away from the decoy (contrast) when the decoy is positioned far away from the target. Hence, similar brands are seen as more similar and dissimilar brands are seen as more dissimilar than they actually are. As a consequence, a moderately discrepant inferior decoy may make the target appear less attractive (assimilation/substitution) and an extremely discrepant inferior decoy may make the target appear more attractive by comparison (contrast/attraction).

METHOD

To test the assimilation/contrast view, 84 undergraduates were randomly assigned to one of four conditions: Moderately discrepant decoy, Extremely discrepant decoy, No decoy, and Target brand only conditions. Brand descriptions for four product categories (beer, cars, restaurants, and health insurance; order of presentation was counterbalanced) were adapted from Huber et al. (1982) and Huber and Puto (1983). Unlike previous studies, the competitor always dominated the target on price and the target always dominated the competitor on a specific quality dimension (see Appendix). The quality ratings were provided on a scale ranging from 0 to 100. The decoy was always priced slightly lower than the target. In addition, the decoy was slightly lower in quality than the target brand in moderately discrepant decoy conditions and much lower (almost as low as the competitor) in extremely discrepant decoy conditions. The position of the decoy was manipulated on the quality dimension instead of the price dimension because previous research has shown that context effects are more pronounced on ambiguous than on nonambiguous dimensions (Herr 1986; Herr, Sherman, and Fazio 1983).

Another aspect of the present study that differs from previous research is that attitudinal judgments served as a primary dependent measure. Judgments were measured on three semantic differential scales ranging from 0 to 10 (favorable, satisfactory, pleasant). In addition, subjects were asked to choose one brand from each product category and process measures (prototypicality ratings) were taken for two of the product categories, beer and cars. Subjects were asked to "imagine a brand of beer (car) that is average in price, average in taste quality (reliability) and average on all dimensions" and they were asked to rate the degree of similarity (0 - 10) between this prototypical brand and the target brand.

RESULTS AND DISCUSSION

Subjects' ratings of the target brand, the decoy, and the competitor were averaged across attitude scales (favorable, satisfactory, pleasant) and across product categories (beer, cars, restaurants, health insurance packages) to provide product evaluation indices for the target, the competitor, and the decoy. These indices were internally consistent. The Cronbach's alpha values were .82, .90, and .81 for the target, the decoy, and the competitor, respectively.

Attitudinal Judgments

Overall evaluations of the target brand, the decoy, and the competitor as a function of the four experimental conditions are presented in Table 1. As Table 1 indicates, more favorable evaluations of the target were formed when the competitor was present ($M = 6.52$) as opposed to absent ($M = 5.27$), $t(40) = 3.55$, $p < .001$ (two-tailed tests were used in all analyses). This pattern indicates that judgments of the target were contrasted away from judgments of the dissimilar competitor, as predicted.

TABLE 1

Brand Attitudes

Brand	Moderately discrepant decoy	Extremely discrepant decoy	No decoy	Target only
Competitor	4.39	3.97	4.42	--
Decoy	6.46	4.87	--	--
Target	7.31	6.62	6.52	5.27

Note. Higher numbers indicate more favorable attitudes.

Although the target was rated more favorably than the decoy across conditions (p's < .01), the mean difference between evaluations of the target and the decoy was greater in extremely discrepant (difference = 1.75) than in moderately discrepant (difference = .85) decoy conditions, t (40) = 2.28, p < .03. Hence, the discrepancy manipulation was effective.

It was predicted that judgments of the target should be displaced toward the decoy in moderately discrepant decoy conditions. Hence, less favorable evaluations of the target should be formed when a moderately discrepant inferior decoy is present as opposed to absent. However, more favorable evaluations of the target were formed in moderately discrepant decoy (M = 7.31) than in no decoy (M = 6.52) conditions, t (40) = 2.42, p < .02. Thus, a contrast effect was observed when an assimilation effect was anticipated. This finding is rather surprising given that (a) the discrepancy manipulation was effective and that moderate discrepancy should lead to assimilation (Herr et al. 1983; Manis, Nelson, and Shedler 1988; Sherif and Hovland 1961); (b) the contextual stimuli and the target stimulus were presented simultaneously (as opposed to separating the induction and test phases), which should increase the likelihood of assimilation (Manis, Paskewitz, and Cotler 1986); and (c) the brands were differentiated on an ambiguous dimension, which should also increase the likelihood of assimilation (Herr 1986, Herr et al. 1983).

Manis and his colleagues (Manis and Paskewitz 1984a, 1984b, Manis et al. 1986) have also obtained contrast effects in conditions under which assimilation was expected. Manis et al. (1986, 1988) suggested that judgment tasks may elicit assimilation and contrast simultaneously and that observed results depend on the relative strength of these opposing forces. Assimilation should be enhanced by increasing the salience of a moderately discrepant reference point. If subjects eliminated the decoy from their consideration set quickly in the present study, then their evaluations of the decoy may not have been sufficiently salient to permit assimilation to occur. Indeed, the decoy may not have even served as a standard of comparison. This is a strong possibility given that the stimuli used as reference points are known to vary across individuals and across situations (Fazio 1979, Higgins and Stangor 1988, Kahneman and Miller 1986, Puto 1988, Srull and Gaelick 1983). Subjects may have (a) abstracted a reference point by integrating information about the decoy and the competitor, (b) used an internal reference point based upon prior knowledge and experience, or (c) they may have combined these two comparison strategies in some way.

It was predicted that judgments of the target should be displaced away from the decoy in extremely discrepant decoy conditions. Hence, more favorable evaluations of the target should be formed when the extremely discrepant decoy is present as opposed to absent. However, evaluations of the target brand did not differ as a function of the presence or absence of the extremely discrepant decoy (M's = 6.62 vs. 6.52, p > .20). Perhaps the decoy was too discrepant to be used as a reference point for judging the target brand. If the target and the decoy were perceived as members of two different sub-categories, the decoy should not be employed as a standard for judging the target.

Choice

Choice probabilities for the target brand, the decoy, and the competitor as a function of the type of decoy (moderately discrepant decoy, extremely discrepant decoy, no decoy) are presented in Table 2. The results indicated that a smaller proportion of subjects chose the target when the moderately discrepant decoy was present as opposed to absent (.52 vs. .67), chi-square = 3.96, p < .05. Thus, a reliable substitution effect was obtained.

No attraction effect was found across product categories (.69 vs. .67, p > .20). However, in the car category, a greater proportion of subjects tended to

TABLE 2

Brand Choice

Brand	Moderately discrepant decoy	Extremely discrepant decoy	No decoy	Target only
Competitor	.14	.14	.33	--
Decoy	.33	.17	--	--
Target	.52	.69	.67	5.27

Note. Higher numbers indicate more favorable attitudes

choose the target when the extremely discrepant decoy was present as opposed to absent (.86 vs. .76, $p < .10$). Hence, a weak attraction effect was found with the car stimuli.

The Judgment-Choice Relation

A choice index was computed to enable us to assess the degree of correlation between judgment and choice. If a subject chose the target in all four product categories, a score of four was assigned. If a subject chose the target in three categories, a score of three was assigned, etc. Hence, the choice index ranged from 0 to 4. A weak but statistically reliable relationship was found between judgment and choice, $r(61) = .29$, $p < .03$.

This weak relationship is rather surprising given that the product stimuli and the judgment and choice measures were included on the same page of the questionnaire. Although subjects' evaluative judgments were externally available and salient at the time of brand choice, judgment accounted for less than 9% of the variance in choice.

To recapitulate, it was predicted that assimilation effects in judgment should lead to substitution effects in choice and that contrast effects in judgment should lead to attraction effects in choice. However, in conditions under which assimilation effects were expected, contrast effects were observed in judgment and substitution effects were found in choice. Further, in conditions under which contrast effects were expected, neither contrast nor attraction was observed. Although context effects were obtained rather easily, the direction of these effects was difficult to predict.

Prototypicality Judgments

Prototypicality judgments were assessed to determine whether the judgmental context effects observed involved a change in perception (i.e., a "true" attitude change) or a change in the way subjects responded to the measurement instrument (i.e., a response effect). Some theorists maintain that context effects reflect a change in the way an attitude object or issue is perceived (Helson 1964, Sherif and Hovland 1961), whereas others argue that context effects represent a change in the way an attitude is expressed rather than a change in the underlying attitude itself (Ostrom and Upshaw 1969, Upshaw 1984). We treat this controversy as an empirical issue. Context effects are sometimes perceptual and sometimes linguistic in nature. The boundary conditions are not well understood.

Both direct and indirect measures should be provided to separate perceptual versus response language effects. A perceptual change should have several important repercussions. For example, a change in the manner in which an object is perceived should influence the way the object is perceived relative to other objects and should affect subsequent overt behavior toward the object. Conversely, response effects should be limited to a given response scale and should not generalize to measures of related constructs (however, response effects can influence subsequent overt behavior if the response is sufficiently salient; see Sherman, Ahlm, Berman, and Lynn 1978).

Similarity judgments between the target brand and the prototypical brand as a function of the four experimental conditions are presented in Table 3. A oneway analysis of variance revealed that subjects tended to judge the target beer as more similar to the prototype in the moderately discrepant decoy condition than in the remaining conditions, $F(3, 79) = 1.96$, $p = .13$. A significant main effect was found on prototypicality judgments of the target car, $F(3, 79) = 4.08$, $p < .01$. Least significant difference tests indicated that the target car was rated as more prototypical in the moderately discrepant decoy condition than in the extremely discrepant decoy and no decoy conditions (p's $< .05$). Thus, the target brand is perceived as more prototypical when a similarly-positioned brand is salient. Further, recall

TABLE 3

Similarity to Prototype

Product class	Moderately discrepant decoy	Extremely discrepant decoy	No decoy	Target only
Beer	5.90	5.43	4.71	4.24
Cars	7.25	5.76	4.90	6.71

Note. Higher numbers indicate greater perceived similarity to the prototype.

APPENDIX

Product Stimuli

Product class	Competitor	Moderately discrepant decoy	Extremely discrepant decoy	Target
Beer				
Price/sixpack	2.80	4.50	4.50	4.75
Taste quality	50	80	65	85
Cars				
Price	6100	11650	11650	11775
Reliability	45	75	60	80
Restaurants				
Price/entree	6.95	14.95	14.95	15.45
Food quality	55	85	70	90
Health insurance				
Monthly fee	42.15	79.95	79.95	81.85
Coverage quality	40	70	55	75

that response effects should be localized to a single response scale. Because the contextual brands influenced evaluations of the target and perceptions of the target relative to the prototype, the observed judgmental context effects were at least partially influenced by perceptual changes.

CONCLUSION

The most striking finding of the present experiment is that context effects are easy to obtain but the direction of these effects is difficult to predict. Although context effects in both judgment and choice were observed, only a weak correspondence between judgment-specific and choice-specific context effects was found.

One fruitful direction for future research on the mediation of substitution and attraction effects involves focusing on specific judgments rather than on global product evaluations. Farquhar and Pratkanis (1987) and Simonson (1987) found that importance weights on a focal dimension are higher when a decoy is moderately as opposed to extremely discrepant and these importance weights influence subsequent choice. The prototypicality-judgment methodology outlined in the present paper should be useful for determining when shifts in importance weights reflect a change in perception as opposed to measurement reactivity.

Interestingly, Tversky, Sattah, and Slovic (1988) have also focused on the role of importance weights in judgment and choice, but Tversky et al. were concerned with the judgment-choice relation rather than with substitution and attraction effects (although we believe that these two issues are related). They found that the more important of two dimensions is weighted more heavily in choice than in judgment. Hence, choice is more lexicographic than judgment. Tversky et al. argue that choice involves the ordering of dimensions and alternatives, whereas judgment involves the integration of information across dimensions within alternatives. Consequently, qualitative information is weighted more heavily in choice and quantitative information is weighted more heavily in judgment.

When stimulus information is not compatible with the response (i.e., when quantitative information is used in a choice task or when qualitative information is used in a judgment task), stimulus information must be translated into compatible information. Unfortunately, this cognitively effortful translation process decreases the diagnosticity of the stimulus information and increases the likelihood of bias and error. Thus, preferences are likely to be particularly unstable when consumers are confronted with a choice task involving quantitative information pertaining to two alternatives that dominate the other on one of two equally important dimensions. This is the typical structure of the choice task in studies of substitution and attraction effects.

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The Costs of Prohibiting Deceptive Advertising--Are They as Substantial as Economic Analysis Implies?

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ABSTRACT

Research on consumer perceptions of advertising is used to question the implication from economic analysis that the prohibition of deceptive claims may create a net cost to consumers by rendering advertising unable to convey the truth accurately and/or by causing advertising to omit additional truthful information. An experiment involving original vs. rewritten versions of deceptive ads suggests that ads may easily be rewritten to convey the truth in place of the falsity and also to avoid elimination of other useful information.

INTRODUCTION

Although a traditional guiding proposition of advertising regulation has been that the prohibition of deceptive claims is entirely beneficial, the economics analysis that has become popular in the 1980s has offered the countering proposition that such prohibition may have costs as well as benefits. It could, therefore, in some cases produce a net loss that renders the prohibition socially unjustifiable.

A recent expression of that position, however, proposed that net losses are far more likely to occur than the present authors believe is likely. This paper, therefore, presents consumer perception research designed to test whether the benefit of eliminating a deceptive claim is likely to be accompanied by undesirable costs resulting from additional unwanted changes in the perception of advertising messages.

The present authors have no disagreement with the argument of Craswell (1985) that the Federal Trade Commission (FTC) and other regulators are wrong in assuming that prohibiting deceptive advertising creates only benefits and no risks or costs. "The cost of preventing deception is rarely zero," he says (p. 679), and he discusses extensively the variety of potential costs. A major point is that when ad claims convey truthful and useful information to some consumers although false beliefs to others, removing such claims will remove the good effects as well as the bad, and possibly create additional bad effects. When the result is a net social loss or at best a benefit not free and clear of accompanying costs, the best social decision may be to allow the advertising to continue.

We wholly agree that a system geared to balancing the losses in regulatory actions against the gains is superior to the FTC's rigid declaration that "Deception. . . never offers increased efficiency or other countervailing benefits" (International Harvester 1984, p. 1056). He who never looks is certain never to see.

To cope with this problem, Craswell proposes the standard that "An advertisement is legally deceptive if and only if it leaves some consumers holding a false belief about a product, and the ad could be cost-effectively changed to reduce the resulting injury" (p. 678). The first portion of the statement essentially reflects the FTC's traditional standard, although that standard, by specifying deceptive capacity rather than actual deception, actually involves the existence only of the *potential* for creating false belief rather than actual false belief. The second portion of the statement reflects Craswell's proposed addition to the standard.

The problem we see with Craswell's position lies not with such standard but rather with the suggestion he conveys that ads often cannot be cost-effectively changed, and that substantial costs, therefore, will often occur, and that, therefore, it will often be socially desirable to avoid prohibiting messages even though they meet the traditional criterion of having the potential to create false beliefs. We feel that substantial costs often will not occur, and thus that Craswell's proposed change, although fair and appropriately reflective of the emerging economics-based analyses of the Reagan years, would upon implementation make very little difference in the extent to which advertising claims are prohibited.

Our basis for this belief lies in existing research and theory on consumer perception of advertising claims. Seminik (1980) found that corrective ad claims could be written without adversely affecting brand image. Russo, Metcalf & Stephens (1981) concluded that "One of the striking findings of our experiment is that the main thrust of the ads was not attenuated by removal of the misleading claim" (p. 130). Oliver, Walbridge & Rheinstein (1984) found that rewritten versions of deceptive ads reduced consumer perception of the deceptive claims. Preston and Richards (1985) argued that many FTC cases prosecute advertising claims that create "eradicable miscomprehension," which means their potential for deceptiveness can be eliminated easily and without the substantial concurrent costs that Craswell fears.

A contrary finding was shown by Jacoby, Nelson & Hoyer (1982). However, they examined additions to ad copy dictated by the FTC rather than the more typical elimination of prohibited claims that would be handled by the ad industry's professional copywriters. We may presume reasonably that any changes made under Craswell's standard would be handled by professionals.

The analysis that follows adopts a method similar to that of Oliver et al along with the framework of Preston & Richards' (1985) discussion of miscomprehension, which was based on Jacoby, Hoyer & Sheluga's (1980) explication of that term. Miscomprehension occurs when the message the consumer sees conveyed by an advertisement is inaccurate in terms of the ad's literal content. When the consumer examines an ad and then reports an exact restatement or trivially different rephrasing of the literal content, or an implication that can be logically derived from the literal content, he/she has comprehended the ad's content. When any other message is reported to be conveyed, he/she has miscomprehended.

Although a certain degree of miscomprehension is a normal part of human behavior, some messages may produce more of it than others. In fact, certain advertisements may represent the phenomenon of "induced miscomprehension," which means they have been deliberately written to produce more miscomprehension than they would if written more simply and clearly. If so, these highly miscomprehended messages presumably could be rewritten in a simpler style that will produce far less miscomprehension. Miscomprehension that can be so eliminated or reduced amounts to "eradicable miscomprehension," while that which cannot be eliminated because the literal content already takes the least ambiguous form constitutes "ineradicable miscomprehension."

An examination of the case record suggests that the instances of deceptiveness prosecuted by the FTC typically appear to involve high degrees of eradicable miscomprehension. Under such circumstances, it seems reasonable to contend that the benefits to be gained by eliminating deceptiveness can be obtained by simple, easy rewriting that has virtually no risks or costs.

METHODOLOGY

To demonstrate this we conducted an experiment in which students at our university saw advertising claims prohibited by ten recent FTC orders. Each of ten pieces of advertising copy was seen by each student in one of two versions. The first version had the wording actually used in the advertising, which the FTC had alleged could create in consumers' minds a false implication. In these and numerous other FTC cases the false implication was neither stated in nor logically derivable from the literal content, and, therefore, consumer's tendencies to report it as conveyed would represent miscomprehension.

The second version of each ad presented the same content rewritten to prevent consumers from seeing the false implication conveyed. The observed degree of miscomprehension, we of course reasoned, should be significantly less for this rewritten ad content than for the original content.

For example, in Adria Laboratories (1984) the complaint charged that ads for Efficin pain reliever represented falsely that "Efficin is not associated with most of the side effects and contraindications with which aspirin is associated." This was implied by the complaint to occur because the advertising stated literally that the product "contains no aspirin." The ad did not state literally the alleged misrepresentation nor say anything else that appeared to pertain to it. The alleged misrepresentation, therefore, was not a logical implication from the ad content, and its conveyance to consumers would constitute miscomprehension by those consumers. The alleged misrepresentation would constitute, in Craswell's terms, a pragmatic implication (Craswell 1985, p. 716-19).

The FTC complaint had asserted the truth to be that "Efficin is similar to aspirin, and that the ingredient in Efficin has been associated with most of the same side effects and contraindications as aspirin." An additional complaint charge was that the failure to disclose this truth was a separate violation. The order, to which the advertiser agreed through a consent settlement, therefore forbade the use of "contains no aspirin," or of any other representation comparing the product's safety to any product containing aspirin, unless the following statement or suitable equivalent was clearly and prominently disclosed: "Efficin . . . has side effects similar to aspirin." This disclosure presumably would eliminate the miscomprehension producible by "contains no aspirin" and so eliminate the alleged misrepresentation and the alleged failure to disclose.

In our experiment the student subjects were shown slides of simulated ads consisting of verbal content drawn from the actual ads. Substitute product names were used to eliminate any effect of prior familiarity. For the Efficin ad, the simulation reflecting the actual verbal content of the ad stated: "Introducing Extra Strength Nalgecin tablets. Fast pain relief that contains no aspirin or acetominophen. Recommended and prescribed by physicians for many years. Fewer tablets needed because of the extra strength."

The rewritten version said, "Introducing Extra Strength Nalgecin tablets. Fast pain relief. Recommended and prescribed by physicians for many years. Fewer tablets needed because of extra strength. While it contains no aspirin or acetominophen, users who experience side effects from aspirin may have similar reactions to Nalgecin."

Each subject saw ten such ads, five representing actual content, five representing our rewritten content. Each person was shown only one version of each ad, and so could not know that two versions existed. Sixty subjects were used, with each version of each ad seen by 30. After seeing each ad, subjects were asked to respond on 7-point agree-disagree scales (1 = maximum agreement; 7 = maximum disagreement) to seven statements, with the instructions: "Place an X on the scale in the position which best represents your degree of agreement or disagreement that the advertisement made you feel that it was trying to convey this claim to you."

Within each set of seven statements associated with each ad, one statement reflected the truth with respect to the misrepresentation alleged by the FTC; for Nalgecin this statement was "May cause side effects associated with aspirin." A second statement was worded to be false with respect to the same topic; for Nalgecin it was "Avoids side effects of aspirin." A third statement reflected truthfully a different claim made in the ad, irrelevant to the charged misrepresentation and presumably conveying useful information; for Nalgecin this statement was "Works fast." The remaining four additional statements were based in various ways on the content of the ad, and were included only to pad the task so that undue attention would not be paid to the three critical statements.

Concerning those three, we hypothesized that the "true" and the "false" statements would receive different response for the actual and rewritten versions, reflecting the expectation that subjects would see the alleged misrepresentation less and the truth more in the rewritten version. Thus we expected the "true" statement would be agreed to more in the rewritten version, meaning the average number score given it would decrease, and the "false" statement would be disagreed with more (its average number would increase). We also hoped that the "irrelevant" statement, based on content not varied from actual to rewritten version, would *not* be treated differently from one to the other. If it *did* change, it would confirm Craswell's concern that prohibiting a challenged claim might create costs by eliminating good effects along with the bad.

RESULTS

For Nalgecin, the "false" statement for the actual version of the ad received a mean response of 3.13 (1 = maximum agreement), showing that a majority of subjects agreed, thereby seeing the false representation just as the FTC alleged they would. (See Table 1 for Adria Laboratories). Seventeen of them were on the "agree" side of the scale, 8 were on the disagree side, and 5 were on the midpoint (neither agreeing nor disagreeing). The FTC need not assert that the capacity to deceive exists for all consumers; rather, it requires that the phenomenon potentially occur only for a "substantial portion," with 20% usually being sufficient. Therefore, the degree of deceptiveness found for Nalgecin, although not the maximum possible, was well within the amount the FTC would find conclusive.

For the rewritten version of the ad, the mean for the "false" statement was 6.70, showing almost maximum disagreement that the false representation was conveyed. This time only one subject was on the "agree" side, with 28 on the "disagree" side and one on the midpoint. Thus in the case of the Nalgecin ad the rewriting produced the effect we expected of reducing the tendency for the challenged deceptiveness to occur. The difference of 3.57 was highly significant by one-way analysis of variance, between-subjects.

The "true" statement showed consistent results. For the actual version of the ad, the score of 5.70 showed subjects disagreeing about conveyance, thus agreeing with the FTC charge of failure to disclose. Twenty-three subjects disagreed, two agreed, and five took the midpoint. But for the rewritten version the score was 1.37 (29 agreeing, one disagreeing), strong evidence that the failure to disclose was corrected. Again, the difference was highly significant (Table 1).

There was also the "irrelevant" statement, irrelevant to the deceptiveness charge and not changed between versions. For Nalgecin it received a mean score of 2.33 for the actual version and 2.47 for the rewritten version, a difference so small as to constitute no evidence that the two versions prompted different responses. In other words, although the differences in response between actual and rewritten version were statistically significant for the "true" and "false" statements, they were not for the "irrelevant" statements. With respect to the questions raised by Craswell about benefits and costs, this translates to a finding that the advertisement was successfully rewritten so as to eliminate the misrepresentation, yet without eliminating other information of value to consumers.

The same results occurred for each of the ten sets of three statements, representing the ten ads studied. The other nine ads involved generally similar situations to that for Efficin; for example, the alleged false implication about Daily Greens, a food supplement made of dehydrated vegetables, was that its use was associated with a reduction in incidence of some human cancers (Pharmtech Research 1984). Our version of the actual ad included the statement, "According to the National Academy of Sciences, a regular diet of cruciferous vegetables... is associated with a reduction in the incidence of certain cancers." The FTC did not call that statement literally false, but called it deceptive in conveying the alleged false implication. Our rewritten version, therefore, added to the above statement (with name masked as Vegetablets) the additional wording the "While the National Academy of Sciences has not said the Vegetablets will help to reduce cancers, like the vegetables from which they are made, aren't they a better gamble than no cruciferous vegetables at all?"

The differences between actual and rewritten ads for the true and false statements were not as great for the other nine ads as they were for the Efficin (Nalgecin) case. Still, in every instance (Table 1) they changed in the direction of reducing subjects' tendency to see conveyance of the alleged misrepresentation, although in some cases not to a statistically significant degree. Averaged over the entire set of ten ads, however, the differences were statistically significant for both the true and false statements.

For the irrelevant statements, the difference averaged across the ten ads was not significant. Three of the ten individual cases showed a significant change, although only one of them involved a reduced tendency to see the statement conveyed. In the other two there was actually an enhanced conveyance of the irrelevant statement.

We are disappointed that the differences in scores for the true and false statements between actual and rewritten versions were not greater than they were. We had hoped to virtually eliminate, not merely reduce, the tendency for ads to convey the deceptive claims. Perhaps the rewrites needed greater emphasis and firmer focus on the critical points. Still, although we are only amateur copywriters we reduced the miscomprehension considerably. For both true and false statements the mean shifted across the midpoint of 4.00 to the opposite side of the scale, meaning that the false implication switched from a net conveyance to a nonconveyance. Meanwhile, the net treatment of the irrelevant claim, which conveyed true information that was useful to consumers, did not shift

TABLE 1

RATINGS OF "FALSE" STATEMENTS

Advertiser	Original	Rewrite	F	P
Adria Laboratories (1984)	3.13	6.70	72.92	.0001
Commodore Bus. Machines (1985)	2.73	3.57	2.13	n.s.
Cynex Manufacturing (1984)	3.30	3.43	.07	n.s
Dancer-Fitzgerald-Sample (1980)	1.93	4.10	17.41	.0001
D'Arcy-MacManus & Masius (1982)	2.77	4.83	14.77	.0003
Descent Control (1985)	3.23	4.33	4.28	.0431
Estee Corp. (1983)	5.50	6.73	14.48	.0003
Litton Industries (1981)	2.67	3.70	3.64	n.s.
Pharmtech Industries (1984)	1.70	2.60	4.53	.0375
Thomas L. Baker (1982)	3.70	4.87	4.20	.0449
Means Across All	3.07	4.49	60.91	.0001

RATINGS OF "TRUE" STATEMENTS

Advertiser	Original	Rewrite	F	P
Adria Laboratories (1984)	5.70	1.37	178.99	.0001
Commodore Bus. Machines (1985)	4.13	2.87	7.63	.0077
Cynex Manufacturing (1984)	2.80	2.13	2.25	n.s.
Dancer-Fitzgerald-Sample (1980)	5.03	3.77	5.02	.0290
D'Arcy-MacManus & Masius (1982)	5.23	4.13	4.13	.0467
Descent Control (1985)	4.07	2.57	10.34	.0021
Estee Corp. (1983)	4.97	2.20	33.01	.0001
Litton Industries (1981)	2.03	1.77	.45	n.s.
Pharmtech Research (1984)	4.27	3.47	2.27	n.s.
Thomas L. Baker (1982)	5.47	2.63	41.96	.0001
Means Across All	4.37	2.69	100.86	.0001

RATINGS OF "IRRELEVANT" STATEMENTS

Advertiser	Original	Rewrite	F	P
Adria Laboratories (1984)	2.33	2.47	.11	n.s.
Commodore Bus. Machines (1985)	2.13	2.50	.50	n.s.
Cynex Manufacturing (1984)	1.80	1.40	1.99	n.s.
Dancer-Fitzgerald-Sample (1980)	1.23	1.30	.25	n.s.
D'Arcy-MacManus & Masius (1982)	1.83	1.90	.04	n.s.
Descent Control (1985)	1.40	1.80	1.45	n.s.
Estee Corp. (1983)	3.63	5.20	6.68	.0123
Litton Industries (1981)	4.73	3.33	7.40	.0086
Pharmtech Research (1984)	3.83	3.27	1.28	n.s.
Thomas L. Baker (1982)	4.97	2.80	21.99	.0001
Means Across All	2.79	2.60	1.35	n.s

Scoring: 1 = Agreement that statement conveyed; 4 = Midpoint;
7 = Disagreement that statement conveyed

significantly from its positions of net conveyance. (It was only a slight net conveyance, due probably to the fact that the allegedly deceptive claims typically were given stronger graphic treatment than were these ancillary truthful claims.)

DISCUSSION

Our principal conclusions, then, harking back to the ideas of Craswell which prompted the experiment, is that the reduction of deceptiveness appeared to be accomplishable *easily*, bringing benefits without significant costs. Advertisers inclined to do so could achieve these effects not in rewriting but in their *original* writing. They are professionals in communication. When their copy was obscure, we feel it was often because they deliberately strove for a writing style that encouraged deceptive implications to occur. Indeed, there may be greater costs involved in achieving such masterful obscurity than in merely writing plainly.

Which of the following, for example, does the reader think took longer to concoct? (1) the phrase "Anacin's ingredient is aspirin," which states the simple unambiguous truth, or (2) the phrase "Anacin contains the pain reliever that doctors recommend most," which the FTC thought would convey, in conjunction with such references as "special fortified formula," the belief that Anacin's ingredient was something more special than ordinary aspirin? (American Home Products 1981). "The identity of Anacin's ingredient is in every single instance obscured," said the FTC opinion. "The strained syntax of many of the advertisements ... fosters the impression that Anacin contains something other than aspirin." In another case the opinion stated that "Like much advertising we find deceptive, the ads are drafted with a artful choice of words" (Thompson Medical 1984).

The same point might be made for an example used by Craswell (1985, p. 674), that of the Chrysler advertising which described a six-cylinder car's superiority over the six-cylinder Chevrolet Nova in such a way as allegedly to imply that all of its models had the same superiority over all Nova models. There is no reason to doubt that any copywriter who wished to restrict the comparison could easily have done so in an unambiguous manner.

Ineradicable miscomprehension poses a serious problem for successful communication in any walk of life, but in advertising most of the miscomprehension that occurs is eradicable. That most advertisers know this full well is shown by the recurrence of certain types of implications again and again in FTC cases. Preston (1977) identified a dozen types of implications attacked by the FTC, most of them frequently enough that advertisers could certainly be said to be on notice as to their existence and their standing at law.

Research such as ours might also place advertisers on notice. Craswell observed that "One reason it often appears difficult to tell whether changes in an advertisement would have been beneficial is that evidentiary and measurement techniques have never been fully developed--in part, because this has never been recognized as a legally relevant issue" (p. 727). That is a worthy point, but there is no reason why that situation should stay the same in the future. The evidence used in litigated cases to confirm the existence of false implications consists typically of the advertisers' own copytesting, thus they clearly know the effects on message conveyance of what we called in our experiment the "Actual" version of the ad. All the FTC need do is use the same copytesting methods on a "rewritten" version and the evidentiary problem will be solved. It seem unlikely that either the ability to eradicate miscomprehension or the minimal cost of doing so can long remain phenomena that advertisers will deny.

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Stages Of Involvement With Drugs and Alcohol: Analysis Of Effects Of Drug and Alcohol Abuse Advertising

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ABSTRACT

Involvement with addictive substances such as drugs and alcohol is comprised of a series of stages. Individuals at different stages of the addictive process are influenced by different motives, social groups and other factors. The results reported in this paper suggest that anti-drug and alcohol campaigns can differentially impact upon individuals depending upon the stage in the addictive process that they belong to. Specifically, the campaign examined in this study appears to have had more impact upon non-users rather than users in terms of ad recall, ad evaluation and perceived effectiveness.

INTRODUCTION

Drug and alcohol abuse continues to be an area of considerable attention both in North America and in other countries around the world. Much of this attention has traditionally been focused on interdiction whereby governments attempt to stop the flow of illicit drugs from entering jurisdictions or attempt to prevent drug dealers from selling drugs through vigorous law enforcement.

Interdiction essentially tries to address the supply side of the drug and alcohol abuse problem. In recent years, some governments have also attempted to address the demand side of the drug and alcohol abuse problem. Attempts to reduce the demand for illicit drugs and alcohol typically involve marketing and promotion activities designed to dissaude individuals from using drugs and alcohol. Such attempts to reduce or eliminate consumption of a product represents countermarketing in which the goal is to designate the product as intrinsically unwholesome. In contrast, demarketing attempts to reduce demand for a product without discrediting the product itself (Kotler, 1973).

The effects of countermarketing efforts on drug and alcohol abuse have been reviewed by Bandy and President (1983) who looked at two decades of anti-drug and anti-alcohol advertising campaigns. Bandy and President attempted to ascertain whether such campaigns do in fact accomplish their objectives of reduced drug and alcohol use. Generally, the result of their review was inconclusive. One reason cited for this inconclusiveness is the reliance on user self-reports which are thought to have questionable validity because of potential under-reporting of usage.

DePaulo et al (1987) have suggested another reason for the inconclusiveness of previous studies because these studies fail to take into account the respondent's involvement with an addictive substance. These stages included trial, non-addictive use, addictive use, cessation and relapse back into addictive use. The central thesis of DePaulo et al is that the effectiveness of any drug and alcohol related marketing effort will vary according to stage at which particular individuals belong.

THEORETICAL BACKGROUND

The six-stage model is an adaption of a five stage sequence outlined by Lettieri, Sayers and Pearson (1980). Modifications to the Lettieri model included the addition of non-user stages in which drug and alcohol use is not contemplated or has been contemplated but no substance trial has occurred. Described below are the six stages of this adapted model.

Stage 1: Usage Not Contemplated

The first stage is comprised of non-usage with no usage being contemplated. Everyone will start at this stage and remain at this stage until adolescence at which time some individuals will move onto the next stage.

Stage 2: Usage Contemplated

In today's society, most adolescents are likely to move to the next stage which is non-usage with usage being contemplated. This stage is similar to Roger's (1983) knowledge stage in the innovation diffusion process. Individuals in this stage have not tried drugs or alcohol but have seriously considered trying drugs. Drug and alcohol abuse prevention programs are typically geared to this stage.

Stage 3: Trial

This stage includes the initial use of a substance. The novice is typically introduced to the substance by a more experienced peer (Kandel and Maloff, 1983). Because of the gateway effect trial of one drug often leads to trial and use of another harder drug. As DePaulo et al (1987) note, the use of some substances does not inexorably lead to the use of other substances. Social drinkers do not automatically become heroin users.

Stage 4: Light Use

Many individuals can consume addictive substances without becoming addicted. Social drinkers do not necessarily become alcoholics. For some substances such as alcohol, light use may be acceptable while light use of other substances like heroin and cocaine is not acceptable. This stage may be skipped if usage after trial is sufficiently heavy.

Stage 5: Moderate Use

The dividing line between the previous stage and this stage is necessarily subjective but is nonetheless instructive because it involves a movement away from socially acceptable light use to heavy use.

Stage 6: Heavy Use

Most models conceptualize this stage as one of addiction. The user appears to be irrational at this stage because the benefits of usage appear to be outweighed by the disadvantages. (Falk, Dews, and Schuster, 1983). Operationalization of addictive use requires medical examination and is not amenable to survey research.

The remaining stages of the model are comprised of cessation of addictive use, post-cessation behaviour and relapse - repeat dependence. These stages are relatively rare in the general population and are typically not the target of marketing efforts.

VARIATIONS IN INFLUENCES BETWEEN STAGES

The underlying motivational factors are believed to differ between each stage. It is hypothesized that the factors involved in moving from stage 1 to stages 2 and 3 are based upon peer pressure and other forms of social reinforcement (Lang 1983). The motivation to move from stage 3, trial to stage 4, light use is believed to be sensual pleasure (eg. euphoria of getting high) and immediate gratification. The motivation to move from stage 4 to stages 5 and 6, moderate and heavy usage, is believed to be tension-reduction whereby stress and anxiety are reduced (Marlatt 1976).

The central hypotheses then is that anti-drug and alcohol campaigns which are designed to influence one motivational factor are likely to be effective for only some of the stages of drug and alcohol use.

METHOD

Anti-Drug and Alcohol Abuse Campaign

The hypotheses that anti-drug and alcohol campaigns will have differential effects upon individuals depending on their stage of drug and alcohol use was tested by analyzing the effects of Health and Welfare Canada's Really Me anti-drug and alcohol campaign. The Really Me campaign is a multi-media campaign which had been running for about six months prior to the research. The campaign makes heavy use of TV advertising which is supplemented with radio ads and transit shelter ads.

Two advertisements were run in English Canada and two advertisements were run in French Canada. The ads were targeted to youth aged 11 to 17. The themes of the campaign were that drug and alcohol use was not "cool", that drug and alcohol use was not a sign of growing up and that each individual should make up his/her own mind about using drugs and alcohol without peer pressure.

These ads are clearly designed to prevent individuals from moving from stages 1 and 2 where peer pressure is critical to stages 3 and 4. The ads are hypothesized to have less impact upon individuals in stages 5 and 6. These campaign themes which are designed to reduce peer pressure can be contrasted to the themes of other anti-drug and alcohol campaign which stress the health consequences of drugs and alcohol or the legal consequences. Such themes would be expected to be more effective for other stages of drug and alcohol use.

Sample

A total of 1440 English speaking and 762 French speaking youth were interviewed in person by the Canadian Gallup Poll. The sample was based on a multi-stage modified probability design in which census areas were first stratified by region and community size. A random sample of census areas was then drawn and clusters of 7 interviews were conducted in each area. Quotas were set by age for each census area. One limitation of the sample was the need to obtain parental approval prior to conducting the interview.

Dependent Measures

Respondents were first given a self completed portion of the questionnaire which was comprised of a series of drug and alcohol usage measures. Upon completion of this portion of the questionnaire, respondents were given seals to seal their questionnaires in order to maintain their anonymity.

Respondents were then asked a series of questions concerning the campaign. Drug usage was grouped into two categories. Those who have never tried or seriously considered using drugs (stage 1), were grouped with those who have seriously considered using drugs but had never tried any of several drugs (stage 2). The second group was comprised of those who had used any of several drugs (stage 3) such as marijuana, cocaine, heroin and LSD. There were few individuals in the sample who could be categorized as light, moderate or heavy drug users.

Alcohol users were categorized into five groups - non-triers (stages 1 and 2), triers (stage 3), light users (stage 4), moderate users (stage 5) and heavy users (stage 6). Light users are those who drank less than once a month, moderate users are those who have less than four beers per week (or the equivalent in wine and liquor) and heavy users are those who have four beers or more each week.

Given the use of self-report measures of drug and alcohol abuse, some drug and alcohol usage has undoubtedly gone unreported.

Independent Measures

There were three types of independent measures - advertising recall, advertising evaluations, and perceived advertising effectiveness.

Advertising recall measures included unaided recall of any anti-drug/alcohol advertisements, unaided recall of the Really Me campaign, and aided recall of each television advertisement.

Advertising evaluation measures included interest in the two ads compared to other ads, believability of the people in the ads, and likelihood of talking to friends about the ads.

Perceived advertising effectiveness measures included likelihood of thinking about drug and alcohol use as a result of seeing the ads and whether the ads will make drug and alcohol use less popular.

Two caveats are required regarding the measures. First, usage is undoubtedly underreported since

TABLE 1

PROPORTION OF RESPONDENTS RECALLING ANTI-DRUG/ALCOHOL ADVERTISEMENTS

	DRUGS		ALCOHOL				
	NEVER USED	USERS	NEVER TRIED	TRIERS	LIGHT TRIERS	MODERATE USERS	HEAVY USERS
RECALL OF AN ANTI-DRUG/ALCOHOL ADS							
English sample	81.1%	80.2%	78.8%	82.2%	82.4%	82.1%	77.6%
French sample	82.7	84.7	82.0	83.2	89.4	81.9	81.8
PROMPTED RECALL OF REALLY ME CAMPAIGN							
English sample	38.9	47.0**	36.1	39.4	47.3	43.1	40.2
French sample	77.0	67.8**	77.6	78.0	78.8	74.1	67.6
AIDED RECALL OF ADS							
English - Ad 1	60.6	59.9	57.1	63.1	66.3	59.5	50.0**
English - Ad 2	69.7	66.8	64.1	73.1	68.1	75.4	64.5**
French - Ad 3	55.7	44.5**	61.1	53.2	49.0	46.9	41.8**
French - Ad 4	79.7	65.8***	81.8	82.9	74.5	65.9	70.4**
Base (English)	(936)	(378)	(318)	(271)	(259)	(202)	(238)
Base (French)	(637)	(237)	(225)	(171)	(134)	(144)	(157)

*p= .10
**p= .05
***p= .01

respondents are essentially required to report illegal behaviours. Second, one may question the designation of behavioral measures as independent variables since the campaign ultimately is trying to reduce usage behaviour. However, in the short term, such behaviours are clearly established and the most the campaign can accomplish is to communicate key informational elements and attempt to change attitudes. It is unrealistic to expect such campaigns to immediately alter ingrained behaviours such as drug and alcohol use.

RESULTS AND DISCUSSIONS

Advertising Recall

Approximately 80% of respondents in both the English and French samples have ever seen an anti-drug or alcohol advertisement. There were no differences in advertisement awareness between the different levels of drug and alcohol usage (Table 1)

There were significant differences in awareness of the Really Me campaign between drug users and non-users. In the English sample, significantly more (p=.05) users (47%) than non-users (38.9%) were aware of the campaign while in the French sample, significantly more (p=.05) drug non-users (77%) than users (67.8%) were aware of the campaign (Table 1).

There were also significant differences in aided recall levels depending upon drug and alcohol usage. In the English sample, aided awareness of each of the two ads differed significantly (p=.05) depending upon level of alcohol use. However, aided recall did not monotonically decline as alcohol usage increased.

In the French sample, both drug and alcohol usage was related to aided awareness of both French ads. Drug non-users were significantly more likely (p=.05) to recall seeing both ads than drug users (55.7% vs 44.50% and 79.7% vs 65.8%) (Table 1)

While the English sample results are mixed and at times contradictory, the French sample results clearly support the hypothesis that recall of ads which utilize a drug/alcohol use prevention approach are not as well recalled among those who already use drugs/alcohol. Overall, eight of sixteen multiple two-way comparisons were significant at the p=.05 level.

TABLE 2

PROPORTION OF RESPONDENTS AGREEING WITH AD EVALUATION STATEMENTS

	DRUGS		ALCOHOL				
	NEVER USED	USERS	NEVER TRIED	TRIERS	LIGHT TRIERS	MODERATE USERS	HEAVY USERS
ADS WERE BELIEVABLE							
English - Ad 1	93.8%	80.4%***	94.6%	96.0%	93.2%	79.1%	78.7%***
English - Ad 2	90.8	82.3 ***	92.2	91.8	87.1	88.8	72.6 ***
French - Ad 3	92.6	87.0	94.4	90.5	83.7	94.1	95.7
French - Ad 4	95.8	93.0	97.0	94.8	93.4	93.8	97.7
PEOPLE IN ADS WERE LIKE RESPONDENT'S FRIENDS							
English - Ad 1	60.8	46.3***	61.5	65.7	60.5	52.2	31.3***
English - Ad 2	57.8	44.9***	60.2	64.8	54.5	53.0	30.6***
French - Ad 3	62.7	22.2***	73.1	55.1	51.1	42.9	37.0***
French - Ad 4	66.1	22.1***	73.0	62.5	53.4	45.8	37.8***
LIKELY TO TALK TO FRIENDS ABOUT AD							
English - Ad 1	44.2	39.4	48.7	41.5	44.4	47.1	28.3
English - Ad 2	45.9	33.9***	47.2	49.1	49.6	39.3	19.7***
French - Ad 3	53.7	37.3**	62.4	51.4	39.6	50.0	23.1***
French - Ad 4	57.1	30.8***	65.6	52.7	40.3	41.5	31.9***
Base (English)	(481)	(115)	(127)	(154)	(136)	(72)	(50)
Base (French)	(288)	(53)	(168)	(75)	(51)	(38)	(28)

* p= .10
** p= .05
*** p= .01

Advertising Evaluation

Significantly more (p=.01) English drug non-users (93.8% and 90.8%) indicated that the people in the two ads were believable then did drug users (80.4% and 82.3%) (Table 2) In addition, the proportion indicating that the people in the ads were believable declined significantly in a generally monotonic manner across the various levels of alcohol usage.

For example, 94.6% of alcohol non-users felt that the people in the first ad were believable compared with only 78.7% of heavy alcohol users (Table 2).

In the French sample, believability ratings did not vary across either alcohol or drug usage levels.

Not unexpectedly, respondent ratings of whether the people in the ads were like their friends varied significantly across both alcohol and drug usage levels in both the English and French samples. For example 60.8% of drug non-users felt that the people in the first ad were like their friends compared with only 46.3% who felt this way among the drug users (Table 2). In addition, 61.5% of those in the English sample who had never tried alcohol indicated that the people in the first ad were like their friends compared with only 31.3% of alcohol heavy users.

Word of mouth stimulation by the advertisements was also higher among non users than users. For example, 47.2% of those who had never tried alcohol in the English sample indicated that they were likely to talk to their friends about the second ad compared with only 19.7% who indicated they would talk to their friends among heavy alcohol users (Table 2).

The data suggests that whether the respondent has used drugs or alcohol has a strong bearing on how the respondent evaluates an anti drug/alcohol ad in terms of believability, similarity to peer group members and word of mouth stimulation. Overall,

TABLE 3

PROPORTION OF RESPONDENTS AGREEING WITH AD PERCEIVED EFFECTIVENESS

	DRUGS		ALCOHOL				
	NEVER USED	USERS	NEVER TRIED	TRIERS	LIGHT TRIERS	MODERATE USERS	HEAVY USERS
LIKELY TO THINK ABOUT DRUG/ ALCOHOL USE AFTER SEEING AD							
English - Ad 1	71.3%	58.9%***	73.2%	75.0%	63.8%	63.8%	61.4%*
English - Ad 2	73.9	61.7***	74.9	74.1	70.7	69.7	55.9
French - Ad 3	81.1	64.0***	84.0	82.4	78.3	78.4	50.0***
French - Ad 4	81.4	60.6***	88.0	76.3	78.4	71.7	52.4***
ADS WILL MAKE DRUG/ALCOHOL USE LESS POPULAR							
English - Ad 1	73.2	58.3***	77.2	72.8	65.0	64.6	51.1***
English - Ad 2	74.5	63.8***	79.9	74.3	70.6	66.3	55.9***
French - Ad 3	66.7	44.9***	74.1	63.1	53.3	60.6	41.7***
French - Ad 4	71.5	41.8***	80.0	86.3	54.4	69.4	43.2***

* p=.10
** p=.05
*** p=.01

eighteen of twenty-four multiple two-way comparisons were significant at the p=.05 level.

Perceived Advertisement Effectiveness

Alcohol and drug usage also had a significant effect upon the perceived effectiveness of the advertisements. Significantly more (p=.01) English drug non-users (71.3%) than users (58.9%) indicated that they would be likely to think about drug use after seeing the first ad (Table 3). Similarly, significantly more (p=.01) English alcohol non-users (73.2%) than heavy alcohol users (61.4%) indicated that they would be likely to think about alcohol use after seeing the first ad.

When asked whether they felt that the ads would make drug and alcohol use less popular, significantly fewer (p=.01) drug users than non-users in both samples indicated that the ads would make drug use less popular. Heavy alcohol users were also significantly less likely to feel the ads would make alcohol use less popular compared to non-users (Table 3).

Overall, fifteen of sixteen multiple two-way comparisons were significant at the p=.05 level.

CONCLUSIONS AND IMPLICATIONS

These results generally confirm DePaulo et al's hypothesis that stage of addictive substance use will differentially affect the impact of anti-drug/alcohol campaigns. The campaign discussed in this paper was specifically designed to act in a preventative role with a goal of reducing the number of individuals who try drugs. Overall, the results indicated that ad recall, ad evaluation and perceived ad effectiveness are all higher among non-users than among users. This is a positive outcome because it suggests that the campaign was most effective with the intended target groups. On the downside, there remains the need to address drug and alcohol usage among current users since the campaign was less effective with these individuals.

This result also highlight the need to evaluate the effectiveness of anti-drug and alcohol campaigns by taking into account the usage stage of the respondents. The relative effectiveness of some campaigns can well be blurred when different usage groups are aggregated together.

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Format Effects on an In-Ad Disclosure

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ABSTRACT

This paper presents the results of an experimental portfolio test of print advertising that manipulated two components (the size of the type used and the background color) of an in-ad health warning for a smokeless tobacco product. The study found that neither increased warning size nor a contrasting background significantly increased disclosure communication. The study also found that the disclosure failed to communicate the health warning to nearly half of all subjects.

In late 1986 the Federal Trade Commission (FTC) was considering the format that would be required for the newly mandated health warnings to appear in advertisements for smokeless tobacco products. Although the FTC staff had decided to recommend a circle and arrow shape (which had been proven effective in other countries, Daube, 1982), the specifics of how the warning would appear within that shape had not been determined. This study was conducted to provide input regarding two format elements: the size of the lettering in the warning and its background color.

BACKGROUND

The Comprehensive Smokeless Tobacco Health Education of 1986 required that the FTC specify the manner in which three different health warnings would be presented in the advertising for smokeless tobacco products (dry snuff, semi-moist snuff and chewing tobacco). The goal of the disclosure was to clearly and conspicuously disclose and, hopefully, communicate the health risks associated with smokeless tobacco.

Previous tobacco warning disclosures (cigarettes) required by the FTC had met with less than complete success. A 1981 FTC staff report on cigarette warnings concluded that the warning then appearing on cigarette labels was "not effective" (Myers, et al. 1981). A principal reason for this conclusion was the finding that a significant percentage of smokers were unaware of the basic message of the warning (that smoking was hazardous to health) even though the warning had been appearing in advertising and on packages for over ten years since. In an attempt to improve warning communications the FTC staff recommended adoption of a series of rotational health warnings that would appear in a specially shaped label (a circle with an arrow pointed into it). These recommendations were based, in part, on the success of similarly shaped, rotational warnings that had been a component of an effective Swedish health education program (Daube, 1982).

Although the new warning shape was not part of the revised cigarette rotational warnings adopted by the US Congress and the FTC in 1985, that shape (circle and arrow) was selected by the FTC staff as the basic format for the in-advertising warnings that Congress mandated for smokeless tobacco. Beyond the basic shape of the warning there were other format elements that were likely to increase exposure.

Studies of consumer product safety warnings (Viscusi & Magat, 1986; Karnes & Leonard, 1986) indicated that increasing the type size of the warning would increase communications. Further, Bettman, Payne and Staelin (1986) suggest that increased size and contrasting color would both add to the communications effectiveness of health warning disclosures.

This leads to the two hypotheses of the study:

H1. A larger warning (both type size and overall warning size) will increase warning communication in print advertisements for a smokeless tobacco product.
H2. A contrasting background for the warning (as compared to the background of the advertisement) will increase warning communication in print advertisements for a smokeless tobacco product.

METHODOLOGY

Subjects were drawn from a cross section of undergraduates attending a major metropolitan university. While student samples, generally, are inappropriate for tests of advertising communication, in this instance there are two reasons that they are, in fact, a preferable sample.

First, students and young adults (both male and female) are principal target markets for smokeless tobacco products (Warder & Popper, 1985). Thus, a student sample is drawn from the population of the product's potential users. Second, the use of a student sample provides a conservative test of advertising disclosure communication. Students can be expected to be more literate and more analytic in their reading than the public at large. Thus, if a print disclosure can be communicated at all, it will be communicated to a student sample. On the other hand, a disclosure that is ineffective in communicating to students (when they are, in fact, the targets of the advertising) is amost certain to be ineffective in communicating to a non-student audience.

A total of 270 subjects (52% male, 48% female; median age of 21) were randomly assigned to one of the following experimental groups (which varied with regard to the format of the in-ad health warning):

[1]The authors wish to thank Dr. Greg Connelly of the Commonwealth of Massachusetts' Department of Public Health without whose support and advice this project could not have been conducted.

Control Group Smokeless Ad Without Warning

Test Group 1 Small black type on white background.
Test Group 2 Small white type on grey background.
Test Group 3 Large black type on white background.
Test Group 4 Large white type on grey background.

Subjects in the groups each received a packet of three advertisements. These three advertisements included two distractor ads (for student relevent products) and one test ad. The order of the ads was rotated between subjects. All ads were high quality, 8" X 10", color photocopies. The test ads were all modifications of a single advertisement for Skoal Bandits (semi-most snuff packets) that was taken from the current Sports Illustrated. The warning was positioned in the advertisement according to FTC placement guidelines and appeared against a (generally) grey background portion of the ad. The only difference between the test ads was the size and color of the health warning. In the small type version of the warning, the type size used was the same size (10 point) as the type specified for use in FTC mandated cigarette warnings for a similarly sized print ad. The large version's type size was 40% larger (14 point). In the contrasting background version, the background was white and the type was black. In the non-contrast version the background was grey (similar but not identical to the background of the ad) and the type appeared in white. The control group received the same smokeless tobacco advertisement without any warning.

After exposure, the ads were removed from the subject's view. Subjects were than asked an unaided recall question about the messages in the ad for the smokeless tobacco product. Next they were asked an aided recall question on the presence of a warning message. Next the subjects were asked recognition question on both the warning message the warning symbol. The message recognition question included the following options: the warning that had appeared in the ad, two other health messages regarding smokeless tobacco, a paraphrase (to remove the reference to cigarettes) of the 1970-1985 Surgeon General's warning that had appeared in cigarette advertising, and the response that the ad did not contain a warning message. The choices for the symbol recognition question included the circle and arrow symbol (that had appeared in the ad), the rectangular shape used for warnings in cigarette advertising, and an octagon (stop sign shape), and the response that the warning was not contained in a symbol or border. Finally the subjects were asked a series of classification questions that included general demographics, cigarette smoking history and smokeless tobacco usage.

The dependant measures of the study were unaided recall (whether the subjects recalled a warning as part of the open ended question about the ad's principal messages); aided recall (whether the subjects responded yes to the question "was there a warning message in the advertisement"); message recognition (recognition of the ad's warning message) and symbol recognition (recognition of the circle and arrow warning symbol). Proven unaided and aided recall measures were created by adjusting the unaided and aided measures removing those who claimed recall but were unable to correctly recognize either the warning message or symbol.

RESULTS

The recall of the warnings was at a moderately low level (see Table 1) with about one fifth (20.7%) of the subjects exposed to a version of the warning recalling it unaided (compared to a 4% unaided recall level for the control group). This unaided recall level changed only minimally when verified in the proven recall measure. Aided recall was substantially higher with almost two thirds (62.3%) of the subjects who were exposed to some form of the warning recalling the presence of a warning when asked (compared to just over a quarter of the subjects in the control group who said they saw a warning). The high level of aided recall in the control group appears to be yea saying in that it dropped to a negligible level when verified in the proven aided measure. Similar yea saying responses may have occurred within the test groups as well since proven recall declined to a average level of just over one half (53.2%).

Chi square statistics for each of the different measures (based on a table composed of recall versus non-recall) were statistically significant (at a $p < .05$ level) for all measures when the control group was included in the analysis. However, when the control group was excluded and just the warning test groups were compared, all chi square statistics dropped to a non-significant level.

Both message and symbol recognition levels (see Table 2) showed that about half (47.3% for message recognition and 52.7% for symbol recognition) of the subjects exposed to warnings were able to recognize that warning. Only a negligible portion of the subjects in the control group "reconized" the warning (fewer, in fact, than would be expected by chance). Like the recall analysis, chi square statistics for recognition measures were statistically significant ($p < .001$) when the control group was included and dropped to non significance when the control group was excluded.

Looking at the effects of the experimental factors, type size showed very little effect on either unaided recall (see Figure 1) aided recall (see Figure 2) or recognition (see Figure 3). One way analyses of variance on these four dependent measures for the typesize factor all produced statistically significant F statistics ($p < .01$). However, a variety of multiple comparison tests (e.g., Dunacn's multiple range test; Tukey's HSD) all indicated that the significant variation occurred between the control group and the treatment groups and there were no statistically significant differences ($p < .05$) between the two different type size groups.

A similar examination of the effect of background on the four dependent measures shows that

TABLE 1

Warning Recall*

Group	Unaided	Proven Unaided	Aided	Proven Aided	n
Control	4.0%	2.0%	26.0%	4.0%	50
Small-Contrast	28.3%	26.4%	69.8%	60.4%	53
Small-Similar	17.3%	17.3%	53.8%	42.3%	52
Large-Contrast	29.5%	27.9%	62.3%	54.1%	61
Large Similar	22.2%	20.4%	63.0%	55.6%	54
					N = 270
With Control Group					
Chi-Square	13.66	15.44	24.43	44.40	
p=	<.01	.05	<.01	<.001	
Without Control					
Chi-Square	2.84	3.42	2.86	4.09	
p=	.42	.75	.41	.66	

*Percent Recalling Warning

TABLE 2

Warning Recognition*

Group	Message Recognition	Symbol Recognition	n
Control	4.0%	2.0%	50
Small-Contrast	62.3%	52.8%	53
Small-Similar	44.2%	42.3%	52
Large-Contrast	50.8%	49.2%	61
Large Similar	53.7%	44.4%	54
			N = 270
With Control Group			
Chi-Square	42.91	36.63	
p=	<.001	<.001	
Without Control			
Chi-Square	3.55	1.43	
p=	.31	.68	

*Percent recognizing warning

FIGURE 1

WARNING RECALL BY TYPESIZE

Unaided & Proven Unaided

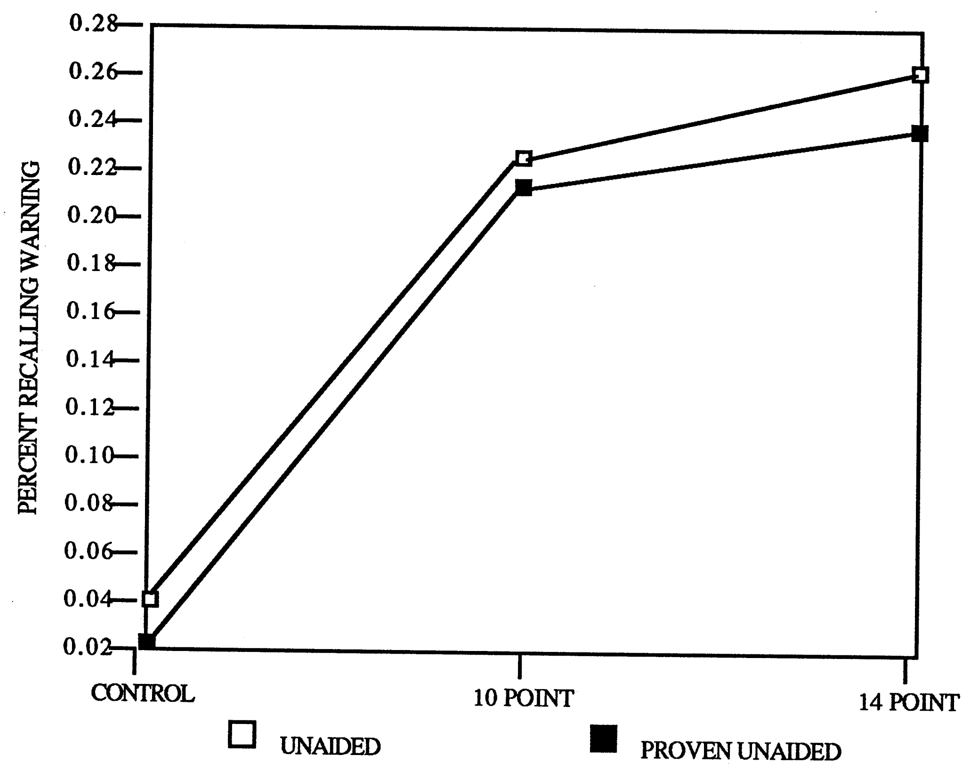


FIGURE 2

WARNING RECALL BY TYPESIZE

Aided & Proven Aided

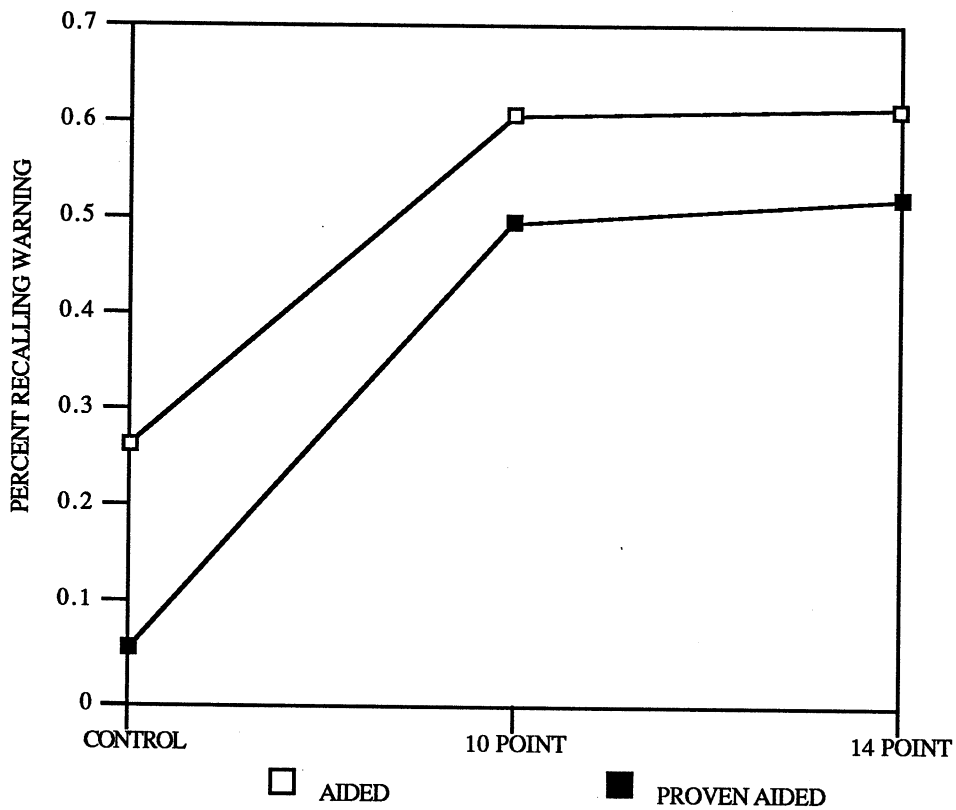


FIGURE 3

WARNING RECOGNITION BY TYPESIZE

Message & Symbol

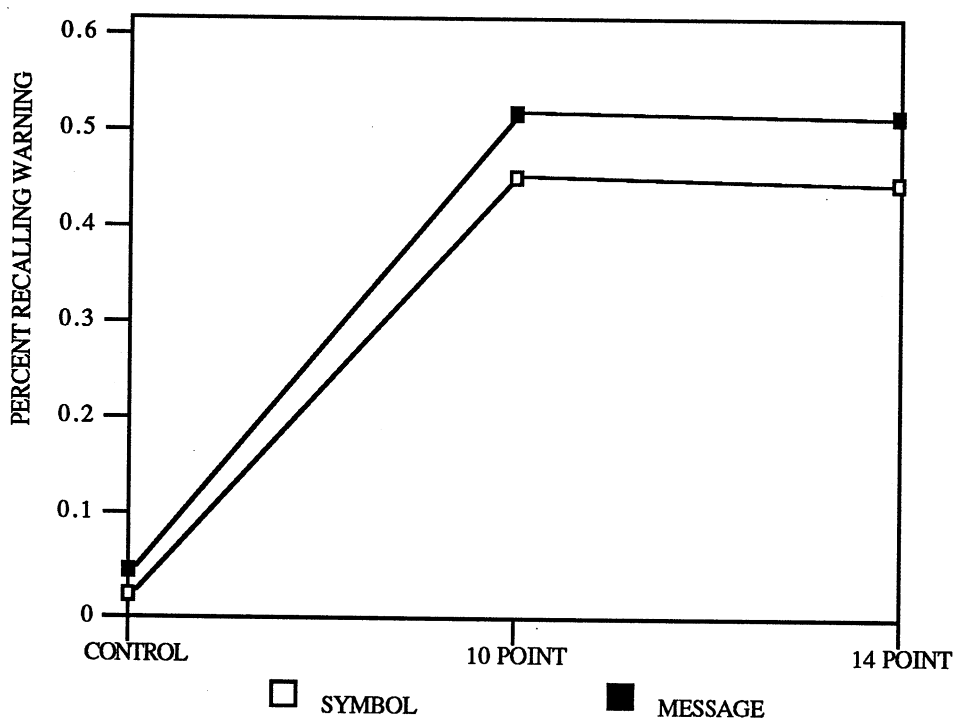


FIGURE 4

WARNING RECALL BY BACKGROUND

Unaided & Proven Unaided

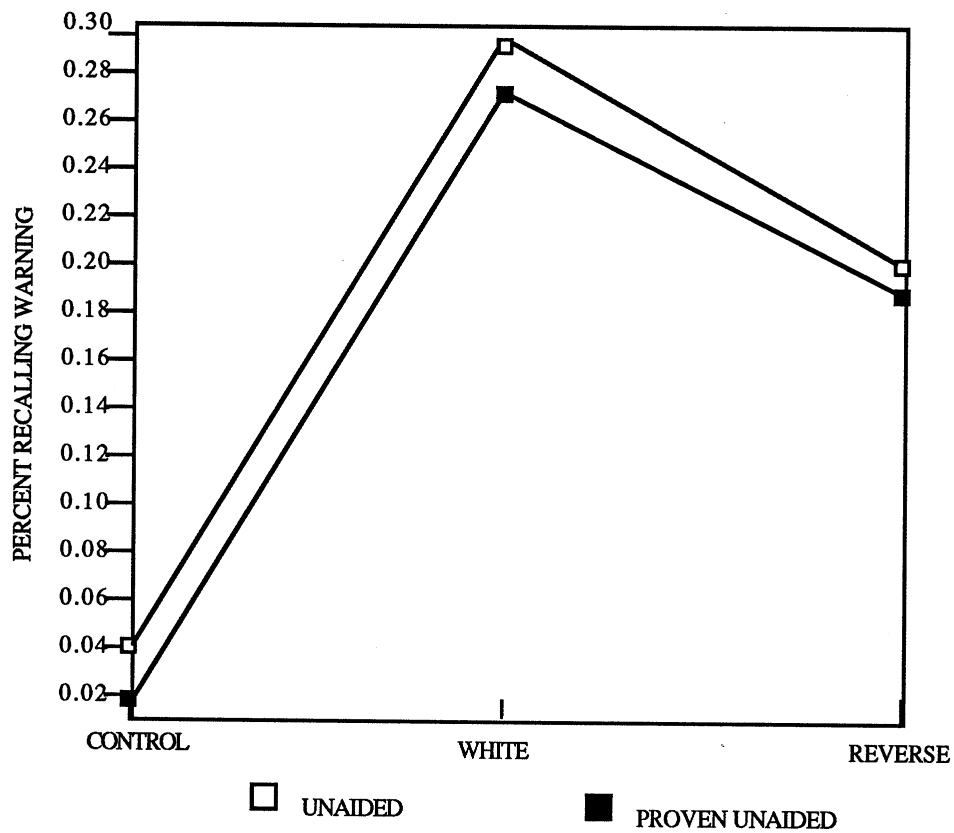


FIGURE 5
WARNING RECALL BY BACKGROUND

Aided & Proven Aided

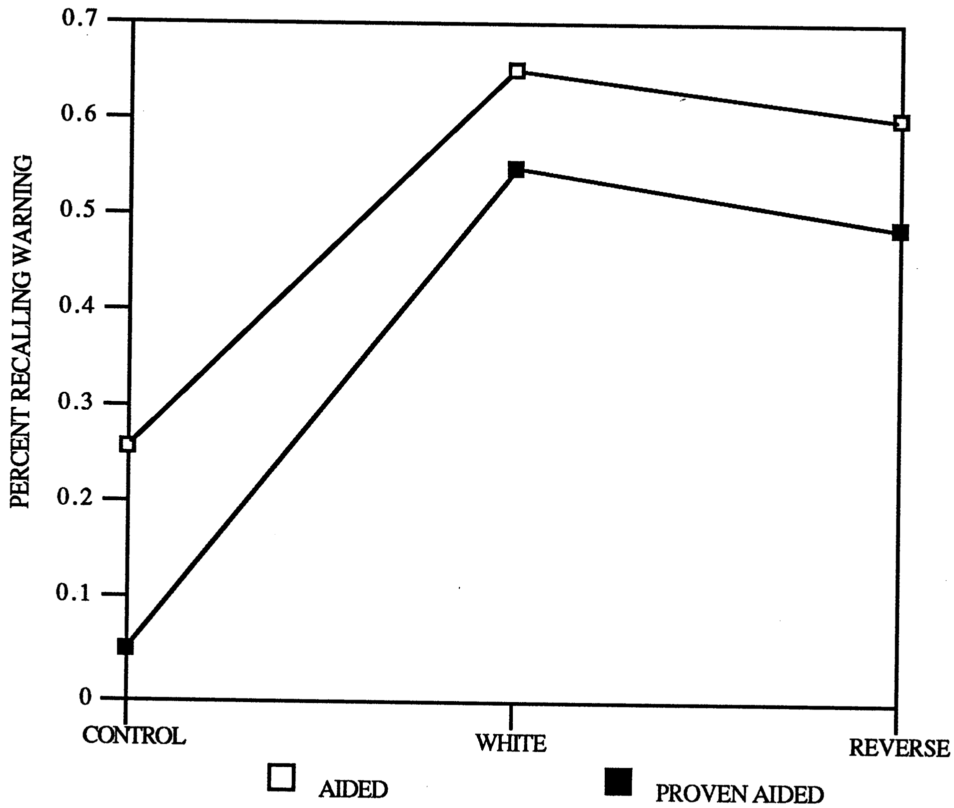
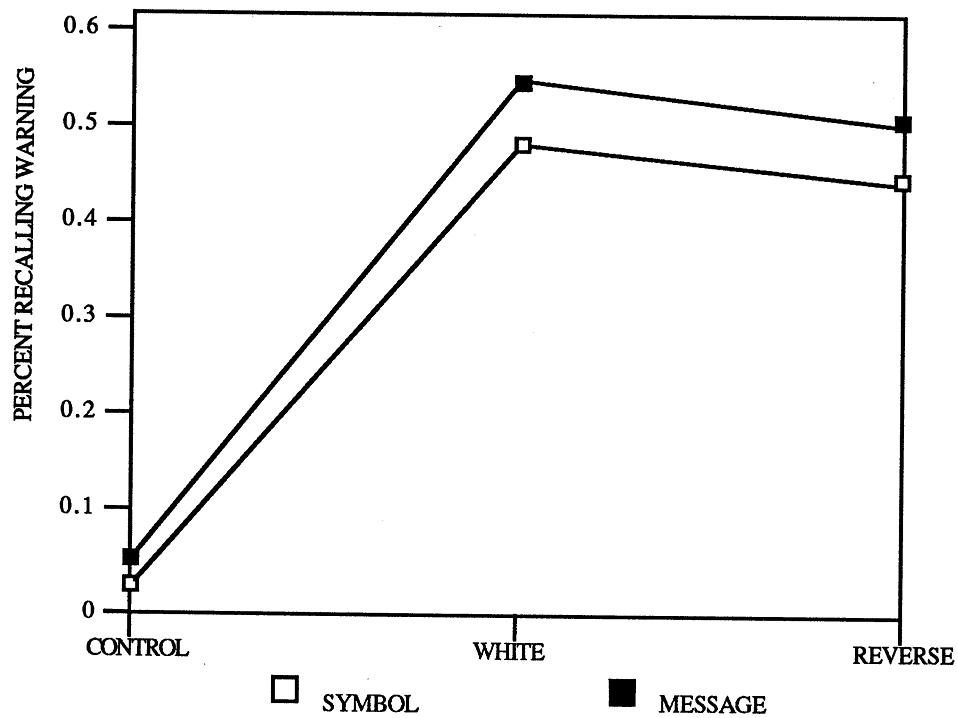


FIGURE 6

WARNING RECOGNITION BY BACKGROUND

Message & Symbol



the contrasting (white) background appears to have some effect on unaided recall (see Figure 4) and a less pronounced effect on aided recall (see Figure 5) and on the two recognition measures (Figure 6). One way analyses of variance again showed statistically significant F statistics ($p < .05$). However, multiple comparison tests showed the significant differences to be between the control groups and the two different background treatments. No statistically significant ($p < .05$) differences were found between the two different background treatments.

Two way analyses of variance were conducted on each of the dependent measures for the two manipulated factors (type size and background) and no statistically significant ($p < .05$) F statistics were found for the factors or their interaction. There were no statistically significant (p. <.05) correlations (Pearson's r) between any of the dependent measures and the subjects use (either current or historical) of either cigarettes or smokeless tobacco. Thus, not surprisingly, using these variables as covariates in the two way ANOVA had no substantive effect on the outcome of those analyses.

DISCUSSION

These data do not support the hypotheses. Neither varying the size of the type used in the warnings nor varying the background of the warnings increased the disclosure's communication. This somewhat unexpected finding can, perhaps, be explained by the low level of warning communication. The low level of communications might suggest that those subjects who did recall or recognize the disclosure were somehow different than those who did not retrieve the communication. The analysis demonstrated that the differences were not in product use. Perhaps the difference was in the subject's sensitivity to warning information. If that were so, than this disclosure was only effective for those subjects with a predisposition for disclosure.

As discussed above, a limitation of this study's sample was that it was likely to be more prone to disclosure communication than the population at large. In this way, the measures of communication were likely to be conservative in that if there was any likeliehood of the disclosure being communicated under natural conditions, it would certainly be communicated here. Thus, the communications results shown in Tables 1 and 2 reflect relatively poor disclosure communication. If, with a communication prone population, less than quarter of the subjects can prove unaided recall and only half can recognize the warning (seen only moments before), effective disclosure has not occurred.

A second factor that could have been expected to increase the level of communications (perhaps unnaturally) was the novelty of this warning. Health warnings had never appeared in advertising for smokeless tobacco products. Further, the circle and arrow format was new to tobacco warnings (and, indeed, to all advertised warnings) in the United States. These two factors should, together, have resulted in communication levels that were dramatically higher than would occur with a familiar warning in a familiar product environment (eg., cigarettes).

Assuming that both these factors (more communications conscious sample and novel warning) did, in fact, elevate communication scores suggests that in a natural environment with a less novel warning little or no disclosure would occur.

These low levels of the communications measures are relatively constant (showing low standard deviations) across treatment levels. Even for those communications measures that would be expected to have been most sensitive to the manipulations no significant differences within the factors were apparent.

The message recognition measure would be most likely to have been impacted by the type size manipulation. If the larger type size were to have any impact it should appear in the measure that specifically tapped the subjects' ability to recognize the words that appeared in the larger type face. There was, however, no significant difference between message recognition scores for the two type size conditions. Indeed, the percentage of subjects who correctly recognized the message was slightly lower for the large type size (52.1%) than for the small type size (53.3%).

The symbol recognition measure would, similarly, be most likely to be impacted by the background color manipulation. This would merely be reflecting that the communication of a visual image would be most likely effected by differences of the visual content and environment of that image. While the contrasting background resulted in higher correct recognition of the symbol (50.8%) than the non-contrasting background (43.3%), there was no significant difference in the symbol recognition measure. This non-significant difference is, none the less, in the hypothesized direction.

IMPLICATIONS

These findings may suggest that perhaps the manipulations were not sufficiently large. While, from a research perspective, this can be readily remedied, the pragmatic implications are more substantial. The type-size manipulation used in this experiment increased the size of the type and, therefore, the overall warning, by 40%. It would be easy, in an experimental setting, to increase warning size continually, until an effect is observed. It is unlikely, that an advertiser would be quite so willing to allow a warning (particularly a mandated health warning) to consume his expensive media space.

This study would suggest that if the FTC were to mandate that the disclosure for smokeless tobacco was to use either the sizes or the backgrounds studied here, the disclosure would not be effective in warning the target market of the product's health risks. In fact, the FTC did, in November, 1986, mandate that the warnings would appear in a circle and arrow format using the smaller size tested here. However, the required warning would have to appear in a contrasting color (such as the white background, black type tested here).

Future research can track the communications effects of those warnings directly in the effected population. Other research can determine what size is necessary before an effect is noted and whether the effect of contrasting background will increase as the size of the warning increases. Additional factors to be studied would include whether communications could be enhanced by increasing the size of the warning space without increasing the size of the typeface (in this study warning space increased directly with type size) and whether the effects would be different for a less novel warning (both in terms of novelty of format as well as the novel presence of any warning).

Totally aside from the effects of format, this study suggests that in-ad disclosures are not particularly effective in communicating health warnings. If that finding is confirmed by other researchers it would suggest the need for serious reconsideration of the use of in-ad disclosures. If they are used by companies as a protection from liability (i.e., by including the in-ad disclosure the company has dispatched its obligation to inform consumers of its product's risks), a disclosure that doesn't communicate would provide little protection. If they are used by public policy makers to inform the public, a disclosure that doesn't communicate can provide little information.

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Public Policy Issues in Advertising

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INTRODUCTION

In order to focus on commonalities across the three papers included in this session on public policy issues in advertising my comments will address broad and general policy issues that the papers evoked in my thinking rather than more specific dimensions of the work presented in each paper. My comments pertain to disclosure remedies, how they should be formulated, to whom they should be targeted, and how they should be evaluated. Each paper has something to say about at least one of these topics though I grant that that might not have been the intention of the authors.

PRESTON/RICHARDS

The Preston/Richards paper raises the important questions of whether and at *what cost* miscomprehension of advertising can be reduced. Their experiment includes two straight-forward "corrections" designed to reduce miscomprehension without simultaneously reducing the level of other information conveyed:

1. elimination of allegedly false claim, and
2. affirmative disclosure of information to clarify an allegedly implied claim.

They interpret their results as suggesting that ads can easily be rewritten to reduce miscomprehension without significantly affecting consumers' perceptions about other useful product attributes.

Overall, the study makes a valid point that such refinement is possible. But, in its simplicity their study fails to address some other issues inherent in Craswell's proposition (1985).

First, an aspect of Craswell's argument is that advertising has different impacts on different consumers -- that is, the same ad claims may convey truthful and useful information to some consumers yet convey false beliefs to others. This reflects a distributional problem common to economic analysis. The point is that any ad, *and* any FTC-required modification of an ad, will have uneven effects across the population. This implies that rather than examining the impact of an ad on a whole population, an attempt should be made to more finely segment the population and examine effects in several (all) segments. In the case of *Nalgecin*, for example, those consumers wishing to avoid side effects of aspirin may react differently to ad claims than consumers seeking fast pain relief even when presented with the same ad. Preston and Richards' study does nothing to help determine the existence of distributional effects.

Secondly, the FTC's pattern in remedies has been to require an advertiser to "cease and desist" from making an allegedly deceptive claim and/or to affirmatively disclose information designed to clarify an otherwise allegedly ambiguous claim. Preston and Richards rewrite their ads to include both modifications. A stronger evaluation would weigh the impact of each type of change separately and also look for interaction effects. Such an analysis may reveal, for example, that eliminating the allegedly deceptive claim is responsible for most of the reduction in miscomprehension. When dealing with broadcast messages particularly, but all ads in concept, time is money. If the advertiser is required to include an affirmative disclosure, the cost will undoubtedly be passed on to the consumer. This *cost* is just as important as the cost of eliminating potentially useful information that Preston and Richards focus on. If the desired result could be accomplished simply by eliminating the allegedly deceptive claims this would be a lower-cost alternative for advertisers. The marginal effect of each type of correction is really the critical issue.

A third point relates to the question Preston and Richards asked in their experiment:

> "did the ad make you feel that it was trying to convey this claim to you?"

I wonder if this is the relevant question. It seems to me this falls in the same category as several other "semantic" distinctions under FTC rules. For example, for ads to be found to be deceptive the FTC doesn't have to show actual deceptive impact but rather the ad must have a tendency to deceive. It is not critical to determine advertisers' intent to deceive but instead focus is on capacity to deceive consumers. Thus, I wonder whether respondents' perceptions that the ad was designed to intentionally convey certain beliefs is important. It seems that the likelihood, or the fact, that respondents hold certain beliefs after exposure to the ad is the more relevant question.

These points are intended to suggest that a more rigorous analysis could be employed to answer the question that Preston and Richards set out to address. Such an analysis should include:

1. examination of distributional effects through analyses of impacts upon various market segments;
2. evaluatation of both the individual, as well as the interaction, effects of removal of claims and addition of clarifications in ads; and
3. assessment of pre- and post-exposure beliefs about claims (rather than belief in advertisers' intention to convey message).

A final comment relates to Preston and Richards' observation that "there may be greater costs involved in achieving such masterful obscurity than in merely writing plainly." This raises the issue of the advertiser's strategic objectives and opens up a broader cost/benefit question from the advertiser's point of view. To determine whether obscurity is worth the pains, one must know the objectives of the ad and be able to assess its impact on other consumer beliefs about product attributes and company reputation (e.g.

the halo affect) as well as on such things as consumer confidence, trust, etc. The point is, an obscure ad may be intentionally obscure not to mask a particular product attribute but rather to enhance consumer generalization to other product benefits. Such things as imagery, visualization, or even hemispheral lateralization may be achieved at the expense of literal clarity. One must assume that if, as Preston and Richards suggest, advertisers "are on notice" regarding the FTC's view of certain claims they must feel that the benefits obtainable from use of such claims are well worth the risks of detection and prosecution.

BOZINOFF, ET AL.

The Bozinoff, et al. paper utilizing data from the Canadian Gallup Poll represents just the sort of segment analysis suggested by recognition of the distributional effects of advertising I mentioned with regard to the Preston/Richards paper. Their study emphasizes that one must identify precisely the segment of the market one wishes to influence and then must design ads that appeal to the motivations of that (those) segment(s). They segment their sample into teens in various stages of adoption of/or addiction to drugs and/or alcohol then test the effects of ads designed for teens in the trial or pre-adoption/ addiction stages. Their findings confirm differential impact across segments with non-users generally responding more favorably.

Of course, what this study does not address is the costs/benefits of a preventive campaign targeted to non- or trial-users *compared to* the costs/benefits of a campaign targeted to heavy users or relapsed addicts (that is, cessation or rehabilitation campaigns). This latter question is a more macro issue and one which would necessitate examination of the successes of counseling and treatment programs targeted to users as well as the impacts of mass media campaigns targeted to non- or trial-users. The preventive campaign tested in the Bozinoff study is an example of a policy fostering prevention rather than cure and rehabilitation. Incidently, it is also an example of a social orientation valuing youth. This orientation may stem from conscious economic analysis (e.g., the potential income stream of a 14 year old compared to a 50 year old) or from cultural mores (e.g., youth signifies vigor, beauty, etc.)

From a methodological point of view, the Bozinoff study suffers from the same criticism that the authors level at previous surveys of drug/alcohol use; that is, one of the key independent measures is a self-report of an illegal behavior. It is also a highly subjective measure (e.g., light, moderate and heavy use are self-defined and perceptions are likely to change with use experience).

There are also several details about the survey method and content that, if reported in the paper, might shed light on the findings:

- was length of use measured? how long had these kids been using drugs/alcohol (adaptation effect);
- was motivation for use measured? were respondents asked why they did drugs or alcohol?;
- were social networks and their importance measured? who were respondents' heros?

More important that these data that are not reported however is the failure to use more insightful analyses. Why stop with a pair-wise comparison of proportions of respondents in two stages of use behavior? Though the authors do not elaborate, I presume the independent measures of recall, evaluation, and effectiveness were scale responses. Thus, regression, discriminant analysis, probit or logit analysis could be used to tease out some of the more interesting implications from the data. Specifically the curvi-linear relationships for recall that suggest that light users are more likely to recall ads than either non- or heavier users of alcohol are ripe for some further explanation. What other factors are at play here?

POPPER/MURRAY

The Popper/Murray study raises a couple of important questions for policy makers. First, their study involved evaluating the comparative performance of four alternative disclosure formats. As has been observed in countless other studies, the only significant differences were between disclosures and the control group; there was little difference between the alternative disclosures tested.

The obvious conclusion from this study, and many others of a similar ilk, is that the FTC is not terribly good at designing effective messages. Bill Wilkie recognized this way back in 1970 in the Hawaiian Punch case in which he encouraged the FTC to use an innovative approach to designing the remedy -- what has become known as a performance standard. This approach basically says "we will tell you what to do but not how to do it; you decide how to do it and show us you have done it."

This seems to me to be the solution to the "no significant difference" problem. Advertisers are, and very well should be, more effective than the FTC in designing communications.

A second question for policy analysis is what is the appropriate population when evaluating potential impact of a proposed remedy. In this case the population included the target group but an (assumed) highly sensitive and capable subset of this group. Popper and Murray argue that this is wise as it provides a conservative estimate of potential impact. That is, if it doesn't work with this group it can't be expected to work with any group. This is analogous to test marketing in Salt Lake City. If a product is successful there, it will be successful anywhere.

In summary these three papers dealing with public policy issues in advertising raise some important issues:

-the need to evaluate the distributional effects of a proposed advertising remedy;

-the need to isolate the marginal contribution from individual elements of a proposed message;
-the need to take a broader perspective and compare not simply one ad to another but also one approach to another, e.g. mass media targeted to non-users vs. group counseling targeted to moderate users; and
-the advisability of imposing a format standard rather than allowing advertisers to demonstrate performance.

Methodologically these studies also leave us thinking about the need for more rigorous analytical methods that might help answer some of the more naughty questions in policy implementation.

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The Formation Of Reference Price

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ABSTRACT

In the absence of an explicit measure, previous research has assumed the applicability of certain models (theories of expectations) in describing the manner in which reference price is formed. The validity of the models used in past research is subject to question. First, it is unclear that the assumed models, e.g., rational expectations, depict accurately the reference price formation process. Second, the actual models used in these previous studies ignore central elements of the postulated theories of expectations. In particular, they ignore the fact that consumers have access to the current price information in forming their current reference price for a product.

This study obtains explicit measures of reference price and uses these measures to test the validity of the various models/theories of expectations in describing the formation of reference price. Modeling this process is used to provide insights into the effect of reference price on, for example, consumers' response to price-promotions and brand choice decisions.

INTRODUCTION

When making a purchase decision, consumers must evaluate various alternatives. This evaluation occurs within a given context or decision frame. One element of this context is a standard for comparison of the price of any brand under consideration, i.e., a reference price. The probability of consumers making a purchase is increased if a brand's price is within some range of an acceptable price. Brands that fall above the reference price are likely to be considered economically unacceptable. Moreover, brands that are priced too far below the reference price may be inferred to be lower in quality. In general, reference price can be conceptualized as a standard against which brand prices are compared. Both economic and psychological implications result from a brand's being either above or below a reference price. Marketers, therefore, have a keen interest in the concept of reference price because of its role in the purchase decision and in consumer perceptions of brand quality.

Because many markets are characterized by fluctuating prices, reference price is likely to be dynamic. One would expect consumers to incorporate changing price information into their decision making; failure to do so may work to the disadvantage of both buyers and sellers. A lack of awareness of recent price increases will result in "sticker shock"; and ignorance of decreasing prices will reduce the effectiveness of price competition, as some consumers may pay higher than normal prices.

The dynamism of reference prices presents an intriguing problem for marketers of many frequently purchased consumer goods. Sales promotions have become an increasingly important marketing tool, representing almost twice the expenditure of advertising and with a rate of increase that is 33% greater (Yovovich 1983). Most of the sales promotion expenditure is either directed or passed on to the consumer in the form of temporary price reductions. Price promotion has become so common in many product categories that the sale price may represent the norm.

Each change in price combines with an existing reference price to affect current purchase probability; but it does affect future reference prices as well. Thus, temporary price reductions or promotions, which are intended to increase demand, may have negative consequences by lowering consumers' future reference prices for the brand. Consumers' response to the current discounted price, as well as sales when the brand is not price promoted, will be adversely affected by this lowered reference price. This effect could result in several ways: (a) Frequent discounts may provide a history of lower price data points, which consumers access for comparison. (b) They may provide a basis for inferring lower quality, particularly for non-users of the discounted brand. (c) They may create an expectation of future promotions. Whatever the cause, the consequence of lowering reference price is that consumers will perceive the "regular" price as too high. Because of its influence on both current and long-term demand, marketers seek both to know the static level of reference price and to understand the dynamic process of reference price change. Our purpose in the present paper is to investigate the formation of reference prices over a time as a function of price information. We begin with a discussion of the conceptual and operational definitions of reference price.

REFERENCE PRICE, EXPECTATIONS, AND THE "FORWARD LOOKING" CONSUMER

Expectations

Rosch (1975) defined cognitive reference points as any stimuli to which other stimuli are related. Thus, a reference price is any price to which other prices are related. There are many dimensions on which to evaluate a given price, so it is not surprising that researchers have conceptualized the term in a variety of ways. The concept of reference price is both multi-dimensional and ambiguous. Perhaps the prevailing conceptual definition of reference price is the *fair or appropriate price* (c.f. Nagel 1987). A number of researchers have noted that consumers' determinations of a fair price are subject to contextual mediation (e.g. Puto 1987). For example, one considers a higher price appropriate for the same item in a restaurant rather than a grocery store. Other definitions are at lower levels of abstraction, approaching the empirical. Consumers may, for example, evaluate a given price relative to aspiration (price I would like to pay, or reasonable price (Klein and Ogelthorpe 1985)), budget constraints ("I only have xx dollars."), or target price objectives ("I hope to make the purchase for xx dollars."). The most common approach, however, has been to consider fair and appropriate to result from *expectations*. Puto (1987) models expectations of price along with objectives as the determinants of initial reference price. Helgeson and Beatty (1987) define reference price as the price consumers expect to pay; they demonstrate its effect on the recall of last purchase price. Liefeld and Heslop (1985) define it as "the price that one would ordinarily expect to find" in their study of the effects of advertised prices on reference price.[1] Our conceptual focus, therefore, is on reference price as a price expectation.

The "Forward Looking" Consumer

Gabor (1977) contends that "the price of the last purchase as remembered represents the price image of the good concerned, and it can be of great importance to the price setter to know how it compares with the actual price, since this will indicate how the market will respond to a price change." While previous price may have a role in influencing consumer's perceptions of price, this definition, as noted by Winer (1986), is backward rather than forward looking. This conceptualization has a consumer's reference price dependent on the price at which he could have purchased in the past. Past prices, in and of themselves, are irrelevant to utility maximization. While consumers may take them into account, they are analogous to sunk costs.

Winer (1986) defines reference price as "the consumer's perceived current price of the brand; it could also be termed anticipated price, since it is the price a consumer expects to observe at the point-of-purchase." He labels the difference between this anticipated price and actual price as "sticker shock." We should expect, however, a difference between reference price and anticipated price. A consumer may be well aware of the price charged at the current period, but may not believe this will be the price of the product at any time in the future. Consider a situation where a consumer knows, e.g., through advertising, that the current price promotion is a substantial and strictly one-time-only discount. While anticipated price will not differ from actual price, we suggest that the probability of purchase will be greater than normal.

The forward looking consumer is assessing the cost/benefit of buying the good now versus buying the good at a future time. We conceptualize reference price, therefore, as the consumer's expectation of the future price of the brand. The "true" value of a good depends on what it will cost in a subsequent time period and the cost of delaying the purchase. Past prices come into play only to the extent they provide information as to future prices. If consumers feel that future prices will be higher, they will accelerate, subject to the cost of holding inventory, their purchase, i.e., stockpile. Conversely, consumers will delay their purchase and either deplete their inventory or forego current consumption if they feel the price will be lower in the future.

Modeling Price Expectations

Several researchers have recently applied reference price models to models of purchase decisions (e.g. Gurumurthy and Little, 1987; Puto, 1987; Raman and Bass, 1987; and Winer, 1986). Of these, only Puto, who conducted a laboratory experiment, measured reference price directly. Other researchers have operationalized the construct by postulating that a model based on observable variables adequately approximates the reference price formation process. The standard practice is to assume that the behavior of price can be used to approximate the behavior of reference price. Gabor (1977), for example, equates reference price with past price. Raman and Bass (1987) assume that the forecast generated from a time series model of past prices adequately predicts current reference price. Winer's (1986) extrapolative model depicts reference price as a weighted average of the previous two periods' prices. Gurumurthy and Little's (1987) adaptive expectation model generates a reference price equal to a weighted average, with the weights decaying exponentially, of all past prices.

There are a number of considerations that suggest that these models used to generate estimates of reference price may be inappropriate. Winer (1986) substitutes actual price for reference price into his models by arguing that actual prices are unbiased estimates of reference price. But, we have argued for a conceptualization of reference price as a forecast of future price. If so, only under very special conditions would it be appropriate to use current price as a proxy for reference price. In addition, it remains to be tested whether reference price is an unbiased predictor of price, whether current or future. Under certain theories of reference price formation, e.g., rational expectations, this will be so. However, it need not be the case.

Second, models that use current price as a proxy for reference price have limited the nature of the postulated reference price models. In particular, they seem to have given rise to models where current price information is not used by consumers in their formation of current reference price. A model that i) assumes price to be an unbiased indicator of reference price and ii) specifies current reference price to depend on current price, will result in a regression of current price on itself. This creates obvious problems. To avoid this, reference price models have limited consumers to the use of past price information only. However, this practice runs counter to most theories

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1 We agree that consumers may also consider the price desired, the price that the retailer should (in whatever sense) charge, the price that fits one's budget, as well as other referents. But these other dimensions seem to apply largely to the choice of making a purchase versus not making a purchase. In many cases consumers are choosing between one alternative and another now, or between one alternative now and the same alternative later. In these cases, levels of aspiration, fairness, objectives, etc. seem less relevant than expectations about alternative price levels.

of expectations. For instance, rational expectations assumes that consumers efficiently incorporate all available information into their expectations/ forecasts. Information on current price is available to consumers at the time of purchase and they are likely to make use of it. Current price supplies additional, if not immediate (better) information then previous periods' prices. Indeed, it seems that regardless of the theory of expectations formulation, current price will be used by consumers, since it is perhaps the most readily accessible piece of information. Unlike previous periods' prices, it need not be remembered but merely observed.

Because of these potential limitations in using the behavior of observed price to model the behavior of reference price, explicit measures of reference price would be valuable information. Once these measures of reference price are obtained, then tests can be performed to determine the association of the price expectation with the actual price. Tests can also be performed to assess the accuracy of various models in depicting the formation of reference price.

Rational Expectations

A variety of theories have been used to explain how consumers form price expectations. The differences among these theories can largely be attributed to the degree of information processing being undertaken by consumers. At one extreme, is the assumption of rational expectations, Muth (1961). Under this theory, consumers formulate subjective probability distributions of expected future outcomes that are identical to the probability distribution of outcomes generated by the underlying economic theory. In other words, consumers' price expectations are formed as if they made use of the same decision rules used by managers to set price.

Despite its popularity in some disciplines, there is one major concern with the assumption of rational expectations. This concern is over how rational expectations are formed. Bray and Kreps (1981) suggest that rational learning can lead to the development of rational expectations. However, they note that the assumptions needed are so incredible as to make implausible this model for the attainment of rational expectations equilibria. Consumers would have to have extraordinary insights and abilities to calculate the probabilities of events. Still, consumers may not actually carry out the appropriate calculations and probability assessments, but act as if they do so. The classic example is that of a billiards player who must make literally thousands of computations. While few would suggest this is being done, the outcomes are often consistent with the computations' being made.

The assumption of rational expectations can be challenged for assuming a degree of analysis, whether explicit or implicit, typically not thought to be undertaken in consumers' purchases. Perhaps a more realistic assumption is that of bounded rationality (Simon 1972). This approach allows consumers typically to have limited information and computational abilities. Rational behavior, therefore, is unlikely. Under bounded rationality consumers use limited information and rules of thumb in their decision making.

For instance, consumers may take the current price to be best predictor of all future prices, i.e., assume prices follow a random walk. However, a consumer has a number of readily available signals that the current price may not be the best predictor of future prices. Advertising and point-of purchase information may suggest that the current price is an exception. In this case, consumers will not base their reference prices solely on the current retail price; they will take into account the previous period's price. Shoppers may, for instance, lift the display sticker covering the previous period's price and take that to be the reference price. Their assumption is that the price of the product will revert back to this previous level at the end of the price promotion.

Testing for Rational Tuna Fish Price Expectations

In order to gain insights into whether reference price formation is consistent with rational expectations, we obtained information on price expectations from students in an introductory marketing class. Each week, for eight weeks, the students were given the current and the list price from a nearby supermarket for five brands of canned tuna fish. Each week they were asked to predict the price for each of the five brands in the upcoming week.[2] We announced that awards of $15, $10, and $5 were to be given to the students having the three most accurate sets of forecasts over the seven week period.

Figure 1 displays the behavior of the prices of five brands of tuna over the period. Starkist started and continued to be "on sale" during the first six weeks of the experiment. This involved a $.08 discount below its list price for the first five weeks and $.60 below its list price for the sixth week. The other brands were not price promoted during the survey period. The prices of the brands, however, did change during this period. First S&W in week 5 and then all the brands in subsequent weeks had both their current and list prices change.[3]

We compared the students' forecasts with the actual prices to test if the price expectations are consistent with rational expectations. Tests for rational expectations assess whether the forecast is

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[2] Tuna was selected as a familiar, frequently price promoted product. The results of the experimental study, of course, cannot be expected to be identical to those of the actual consumer. The experimental situation differs from the shopping environment. The subjects studied are also not representative of consumers as a whole. However, ninety-two percent of the students reported buying canned tuna at least occasionally.

[3] Neither we, nor presumably any of the subjects, had control, influence, or "advance" knowledge of any of the prices. We believe that the behavior of the prices was not unique to this particular period and, in general, was consistent with the behavior of tuna fish price fluctuations.

FIGURE 1

CANNED TUNA FISH PRICES

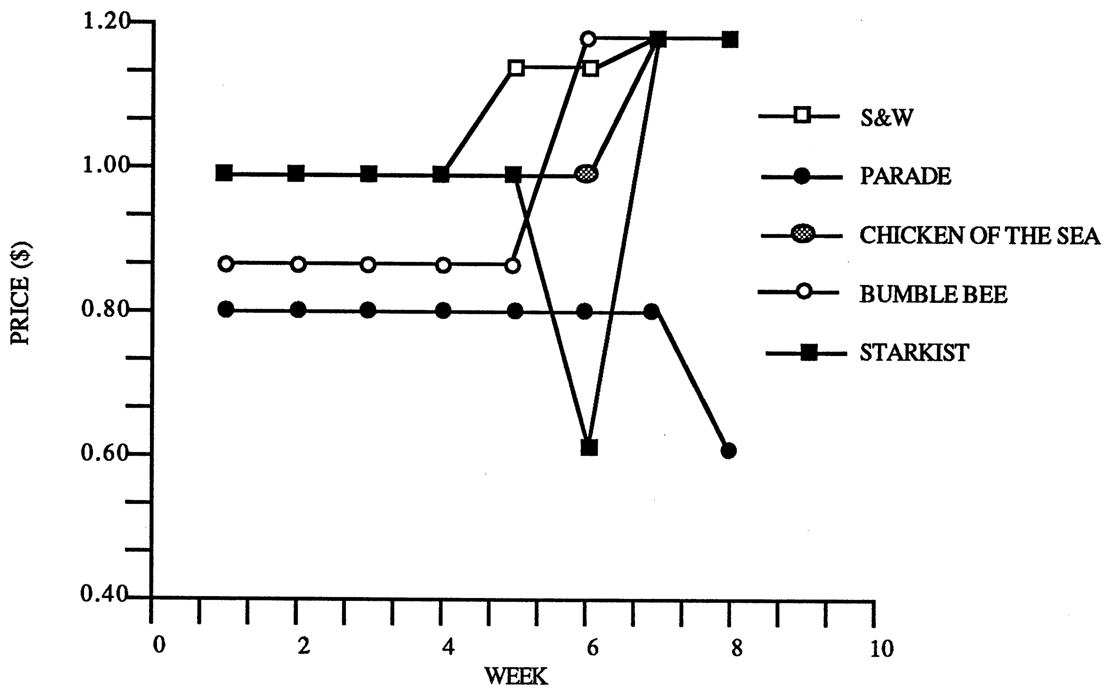

TABLE 1

Test of Bias

$$P_t = \alpha_0 + \alpha_1 * F_{t|t-1} + \varepsilon_t$$

#obs = 1218

	α_0	α_1	R^2	F-statistic(H_0: α_0=0, α_1=1.00)
S&W	47.01 (2.06)	.59 (.02)	.43	485
Parade	116.67 (2.65)	-.51 (.03)	.16	1294
Chicken of the Sea	57.00 (2.50)	.48 (.02)	.23	438
Bumble Bee	29.04 (2.27)	.75 (.02)	.44	190
Starkist	100.63 (3.84)	-.02 (.04)	.00	370

consistent with being a conditional expectation of the underlying series. Two such properties of this type of estimator are that it is i) unbiased and ii) efficient.

An unbiased price forecast will neither systematically under- nor overstate the actual price. That is, a regression of the form

$$P_t = \alpha_0 + \alpha_1 * F_{t|t-1} + \varepsilon_t$$

where

$F_{t|t-1}$ is the price forecast for period t made at period t-1, and
P_t is the actual price in period t

should yield coefficient estimates for α_0=0.00 and α_1=1.00.
Table 1 reports the results of this regression for each of the five brands of tuna fish. For each brand both the intercept and slope coefficient differ significantly from values postulated under the null hypothesis, with F-statistics under the null hypothesis ranging from 190 to 1294 versus a critical value of approximately 3.00. For Parade, which is the store brand, and Starkist, which is the brand that was on sale during the period, the forecasts are particularly inaccurate. The coefficient indicating the association between the actual and the forecasted price for Parade is significantly negative, i.e., a coefficient of -.51. As evidenced by an estimated value for α_1 of -.02 and an R^2 of .00015, the forecast for Starkist apparently has no statistically significant information content. Across all brands, the association of price expectations with price is inconsistent with that postulated by the rational expectations hypothesis.

Tests for forecast efficiency involve determining whether the forecasts reflect all available information at the time of the forecast. As a minimum, an efficient price forecast will incorporate all information contained in the previous values of the price series. A common test of efficiency is to estimate a model of the form:

$$P_t = \alpha_0 + \alpha_1 * F_{t|t-1} + \alpha_2 * P_{t-1} + \varepsilon_t$$

and test the hypothesis that α_2=0.00.[4] This would imply that information contained in the past value of price is better reflected in the forecasted price. Table 2 reports the results of this regression for each of the five brands of tuna.

The hypothesis of forecast efficiency, and therefore the hypothesis of rational expectations, is rejected for each brand. For each brand, the coefficient for lagged price is statistically significant. The time series information about the behavior of price is not being incorporated fully in the subjects' forecasts. The significance of α_2 indicates that information contained in current price, useful in explaining future price, is not being used by the subjects in forming their price forecasts. Indeed, only for Starkist, the brand extensively price-promoted during the period, do the subjects' forecasts make an autonomous contribution to the explanatory power of the regression.

How is Reference Price Formed?

Given that the manner in which price expectations are formed is inconsistent with rational expectations, the issue becomes finding an alternative model that betters describes the formation of reference price. Perhaps the most frequently used model of the expectations formation process is the *adaptive expectations model*. Under this theory of expectations formation, individuals form their future price expectations by adding a fraction of the difference between the actual price and previous periods' forecast to their previous period's forecast. That is,

$$[1] \quad F_{t+1|1} = F_{t|t-1} + \beta^a * (P_t - F_{t|t-1})$$

By repeated substitution for F_{t-k}, Equation 1 gives rise to the reduced form solution:

$$F_{t+1|1} = \Sigma\ [(1-\beta^a)^{k-1} * \beta^a * P_{t-k+1}$$

That is, for $0 < \beta^a < 1$ the price expectation can be expressed as a weighted average of all past prices. As the weights decay exponentially, the importance of prices observed in previous periods become less important over time. For β^a=1.00, Equation 1 reduces to $F_{t+1|t}=P_t$. Under this condition consumers assume the current period's price is the best indicator of future prices. For β^a=0.00, the model depicts price expectations to be fixed. This specification thus encompasses a number of plausible characterizations of the formation of price expectations.

Another common model of the formation of expectation is *extrapolative expectations*. The price expectation formulated at time period t is equal to the current price plus a fraction reflecting the difference between this period's price and last period's price. That is,

$$[2] \quad F_{t+1|t} = P_t + \beta^e * (P_t - P_{t-1})$$

Unlike adaptive expectations, instead of adjusting forecasts to reflect the current forecast error, consumers expect price to continue along some trend. Another way of viewing the relationship between the models is by noting that Equation 1 can also be expressed as $F_{t+1|t} = (1-\beta^a) * F_{t|t-1} + \beta^a * P_t$. A consumer's reference price is formed by taking a weighted average, depending on β^a, of last period's forecasted price and this period's price. Equation 2 can be expressed as $F_{t+1|t} = (1-(-\beta^e)) * P_t + -\beta^e * (P_{t-1})$.

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[4] Another test is run the regression $P_t = \alpha_0 + \alpha_1 * F_{t|t-1} + \varepsilon_t$ and then test if ε_t is uncorrelated with P. Under the null hypothesis of rational expectations, i.e., α_2=0.00, the tests will yield identical results.

TABLE 2

Test of Efficiency

$$P_t = \alpha_0 + \alpha_1 * F_{t|t-1} + \alpha_2 * P_{t-1} + \varepsilon_t$$
#obs = 1218

	α_0	α_1	α_2	R^2
S&W	20.02	-.01	.85	.65
	(1.90)	(.03)	(.03)	
Parade		**		
Chicken of the Sea		19.76	.02	.81 .42
	(2.89)	(.02)	(.04)	
Bumble Bee	23.50	.03	.77	.53
	(2.12)	(.05)	(.05)	
Starkist	108.31	.20	-.31	.05
	(3.88)	(.05)	(.04)	

** This equation cannot be estimated for this brand as the lagged value of price did not vary during the sample period.
Standard errors are in parentheses.

A consumer's forecasted price is formed by taking a weighted average, depending on $-\beta^e$, of this period's and last period's price.

In order to discriminate between these two models, as well as possibly to determine if another class of model adequately describes the reference price formation process, the following regression was estimated:

$$[3] \quad F_{t+1|t} = \lambda_0 + \lambda_1 * F_{t|t-1} + \lambda_2 * P_t + \lambda_3 * P_{t-1} + \varepsilon_t$$

This representation "nests" both the adaptive and explorative expectation models. Under the hypothesis of adaptive expectations, $\lambda_1 = 1-\beta^a$, $\lambda_2 = \beta^a$, and $\lambda_3 = 0.00$. Under the hypothesis of extrapolative expectations, $\lambda_1 = 0.00$, $\lambda_2 = 1+\beta^e$, $\lambda_3 = -\beta^e$. Tests of the hypothesis are reported elsewhere (Jacobson and Obermiller 1988). The results indicate that neither the adaptive expectations nor the extrapolative expectations model account for the data.

The best fit for the data is offered by a *serial correlation model*. Reference price depends on price but with serially correlated errors. The pattern of the coefficients is consistent with the model:

$$[4] \quad F_{t+1|t} = c + \beta^{sc} * P_t + \varepsilon_t \quad \text{with } \varepsilon_t = \rho * \varepsilon_{t-1} + \eta_t$$

The reduced form specification for this model, obtained by substituting $(\rho * \varepsilon_{t-1} + \eta_t)$ for ε_t, and then substituting $(F_{t|t-1} - c - \beta^{sc} * P_t)$ for ε_{t-1},

$$[5] \quad F_{t+1|t} = c*(1-\rho) + \rho * F_{t|t-1} + \beta^{sc} * (P_t - \rho * P_{t-1}) + \eta_t$$

Implications

Our findings challenge the validity of rational expectations as a mechanism for describing the formation of price expectations. Inconsistent with rational expectations, the subjects' forecasts were both biased and inefficient. There is reason to believe that rational expectations equilibria are unlikely in the context of most price promotions. Even adherents to the theory of rational expectations do not assume that every agent knows the underlying model governing the system. Rather, they suggest that arbitrage takes place where individuals who have the "correct" model dominate the outcome. Well-informed individuals can make profits at the expense of the ill-informed; for example, Muth (1961) argued that those with better expectations could sell the information profitably. This, in turn, leads to a rational expectations equilibrium. This series of events is unlikely to occur for many frequently promoted products. The cost of obtaining "efficient" information typically outweighs its benefits. For example, as the consumers' cost of "inefficiently" buying tuna is nominal, they are unlikely to purchase information from a better-informed individual. Further, imperfect information as to product quality makes arbitrage of products prohibitive. Inefficient consumers can co-exist with efficient consumers.

Our analysis also questions the applicability of some of the commonly used models depicting reference price formation. Conceptually, we argue that models that preclude consumers from using current price information in formulating reference price would appear too restrictive. Why would consumer's make use of previous periods' price information, and not current information? Current price information supplies both additional and more readily available information. Empirically, we find that the adaptive and extrapolative expectation models do not provide an adequate description of how reference price is formed. If the assumed model depicting the formation of reference price is incorrect, then the estimate of reference price and conclusions drawn from analyses using this estimate may also be incorrect.

Perhaps the most important implication of a serial correlation model depicting the reference price formation process concerns the dynamic response to changes in price. Price expectations are affected only by current price and not lagged price. For this model, if price is changed in period t and then returned to its former level in period t+1, the distribution of reference price in period t+1 is not affected. This dynamic property is why the serial correlation model is also known as the current effects model. If, in fact, price has only a contemporaneous effect on reference price, then price-promotions will not have the long-run negative implications that many have postulated.

The applicability of this model to other products and the extent to which marketing activities can influence the manner in which price expectations are formed is a direction for future research. Marketing activities can be expected to influence not only the parameters in models but also the nature of the formation process. Different types of advertising and point-of-purchase information might effect how consumers incorporate the price-promotion into their reference prices. Further work is also needed in assessing inter- and intra-brand effects of price promotions on price expectations. Our on-going research suggests that reference price for a brand is influenced by competitive price fluctuations. The strategic implications of this competitive effects model needs further investigation.

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The Framing of Sales Promotions: Effects on Reference Price Change

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ABSTRACT

A rationale for a difference in the framing of monetary and nonmonetary sales promotions is presented. Price promotions are most likely to be framed as reduced losses. They will be integrated with the purchase price and affect reference price. Nonmonetary promotions are likely to be framed as gains segregated from the purchase price and will not affect reference price. Experimental results supported this hypothesis.

Assimilation-contrast theory is more consistent with the experimental data than the anchoring and adjustment heuristic. Subjects either heavily weighted discounted prices or ignored them to form reference prices.

INTRODUCTION

Reference price is one of the central constructs in psychological discussions of pricing. Generally, reference prices are the amounts consumers expect to pay or are willing to pay for a product or brand. Recent research has shown that sale prices often decrease the reference price of a product (Liefeld and Heslop, 1985). Moreover, reference price is related to perceived product quality (Monroe and Chapman, 1987). Several writers have hypothesized that sales promotions decrease the positive feelings toward the brand, known as brand equity and consumer brand franchise (Prentice, 1975; Sawyer and Dickson, 1984; Strang, 1976). One of the ways that promotions may decrease these positive feelings is the erosion of reference price.

We hypothesize that some types of promotions affect reference price more than others. By choosing the proper promotions, one might provide short term purchase incentives without destroying the positive feelings toward the brand over the long term.

This paper will first present three theories used to describe the effects of promotions on reference price. These theories make different predictions about how consumers integrate promotions with other pricing information. Secondly, we will review several recent papers presenting definitions of reference price, and recent work relating framing and reference price. The paper's third task is to present a classification of sales promotions derived from a theory of the framing of sales promotions. Once the classification is elaborated, it is straightforward to hypothesize which sales promotions will most affect reference price. Finally, the paper presents and discusses an experiment testing the hypothesized effects of different sales promotions on reference price.

General Theories of Reference Price Change

The most widely used theory of reference price change is Helson's (1964) adaptation-level theory. In the pricing literature, a person's adaptation-level is referred to as his reference price (Klein and Oglethorpe, 1987). The theory posits that the consumer forms an adaptation-level by integrating all previous presentations of prices of the brand, prices of its competitors, and comparison stimuli such as suggested retail price. A specific price is evaluated by comparison with the reference price.

Helson presented formulas for predicting adaptation-level from the previously presented information. The constants in these formulas may vary depending on the specifics of the experimental situation. The theory is not invalidated if the equations predicting adaptation-level in two similar situations have different weights (Helson 1964, p. 187). However, it is reasonable to look for reasons why the weights are different.

Assimilation-contrast theory (Sherif and Hovland, 1961) is best known for its application to the domain of persuasive communication. This theory has also been applied to the integration of pricing information by Sherif (1963) and Monroe (Monroe and Venkatesan, 1969; Monroe 1971, 1977; Monroe and Petroshius, 1981). Consumers are said to form a latitude of acceptance around a reference price. A low price within the consumer's latitude of acceptance should be assimilated, and thus integrated with other pricing information to revise the reference price downward. The greatest change to reference price should be made when a very low price, at the edge of the latitude of acceptance, is assimilated. If a price is too low, it will be outside the latitude of acceptance, and should neither lower the reference price nor be acceptable to the consumer.

The anchoring and adjustment heuristic (Tversky and Kahneman, 1974) provides a third theoretical approach to the modification of reference price. The heuristic is applied by using a prominent piece of information or early data in a series to make a first estimate of a mathematical result, and adjusting this estimate in the direction of other information. This heuristic may lead to biased processing because the adjustment is often insufficient compared to the adjustment made if all of the data were given equal weight. Nonpromotional prices may be the anchor which is adjusted in the direction of promotional prices to form a reference price.

These three general theories, adaptation-level theory, assimilation-contrast theory and the anchoring and adjustment heuristic can be used to make different predictions about the modification of reference price by low promotional prices. Adaptation-level theory predicts that all equally salient prices will be weighted equally. If promotional prices are more salient than other prices, adaptation-level theory predicts that they will be given extra weight in the integration process. (Promotional prices probably will not be less salient than other prices.) Assimilation-contrast theory predicts that if low promotional prices are within a subject's latitude of acceptance, they will be given great weight in the modification of reference price. If they are not in the latitude of acceptance, they will receive zero weight. The anchoring and adjustment heuristic predicts that if consumers use promotional prices to adjust the anchor provided by unpromoted pricing information, the promotional prices should receive less than equal weight in the estimation of the new reference price.

Recent Discussions of Reference Price

Several recent papers on reference price focus on two issues. First, these papers advance specific definitions of reference price. The second issue is the relationship between the framing of purchasing information and the formation of reference prices.

Monroe and Petroshius (1981) work from adaptation-level theory to propose that reference price is what consumers are accustomed to paying. Other related definitions they suggest are "the range of prices last paid" or the current market price.

Jacoby and Olson (1977) examine how individuals psychologically encode O-prices (objective pricing information) into P-prices (psychological prices). They assert that adaptation-level or reference price is an important standard for the evaluation of whether a particular O-price is high or low. Jacoby and Olson note the disagreement among researchers about the meaning of adaptation-level for price. Some of the contrasting definitions they present are "fair price", "price most recently charged", "price last paid" and "price normally paid".

Klein and Oglethorpe (1987) propose that there are 3 types of reference prices: aspiration prices, market prices, and historical prices. The operationalizations of these alternative definitions probably produce highly similar results. Yet it is clear that this need not be the case. For instance, aspiration prices, such as "the most you are willing to pay", may be based on other information besides market and historical prices. Thaler (1985) presented the best known example of non-price information affecting the amount customers are willing to pay. If beer is to be purchased at a luxury hotel (but consumed on the beach), potential customers are willing to pay more than they will pay for the same beer at a dilapidated convenience store.

We might condense all of the definitions of reference price into two broad categories: those definitions which depend only on previous pricing information (such as average price paid and price last paid), and those definitions which incorporate other information (such as fair price, and the most you would pay for a product).

The second central idea in several recent articles on reference price is the concept of framing. Framing constitutes part of prospect theory (Kahneman and Tversky, 1979). Recent prospect theory research (Kahneman and Tversky, 1984; Thaler, 1985; Puto, 1987) clearly shows that alternatives presented as gains (outcomes above a person's reference point) affect choice, judgment, and risk taking differently than the same alternatives presented as losses (outcomes below the reference point).

Thaler (1985) and Klein and Oglethorpe (1987) use prospect theory's value function to predict that promotions which are perceived as decreased losses will be less preferable than equivalent promotions perceived as separate (segregated) gains. Thaler presents automobile rebates as a case where a promotion presented as physically separate from the purchase price (in the form of a rebate check) is perceived as a separate (segregated) gain rather than a mere reduction of the loss of money due to purchasing the product. An equivalent saving resulting from a sale offer should be seen as a reduced loss rather than a gain. The discount should therefore be less desirable than the rebate.

Klein and Oglethorpe point out that different product attributes have different metrics and reference points, and that it is difficult to integrate the gains and losses when one evaluates multiattribute stimuli. For instance, it is difficult to know whether the gains provided by a package of automotive options compensate for a somewhat higher purchase price.

A Criterion for Categorizing Promotions

There are several ways of predicting whether a particular promotion will be framed as a gain or as a reduced loss. Thaler and Johnson (1986) hypothesized that gains would be either segregated from or integrated with losses depending on which form would produce the most happiness. Because a promotion is generally a small gain presented in the context of a larger loss (the purchase price), the most happiness would be produced by segregating the gain from the purchase price. This approach predicts that all sales promotions will be seen as gains rather than as reduced losses. Unfortunately, this principle does not distinguish different sales promotions.

A second 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. The "cost/benefit" approach to predicting framing stems from the different amount of effort necessary to integrate gains with losses in different situations.

Payne presents evidence that decision makers tend to use simpler decision strategies for more complex tasks. It is clear that 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, it seems reasonable to hypothesize that when promotions are in the same units as the reference price, they will be more easily integrated with the reference price. The promotion is likely to be seen as a reduced price, and framed as a reduced loss. Conversely, when promotions are in other units than money, they will be more difficult to integrate with the reference price. In an everyday shopping situation, the consumer should not expend the effort to integrate these noncommensurable attributes. Thus the promotion should be more often considered as a separate gain and not influence reference price.

It is therefore clear that a dichotomy used by Sawyer and Dickson (1984) has theoretical grounds for influencing framing. Price-off promotions (including rebates) are in the same units as the reference price. These promotions are more likely to be framed as reduced losses. "Value added" (nonmonetary) promotions, which include extra amounts of the purchased product as well as premiums, are in different units than price. These promotions should be framed as gains. Diamond (1988) presents evidence that promotions incorporating extra amounts of product or a premium product are more likely to be framed as gains than price promotions.

HYPOTHESIS

If promotions incorporating premiums or extra amounts of product are most likely to be framed as gains, these promotions are less likely to be considered in conjunction with other pricing information. Therefore, regardless of the definition of reference price, monetary promotions are hypothesized to affect the reference price of the product more than "value added" (nonmonetary) promotions.

METHOD

The subjects were 103 students in marketing classes at a college in the northeast. The product chosen for the study was laundry detergent. This product is heavily promoted and prices vary substantially. Most students do buy this product.

Subjects were given a pricing information packet containing 20 "weeks" of pricing information about one brand of laundry detergent. Each "week" was presented on a separate page of the experimental forms, and subjects were instructed not to return to earlier pages once they had turned to later pages of the form. In this way, reference prices would have to be made by integrating each piece of new information with information stored in memory. Each "week" of pricing information was presented as a drawing of the product with the pricing information as well as any promotional information clearly marked on the label.

The objective prices (O-prices), in the unpromoted control condition, were generated to be normally distributed. The mean price was $3.46. The range of these prices was from $3.30 to $3.62.

Experimental Manipulations

The study was designed as a one by four between subjects experimental design. The manipulated factor was the type of promotion presented every third "week" to the subject. The four experimental conditions were: discount, extra amounts of product, premium product, and control. Pictures of the stimuli in the third week are presented in Figure 1.

Every third "week", in the discount condition, the picture of the stimulus product had a large notice on the label which stated "$1.00 off Retail Price". In this condition, the price marked on the label was $1.00 less than that of the control condition.

The corresponding pictures in the extra product condition had a large notice which read "28% more free, $1.00 value". The bottle of detergent was drawn larger than usual, and read "82 fl. oz" instead of the regular 64 ounces. The price of the product was the same as that of the control condition.

Every third "week", the picture of the product in the premium condition had a large notice which read "Free Fabric Softener, Value $1.00". Attached to the bottle was a box labelled "Fabric Softener Sheets". The price of the product was the same as that of the control condition.

Dependent Measures

After the subjects had been exposed to 20 "weeks" of pricing information, they were instructed not to refer back to the pricing information packet while they answered a few questions. These questions included measures of reference price which depended solely on previous pricing information (average price and most frequent price), and measures which might depend on other information (expected price, fair price and most you would pay). The questions were worded as follows:

> "If you were to purchase a bottle of Brand A next week, how much would you expect to pay?"
>
> "What is the average price of Brand A over the twenty weeks?"
>
> "What is the most frequent price charged for Brand A"
>
> "What is the most you would pay for Brand A"
>
> "What is a 'fair' price for a 64 ounce bottle of liquid detergent"?

Subjects also rated the relative expensiveness and perceived quality of Brand A on 7 point scales.

RESULTS

The mean values of each of the measures of reference prices, by experimental condition, are presented in Table 1. Three planned orthogonal contrasts were used to evaluate differences in the means. The major hypothesis of the study was that reference prices would be lowered by discounts, but not by "value added" (nonmonetary) forms of promotions. The first two contrasts were used to test this hypothesis. First, each mean reference price in the discount condition was contrasted with the average of the reference prices in the other three conditions. Secondly, the means of the two "value added" promotions were compared with the mean of the control condition. A third contrast tested differences in the means of reference prices in the two "value added" conditions. To provide the most support for the hypothesis, the first contrast would have to show significant differences, and the others would have to show no effects.

The multivariate effect for the first contrast was significant ($F(5,94)=24.6$, $p<.001$). All of the univariate tests of this contrast also showed significant differences except for the "fair price"

FIGURE 1

Promotional Offers in the Four Conditions

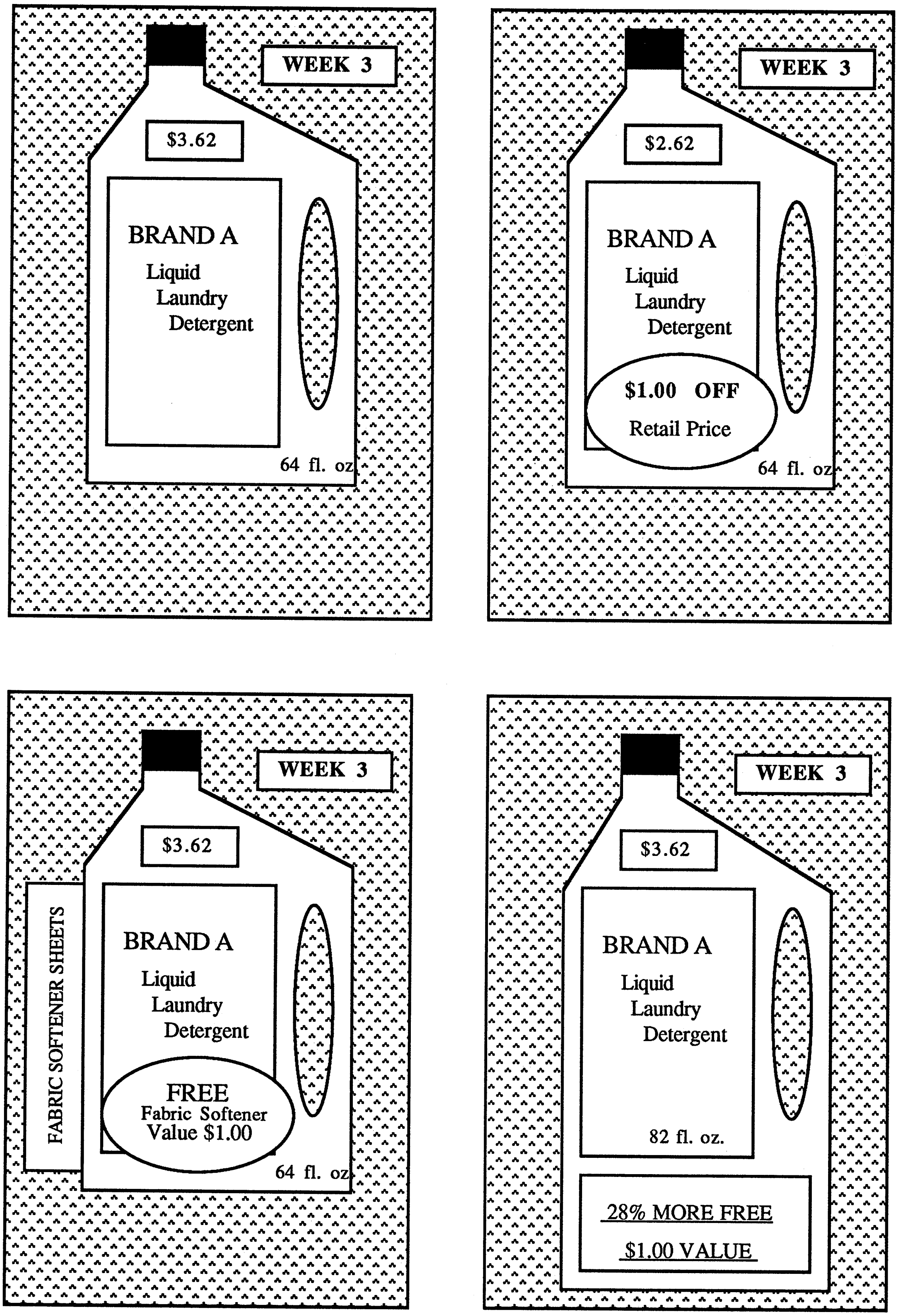


TABLE 1

Mean Values of Dependent Measures.

Measure	Control	Discount	Premium Attached	Extra Product
Expect[1]	\$3.44	\$3.04	\$3.46	\$3.45
Average[2]	\$3.44	\$3.10	\$3.44	\$3.46
Most Freq.[3]	\$3.47	\$3.37	\$3.45	\$3.47
Most Pay[4]	\$3.53	\$3.32	\$3.51	\$3.56
Fair[5]	\$3.44	\$3.21	\$3.44	\$3.32
Expensive[6]	4.5	4.3	4.2	4.1
Quality[7]	4.3	4.2	4.1	4.0

[1]If you were to purchase a bottle of Brand A next week, how much would you expect to pay?
[2]What is the average price of Brand A over the twenty weeks?
[3]What is the most frequent price charged for Brand A?
[4]What is the most you would pay for Brand A?
[5]What is a "fair" price for a 64 oz bottle of liquid detergent?
[6]Please rate the expensiveness of Brand A.
[7]Please rate the quality of Brand A.

measure of reference price. Here, after the bonferroni adjustment of significance levels, the difference between the discount condition and the other conditions approached statistical significance ($F(1,95) = 4.87$, adjusted $p<.10$). These results indicate that discounts yield a lower reference price than other forms of promotion.

Looking at Table 1, one can see that the means on the reference price measures are nearly identical for the two value added promotions and for the control group. Neither the second contrast nor the third contrast yielded significant differences on multivariate or univariate contrasts.

The means of the two additional dependent measures are also presented in Table 1. The differences in these means were tested with the same contrasts discussed above. These differences are not significant, either on the preplanned contrasts nor using a regular one way ANOVA.

The earlier discussion of adaptation-level theory suggested that it would be interesting to test whether the constants in Helson's equations were the same in different situations. In situations without an explicit comparison stimulus, the following equation applies:

$$\log (AL+y)= 1/n \sum \log X_i$$

where the X_i's are the individual prices shown to the subjects and AL is the adaptation-level (the reported reference price). Taking a specific definition of reference price, we can solve for y for each subject.

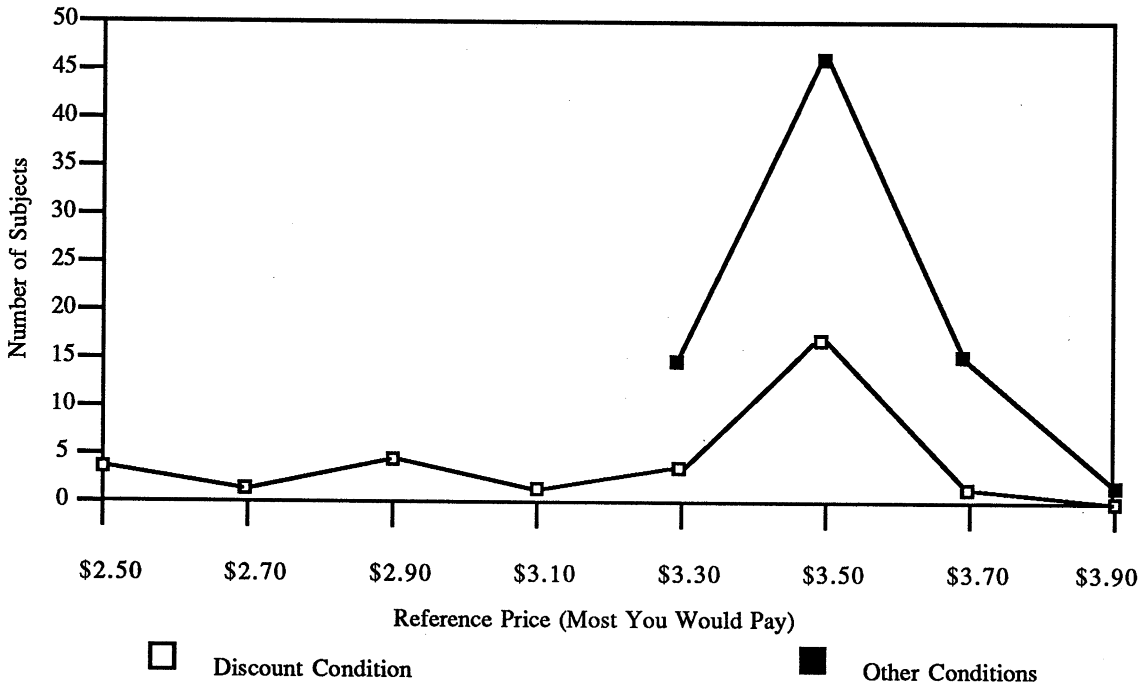
If we do this, we find that for each measurement of reference price, the constant y is different in the discount condition than it is in the other conditions. For instance, using "What is the most you would pay for Brand A", as a measure of reference price, we find that the first contrast (discount vs all other conditions) is statistically significant ($t(99)=2.54$, bonferroni adjusted $p<.05$). The other contrasts show no significant effects.

What is the meaning of different constants in the adaptation-level equation? To answer this, it helps to know that if the equation in the discount condition had the same constants as in the other conditions, the adaptation-level (reference price) would have been substantially lower than it actually was. For the "most you would pay" question, the observed reference price in the discount condition was \$3.32. If the constant "y" in the adaptation-level equation had been the same as in the other conditions, we would expect the value to be \$3.19.

FIGURE 2

DISTRIBUTION OF REFERENCE PRICES

Discounts vs. Other Conditions



Why is the average reference price in the discount condition higher than expected? This suggests that discounts are treated differently from other prices in the formation of adaptation levels or reference prices. Perhaps some subjects assimilate the discount offers to form very low reference prices while other subjects ignore the discounts to form reference prices. Or subjects may use the promotional prices to adjust the reference price downward. The $3.32 reference price does seem to be a case of insufficient downward adjustment of an anchor.

This question may be answered to some degree by looking at the distribution of the "most you would pay" reference prices in the discount and other conditions. This is presented in Figure 2.

Figure 2 presents information which is more compatible with an assimilation-contrast explanation than an anchoring and adjustment explanation of the lowering of reference price. Except for a few subjects who indicate they will not buy the product unless it is substantially discounted, the reference prices of discount subjects are distributed similarly to subjects in the other conditions. This indicates that most subjects either assimilate the discount, and use it almost exclusively to form the reference price, or disregard the discount almost totally.

DISCUSSION

This paper has presented three theories of the modification of reference price: adaptation-level theory, assimilation-contrast theory and the anchoring and adjustment heuristic. We have also presented a theory which differentiates sales promotions: "value added" (nonmonetary) promotions are more likely to be framed as gains, whereas promotions presented in monetary units are more likely to be framed as reduced losses. This theory was used to generate the hypothesis that only price promotions would affect reference price, regardless of how reference price is measured.

The data generated in a simulation support this hypothesis. This result is not startling for the definitions of reference price which depend only on previously presented pricing information. However, price promotions still had a unique effect when reference price was defined as the most you would pay for the brand or the fair price of the product category. For these definitions, the effect is interesting and not obvious.

An assimilation-contrast explanation seems more appropriate than an anchoring and adjustment explanation of the effect of discounts on reference price. Subjects apparently weight the discounted prices very heavily, or ignore them in forming their reference prices.

The simulation presented here should be considered as pilot work. This was not a true purchasing situation, and the prices of competing brands were not included in the information presented to subjects. Yet the patterns which emerge from the data suggest that it will be worthwhile to maintain the distinction between price promotions and "value added" promotions. Moreover, the results suggest that we should continue to research the differential effects of promotions on reference price and related constructs.

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On Price Limit Measurement: The Order Effect

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ABSTRACT

This study investigated whether the order in which price stimuli is presented to subjects confounds price limit measurement. The results suggest that the order (ascending, descending, random) in which price stimuli is presented for subject evaluation had no statistically significant effect on either the mean lower or upper price limits. However, the results were in the hypothesized direction. Most importantly, the use of a randomized price series exhibited greater variability in both price limits than either the ascending or descending price series. There was no significant difference found in variability between the ascending and descending treatments. As a result, it is possible that the use of randomized price stimuli may increase method variance and mask the true effects of a price limit manipulation.

INTRODUCTION

Most experimental investigations into consumer evaluation of price is determined to some extent by subject response to some set of price stimuli. Unfortunately, there is some empirical evidence to suggest that the order in which a price stimulus set is presented to experimental subjects *may* affect subject evaluation of specific prices (Della Bitta and Monroe 1973; Rexeisen 1982). Despite these findings, most pricing research rarely reports whether a random, ascending or descending price stimulus series was used. On the one hand, it may have been intuitively obvious that a randomization procedure was used and did not need to be reported; on the other hand, it may have been that price presentation may not have been expected to have a differential affect on the main effects under investigation (Rexeisen 1982). Unfortunately, randomizing the price series does not eliminate order variability, it only prevents an analysis of the potential order effects (Monroe 1977).

The purpose of this study is to investigate whether the order (ascending, descending or random) that a price series is presented to subjects confounds price limit measurement when the Stoetzel methodology is used.

LITERATURE REVIEW

Assimilation-Contrast (Sherif and Hovland 1961; Sherif, Sherif and Negerall 1965) theory yields the hypothesis that if a series of stimuli is presented for judgment in order of increasing magnitude, it tends to produce higher categories of judgment than if it were presented in order of decreasing magnitude. Essentially then, and in pricing terms, subjects compare each price stimulus with the other price stimuli in the price series to which they have been exposed. Therefore, if each successive price stimulus is larger than the prices the subject has seen when the order of the price series is presented in ascending order (e.g., $25, $50, $75, etc.) the subject should judge the price as occupying a "higher" category; if the subsequent stimulus is smaller than the preceding price stimuli (e.g., $75, 50, $25, etc.) then the stimulus should be judged as belonging to a "lower" category. This latter situation would occur where the price series is presented in descending order (Della Bitta and Monroe 1973; Monroe 1977; Monroe and Petroshius 1981).

In the context of pricing research, Assimilation-Constrast theory suggests that if subjects are initially exposed to relatively high or low prices for a given product their frame of reference, or adapatation level (Helson 1964) is pulled toward the high or low price stimuli. This frame of reference then serves to anchor subsequent judgments for other prices. Once the high adaptation level or reference point has been established, prices lower than the original anchoring prices would be perceived as "cheaper" or "less expensive" than in the low price anchoring context; once a low adaptation level has been established, prices higher than the original anchoring prices would be perceived as "more expensive" than in a high price anchor context (Monroe 1977; Monroe and Petroshius 1981).

Empirical evidence for this effect is rather scant. Only two pricing studies have empirically investigated this potential confound. Della Bitta and Monroe (1973) investigated the order effect within the theoretical context of human psychophysical judgement (Helson 1964; Parducci 1954, 1956; Parducci and Holhe). They presented subjects with a series of prices in either ascending or descending order for eight consumer products (e.g., dress shirt, sports coat, hair spray, blouse), and asked them to rate 14 prices on a seven-point absolute judgment rating scale. They reported that respondents presented an ascending series of prices rated a given price as more expensive than those subjects presented prices in descending order. That is, the mean adaptation level price was higher in the descending than in the ascending condition.

It was almost one decade before someone empirically addressed the methodological concerns espoused by Della Bitta and Monroe (1973). Rexeisen (1982) tested the confounding effect of the price series order effect within the context of the price-quality relationship. His experiment required his subjects to judge the quality of three identical carpet samples. Within each treatment, subjects were first provided the carpet sample without price information, the second carpet sample was provided with a high or low price ($7 or $29 per square yard), and the third carpet sample was low priced if the second carpet sample was high priced and vice-a-versa. He reported that there was a significant ordering effect in subject judgement of the quality ($p <.01$), value for the money ($p <.05$), and perceived worth ($p <.10$) variates.

These results suggest that the frame of reference of experimental subjects are sensitive to the contextual effect of the order of price presentation (Monroe 1977; Monroe and Petroshius 1981). Furthermore, the order of price presentation could produce systematic changes in the judged value of each price. Price judgments may vary depending on whether a higher or lower price precedes it in the price series and that certain prices would act as anchors for subsequent price judgments (Della Betta and Monroe 1974, Monroe 1977).

The price order effect is most pronounced in price limit measurement; particularily, where the effect of a experimental manipulation is investigated. Subjects are required to select a price from a price series that represents the lowest and highest price acceptable to them to pay for a specific product under some experimental condition(s). Therefore, a price order effect may increase method variability and could mask the true effects of a manipulation.

Raju (1977), Fouilhe (1970), Cox (1986), and Kosenko et al. (1988) have investigated the effects of various product informational cues on consumer price limits and each has failed to report statistical support for some of their theoretically generated hypotheses. These failures may be due to the masking effect of the stimulus order effect.

HYPOTHESES

The following hypotheses have been generated from the theoretical framework and the empirical evidence presented earlier.

Hypothesis 1:

> Subjects asked to evaluate a series of prices in descending order will specify a *greater mean* lower price limit than subjects asked to evaluate a series of prices in ascending order.

Hypothesis 2:

> Subjects asked to evaluate a series of prices in an descending order will specify a *higher mean* upper price limit than subjects asked to evaluate a series of prices in ascending order.

Hypothesis 3:

> There will be greater variability in the lower price limit when subjects evaluate prices presented in random order than in either ascending or descending order.

Hypothesis 4:

> There will be greater variability in the upper price limit when subjects evaluate prices presented in random order than in either ascending or descending order.

The rationale for these hypotheses is based on the literature review provided above, and are derived from Assimilation-Constrast and Adaptation-Level theories. Descending prices would set a high adaptation level or reference point and subjects evaluating prices lower than the original anchoring prices would perceive those prices as "cheaper" or "less expensive" than in the low price anchoring context resulting in higher mean price limits. Subjects exposed to ascending prices would judge the subsequent higher prices as "more expensive" due to a low adaptation or reference point. They would then be expected to report lower mean price limits.

The effect of random price presentation is less pronounced. Where subjects are presented prices in random order, the anchoring effect may be more enhanced. Subjects should have difficulty establishing *stable anchors* from which subsequent price judgments are made. For example, Monroe (1977) indicates that the lowest and highest price of a product line serve as anchors and that those anchors provide informational content for subjects to judge the other prices presented in the price series. Therefore, it is reasonable to assume that the price limits should exhibit greater variability due to the various high/low and low/high price combinations under the random price order condition. Under this condition, subjects should have difficulty establishing singular price anchors and greater variability in the price judgments should occur.

THE EXPERIMENT

Sample. Sixty-seven subjects were selected from two undergraduate classes at a major Northeastern university and were randomly assigned to three treatment groups. Twenty-two subjects were provided with ascending prices, 22 subjects were provided with descending prices, and 23 subjects were provided with the prices in random order.

Product. The product selected for this study was a personal computer. Interviews with local computer retailers confirmed that university students were a major purchasing segment. Retailers also described the most popular configuration purchased by students. That configuration was incorporated in the product description provided to the subjects during the experiment.

Method. The dependent variables were the lower price limit and the upper price limit. These price limits were measured using the Stoetzel (1954) methodology. In this method, subjects were provided with a detailed description of a desktop personal computer and a list of 50 prices ranging from $1500 to $6400. The prices differed by a constant interval of $100 and were presented in either ascending, descending, or random order. The prices used in the experiment included actual market prices.

After reviewing the product description, subjects were provided the price series and asked to respond to two questions:

> (1) What is the minimum price that you would be willing to pay for the personal computer (that is, below what price would you seriously doubt the quality of the product?)
>
> (2) What is the maximum price that you would be willing to pay for the personal computer (that is, beyond what price would you feel it would not be worth paying more?).

ANALYSIS

One-way anovas and a series of Hartley's homogeneity of variance F-tests for each of the dependent variables --- lower price limit and upper price limit were used to test the hypotheses. The summary statistics are presented in Table 1 and 2.

Hypothesis 1 was not even weakly supported (p = .276). The order in which the price series was presented to subjects had no statistically significant effect on the mean lower price limit. However, the results where in the hypothesized direction. Subjects in the descending treatment reported a greater mean lower price limit (x = $2186.40) than did subjects provided the price stimuli in ascending order (x = $1963.60). When the random order treatment was included in the analysis, it was not found to be significantly different from the ascending/descending treatments at $p < .30$. Nonetheless, in absolute terms the random price treatment produced the highest mean lower price limit (x = $2265.20).

These results may seem to contradict those reported by Della Bitta and Monroe (1973). However, their prediction was not confirmed for the most expensive product of the eight products they tested --- Sport Coat. This may suggest that the order effect may be product specific and may have differential effects depending on the price category (e.g., low, medium, high) occupied by the products under investigation.

Hypothesis 2 was not supported (p = .553). There was strong statistical support to suggest that the price series order effect has no effect on the upper price limit. The upper price limit was greater in the descending treatment (x = $3927.30) than in the ascending treatment (x = $3677.30). While these results were not statistically significant, they were in the direction hypothesized by Della Bitta and Monroe (1973). The mean upper limit under the random condition was not statistically significant. However, in absolute terms, the random price stimili treatment produced the highest mean upper price limit (x = $4026.10).

Hypothesis 3 was supported ($p <.05$). Subjects in the random price order condition (S.D. = $884.50) exhibited greater variability than in either the ascending (S.D. = $401.80; $p < .01$) or descending (S.D. = $533.00; $p <.05$) conditions. Where subjects were presented the price series in random order, variability in the lower price limit was almost twice that exhibited in either the ascending or descending treatments. There was no significant difference ($p >.10$) in variability between the ascending and descending treatments. These findings suggest that the use of random price stimuli increases method variance and may have masked the effects expected by Fouilhe (1970), Raju (1977), Cox (1986), and Kosenko et al. (1988).

Hypothesis 4 was only *partially* supported ($p < .10$). There was greater variability in the upper price limit when subjects were provided the price stimuli in random order (S.D. = $1263.20) than when they received the price series in descending order ($931.10). Variability was not found to be different between the random and ascending treatments (S.D. = $1070.80) barely at $p > .10$.

While the results were mixed, variability was in the hypothesized direction. Unfortunately, these results could not be compared to that reported by Della Bitta and Monroe (1973) study (they did not report variances.) However, the results do suggest that the failure of Raju 1977, Cox 1986, and Kosenko et al. (1988) to confirm some of their hypotheses may have been due to the additive effect of method variance of the price order effect.

In sum, the results indicate that the use of a random stimulus set increases variability in subject price judgments almost two-fold on both price limits. That increase in variability may be an alternative explanation for the failure to support hypotheses 1 and 2.

CONCLUSIONS

Researchers using random price stimuli may have inadvertently confounded the interpretation of the main effects of their manipulations. This study suggests that the use of random price stimulus may increase variability and thus mask the true effects under investigation. Moreover, the increase in variability may be attributed to method variance.

Equally important is the issue that the use of a large number of prices presented in random order (this study provided a price series comprising 50 different prices) may contribute to an additional confound --- subject fatigue (Kosenko 1987). Subject fatigue could also add to method variance. The effect of this potential confound should be tested. Such an examination would benefit not only price limits research, but also price-quality research.

The use of an ascending or descending price series relative to a random price series order may be a more palatable alternative despite the reservations of Della Bitta and Monroe (1973), and Rexeisen (1982). There was less variability in the lower and upper price limit scores when the price stimuli were presented in ascending and descending order then when the price stimulus were randomized. Most importantly, there was no significant difference in variability in either the lower or upper price limit between the the ascending and descending price order treatments. This reduction in variability attends to the concerns expressed by Cox (1986), and Kosenko and Rahtz (1988) who reported high variability in the upper limit to the detriment of confirming their theoretically generated hypotheses.

Although this study makes use of a limited sample size, the results do generate some concern. This comes at a time when research on price limits seems to be escalating (e.g., Cox 1986; Fouilhe 1970; Raju 1977; Kosenko 1987; Kosenko and Rahtz 1988; Kosenko and Danes 1988). Unfortunately, since all but the first study have used a random price stimulus series they may have inadverately contributed to method variance and may have masked that which they had investigated.

The study does suggest that one source of the high variability in the price limits (particularily the upper limit) reported by Cox (1986), and Kosenko and Rahtz (1988) may have been due to the price order effect. To enhance external validity, the order effect needs to be investigated across different product categories, as well as among various populations.

TABLE 1

SAMPLE STATISTICS FOR LOWER AND UPPER PRICE LIMITS

	Ascending Price Order (N = 22)	Descending Price Order (N = 22)	Random Price Order (N = 23)
Lower Price Limit	X = $1963.60 SD = $401.80	X = $2186.40 SD = $533.00	X = $2265.20 SD = $884.50
	*F = 1.315, P = .276		
Upper Limit Price	X = $3677.30 SD = $1070.80	X = $3927.30 SD = $931.10	X = $4026.10 SD = $1263.20
	*F = .597, P = .553		

*The F-tests was conducted only for the ascending and descending treatments.

TABLE 2

HOMOGENEITY TEST RESULTS

	Lower Price Limit			Upper Price Limit		
Price Order Treatment	F	DF	P-Value	F	DF	P-Value
Ascending/ Descending	1.762	(2,21)	>.10	1.324	(2,21)	>.10
Ascending/ Random	4.847	(2,22)	<.01	1.391	(2,22)	>.10
Descending/ Random	2.746	(2,22)	<.01	1.843	(2,22)	<.05

Further, this effect should be manipulated along with other product information cues used by consumers to make purchase decisions.

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Brand name *à la française* ? *Oui,* but for the right product!

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ABSTRACT

In two experiments we demonstrated that a French pronunciation of a brand name is liked better for hedonistic products, while an English pronunciation of a brand name is liked better for utilitarian products. Moreover, in the case of hybrid products possessing both hedonistic and utilitarian features, a French pronunciation of a brand name draws attention to the hedonistic aspects of the product, while an English pronunciation highlights utilitarian aspects of the product. The results are interpreted in terms of associations between product features and social stereotypes about French and American culture.

Researchers and managers intuitively recognize the importance of brand name selection and its effects on brand attitudes and brand image. It has been suggested, for example, that the brand name assigned to a new brand of a consumer product may account for more than 40 percent of its success or failure (Zaltman and Wallendorf, 1979), and it has been demonstrated empirically that brand names are an important source of information for evaluating the quality of a product (Jacoby et al., 1971; Park and Winter, 1979). What strategies then can managers employ in selecting a brand name and how do these strategies work?

Most of the literature on brand name selection has been based on intuitive rules-of-thumb. For example, Collins (1977) proposed that a brand name should be unique, short, suggestive of the product, distinctive, and pronounceable in several languages. A list of similar characteristics can be found in most marketing textbooks (e.g., Kotler, 1988; Engel, Blackwell and Miniard, 1986). There also has been some empirical research on brand name effectiveness. Kanungo (1968) found that the more meaningful the brand name, the better the recall associated with the name. However, meaningfulness affected brand name recall only when names did not easily fit the product category. Robertson (1987) examined the effect of "high vs. low imagery brand names" and found that high imagery brand names were easier to recall across a variety of product categories. Peterson and Ross (1972) tested whether consumers would associate certain words or sounds with particular product categories. They found that certain words were more reminiscent of cereal brand names and others were more likely to remind consumers of detergents. In other words, consumers seem to possess a preconceived notion of how product category words should sound, and they seem to respond positively if there is congruence between brand name and product class. Finally, Mehrabian and De Wetter (1987) proposed that any products convey a wide range of connotations to consumers and that product appeal can be enhanced by selecting a name that conveys a desirable subset of these connotations. In support for their theoretical model, they found that discrepancies between the ideal set of emotional connotations for a product (e.g., pleasure, arousal, dominance) and the connotations actually implied by a given product name could significantly predict product preferences.

In our research, we studied another factor that may influence the perception of a product, namely the way a brand name is pronounced. It was hypothesized that the liking of a brand name and the perception of a product would change as a function of pronouncing the brand name in English or French.

Research in sociology, anthropology, and cross-cultural psychology has provided ample evidence for the existence of national and cultural stereotypes (cf. Peabody [1985] for a review). National and cultural stereotypes may be defined as beliefs that various traits are predominantly present and therefore characteristic of a particular nation or culture. The stereotype of the French, for example, includes, among other things, the belief that French people are distinguished from many other nations by their aesthetic sensibility and good taste (Peabody, 1985; Peyrefitte, 1976; Pitts, 1963). Practicality and a utilitarian/economic orientation, on the other hand, are commonly associated with American culture (Peabody, 1985). It is hard to say whether such beliefs are merely based on social stereotypes or whether they contain a kernel of truth. It has been suggested, for example, that as a remnant of the Protestant ethic, which was central to traditional American values, Americans are indeed more practical people. In either case, people living in a particular culture seem to share relatively clear-cut beliefs about traits of individuals in different nations and cultures.

In selecting a brand name and having this brand name pronounced in a certain way (e.g., in television and radio commercials), managers can make effective use of the national and cultural beliefs and stereotypes that consumers hold. As Bodenhausen and Wyer (1985) have shown, stereotypes frequently seem to function as judgmental heuristics in interpreting the environment. Thus, if a brand name is pronounced with a foreign accent, the cultural stereotype associated with the accent should be activated and consumers might form a stereotype-based impression of the product. As a result, they will judge the appropriateness of the brand name for a particular product category based on the beliefs associated with the brand name and features of the product category. For consistency reasons, they should like a brand name better if there is congruence between the stereotype and certain product features. For example, an English pronunciation of a brand name of a utilitarian product (e.g., foil wrap or gasoline) may receive a more positive evaluation by consumers than a French pronunciation of the same brand name. Conversely, a French pronunciation of a brand name may be more effective for hedonistic products (e.g., fashion jewelry or bubble bath) where an English

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pronunciation may fail. This is because the French pronunciation of the brand name will activate beliefs about French culture which are congruent with the sensory and imaginary features of a hedonistic product but incongruent with the functional qualities of a utilitarian product. An English pronunciation, on the other hand, should produce the opposite effect. Moreover, in the case of mixed or "hybrid products" possessing both hedonistic and utilitarian features, a French pronunciation of the brand name may highlight the hedonistic aspects of the product, while an English pronunciation of the brand name may highlight the utilitarian aspects of the product.

These two hypotheses were tested in two experimental studies. In Experiment 1, subjects provided liking ratings of brand names of utilitarian and hedonistic products. The brand names were pronounced both in French and in English. In Experiment 2, subjects were presented with brand names of hybrid products, which had both utilitarian and hedonistic aspects. The brand names were pronounced either in French or in English. Subjects were asked to indicate their perceptions of each product in terms of its utilitarian vs. hedonistic characteristics. In addition, subjects indicated how much they liked each brand name for a particular product and how expensive they thought the brand might be.

PRETEST

Prior to the two experiments, a pretest was conducted in which 20 business school students served as subjects. Subjects rated 18 products on two seven-point scales: (1) the degree to which the product possessed utilitarian features ("not at all -- very much") and (2) the degree to which the product possessed hedonistic features ("not at all -- very much"). Before providing their ratings, subjects read a brief paragraph in which they were told what the researchers meant by "utilitarian" and "hedonistic" products. Specifically, subjects read: "Some products are usually described in terms of the *functional benefits* they provide or uses they serve. These products are called utilitarian. Other products are usually described in terms of the *pleasure* associated with their use. These products are called hedonistic." In addition, examples of both types of products were provided.

On the basis of their extreme ratings on the two scales and their low standard deviations, eight products were selected for Experiment 1. Four of the products (foil wrap, screwdriver, gasoline and light bulb) had high ratings on the utilitarian scale (all Ms > 6.4) and low ratings on the hedonistic scale (all Ms < 1.5). Four other products (fragrance, nail polish, bubble bath and fashion jewelry) had low ratings on the utilitarian scale (all Ms < 3.1) but high ratings on the hedonistic scale (all Ms > 5.4). Four products, which had high ratings on both scales (all Ms > 4.2 on the utilitarian scale; Ms > 3.9 on the hedonistic scale) were selected as stimuli for Experiment 2. These "hybrid products" were hair shampoo, toothpaste, deodorant and body lotion.

EXPERIMENT 1

Subjects

One hundred and thirteen students (46% males, 54% females), enrolled in two different undergraduate marketing courses, participated in the study. Eighty-five percent of all subjects had English as a native language. Students who were not fluent in English were asked to refrain from participating in the study.

Instructions

Subjects were told that marketers frequently would have to face the decision of choosing a brand name for a new product. Subjects were further told that we intended to test the effectiveness of a recent trend in television and radio advertising: pronouncing a brand name with a foreign accent.

Design and Materials

Subjects were told that on their questionnaires they would find eight brand names listed next to eight product categories and that they would hear two different pronunciations of the same brand name recorded on a tape. After listening to each pronunciation, they should indicate on a seven-point scale how much they liked the particular pronunciation of the brand name for the particular product.

Before the experiment was conducted, a bilingual male person had been asked to pronounce eight brand names both in French and in English; the session was tape-recorded. On the tape, the order of the French and English pronounciation of the same brand name was randomized. The order of the four utilitarian and the four hedonistic products on the questionnaire was also randomized in order to ensure that possible effects were not due to the association of a particular brand name with a particular product category. The made-up brand names were *Mabor*, *Varner*, *Soment*, *Yocler*, *Talace*, *Trinon* and *Larient*. They had been coined by the researchers on the basis of two criteria: they were syntactically and phonetically acceptable in both English and French, and they could easily be pronounced in a "French sounding" and "English sounding" manner.

Results

To test whether the French pronunciation of the brand name was more effective for hedonistic products and whether the English pronunciation was more effective for the utilitarian products, a 2(pronunciation: French/English)x8(product category) ANOVA was conducted on the liking scale. Both independent variables were within-subject variables. As predicted, the ANOVA revealed a strong interaction of pronounciation and product category. As Table 1 shows, the French pronunciation was liked better for every single hedonistic product and the English pronounciation was liked better for every single utilitarian product, thus providing strong support for our hypothesis.

In an additional analysis, a 2x2 ANOVA was conducted on a composite score for the hedonistic and utilitarian products and also revealed a strong cross-

TABLE 1

Mean liking scores as a function of product category and pronunciation
($\underline{n}$ = 113)

Product category	Pronunciation	
	English	French
Light bulb	4.14	2.78
Foil wrap	4.20	2.78
Screwdriver	4.87	2.49
Gasoline	3.96	2.68
Fragrance	2.26	4.46
Nail polish	3.03	3.91
Bubble bath	3.01	4.28
Fashion Jewelry	3.19	4.52

over interaction ($F[1,103]=176.44$, $p < .0001$). The means of the composite score are presented in Table 2.

EXPERIMENT 2

Method

One hundred and thirty-six students participated in experiment 2. Subjects were given a booklet that contained product categories and scales. At the beginning of the booklet, subjects read an explanation of what we meant by utilitarian and hedonistic products. Subjects were told that each product listed in the booklet was a product that had both utilitarian and hedonistic features. The booklet contained the four products categories that had been pretested as hybrid products, namely hair shampoo (#1), toothpaste (#2), deodorant (#3), and body lotion (#4). Each product was followed by three seven-point scales: (1) a "utilitarian -- hedonistic scale" on which subjects were asked to indicate the degree to which the brand name evoked thoughts and feelings related to the product's utilitarian vs hedonistic characteristics ("definitely utilitarian --definitely hedonistic"); (2) a "liking scale" on which subjects indicated how much they liked the brand name of the particular product ("not at all -- very much"); and (3) a scale on which subjects rated how expensive they thought the product would be ("not at all expensive --very expensive").

Subjects were instructed to listen carefully to a tape on which the brand names were recorded. The brand names were *Rimor*, *Orman*, *Randal* and *Pintour*.

In order to provide a clear test of our hypothesis that it is the pronunciation of the brand name and not the brand name itself or the association of a particular brand name with a particular product that produces the effect, two different versions of the tape and four different versions of the booklet were prepared. On tape 1, the first two brand names were pronounced in French and the next two brand names were pronounced in English. On tape 2, the brand names were in the same order but the pronunciation was reversed. On version 1 of the booklet, the order of the product categories was #1, #2, #3, #4; on version 2, the order was #2, #3, #4,#1; on version 3, the order was #3, #4, #1, #2; and on version 4, it was #4, #1, #2, #3. Thus a subject who listened to version 1 of the tape and version 1 of the booklet first rated a brand of hair shampoo pronounced in French, then a brand of toothpaste pronounced in French, then a brand of deodorant pronounced in English, and finally he or she rated a brand of body lotion pronounced in English.

Results

For each of the four products, one-way ANOVAs were performed on the three dependent variables and the significance levels were adjusted with a Bonferroni procedure. For the four product categories, the ANOVAs were significant on the "utilitarian -- hedonistic scale" ($F(1,132)=58.38$, $p< .0001$ for hair shampoo; $F(1,130)=52.94$, $p< .0001$ for toothpaste; $F(1, 131)=33.12$, $p<.0001$ for deodorant and $F(1,134)=60.15$, $p< .0001$ for body lotion). As

TABLE 2

Mean composite scores of liking for utilitarian and hedonistic products as a function of pronunciation (n = 113)

	Pronunciation	
Product category	English	French
Utilitarian	4.18	2.52
Hedonistic	2.88	4.94

TABLE 3

Mean ratings on the utilitarian/hedonistic scale as a function of product category and pronunciation (n = 136)

	Pronunciation	
Product category	English	French
Hair Shampoo	4.67	2.94
Toothpaste	4.74	2.78
Deodorant	4.57	3.16
Body Lotion	5.05	3.20

predicted and as shown in Table 3, subjects who listened to the French pronunciation of the brand names evaluated the products as more hedonistic, while subjects who listened to the English pronunciation evaluated the products as less hedonistic. In addition to the significant effects on the utilitarian/hedonistic scales, subjects inferred a higher price for brand names pronounced in French (all $ps < .0001$) and, for two of the products (hair shampoo and toothpaste), subjects liked the French pronunciation better than the English pronunciation ($ps < .05$).

GENERAL DISCUSSION

It was hypothesized that consumers would like a brand name better if there is a congruence between a cultural stereotype associated with its pronunciation and certain product features. The strong interaction of pronunciation and product category in study 1 confirmed our hypothesis.

It was also demonstrated that the cultural stereotype attached to the pronunciation of a brand name in the case of hybrid products can bias subjects' perceptions. As predicted, subjects who listened to the French pronunciation of the brand names were more likely to evaluate the products in hedonistic terms, while subjects who had listened to the English pronunciation were more likely to evaluate the product in utilitarian terms. Moreover, consumers expected the hybrid products to be more expensive when the brand name was pronounced in French than when it was pronounced in English. The latter finding may be interpreted in one of two ways: either consumers who focus on the hedonistic aspects triggered by the cultural stereotype believe that the product is more expensive or the effect is specific to the French pronunciation, i.e., consumers believe that a French product is likely to be priced higher. It may also be the case that consumers used the foreign pronunciation as a cue for the country of origin and then on the basis of this cue inferred a higher price. Future research should try to disentangle these confounded effects. Another relevant question is whether consumers would be willing to pay more for a product with a French brand name.

A possible limitation of study 2 is the within-subject manipulation of the pronunciation that might have accentuated the effect. The study should be replicated with a between-subjects design. In such a replication, the effect of cultural stereotypes on product perception should also be tested for pure utilitarian and hedonistic products.

Another relevant question for future research is the extent to which our results can be generalized to other languages. Replications of our experiments could be done with other languages such as Japanese, in which case the cultural stereotype includes the belief that Japanese are technologically very sophisticated -- a belief which may be used beneficially in the marketing of brand names for technological products. Finally, it should be investigated whether our effects also hold true for different dependent variables, such as feeling and recall measures.

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Investigating Dimensions of Brand Names that Influence the Perceived Familiarity of Brands

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ABSTRACT

Extant research suggests that products perceived as being familiar are preferred to those perceived as less familiar. The current research examines how features of a product's brand name can influence perceived familiarity. Results of a study imply that the number of associations related to a product's brand name and the distinctiveness of processing the brand name induces can jointly influence perceptions of brand familiarity.

A major purpose of brand names is to provide a distinctive label by which products and services can be identified (Friedman 1985). Indeed, advertisers typically devote considerable time, effort, and financial resources to selecting brand names that are likely to be memorable (Zinkhan and Martin 1987), and they promote these brand names to enhance consumers' familiarity with them. This practice seems to be predicated on the belief that, all other things being equal, consumers are likely to regard favorably products that they perceive as familiar, and in turn this may enhance their likelihood of purchasing these products.

Consistent with this view, Mandler (1982) suggests that familiar objects generally are positively valued because they enable predictability. The thesis that people are attracted to/prefer that which is familiar also underlies research by Zajonc (e.g., 1971). Indeed, objects or experiences made familiar during childhood often have lasting effects on our tastes, preferences, and yearnings (Rheingold 1985). Thus, in light of the seeming practical importance of developing brands that are perceived as familiar, a critical question that emerges is whether dimensions of a product's brand name itself might influence the memorableness or perceived familiarity of the brand?

Some insight into this question would seem to be offered by the basic learning principle, which suggests that memory for target concepts/information is enhanced if the concepts can be meaningfully related to many as opposed to few other concepts already stored in memory (Nisbett and Ross 1980). The logic underlying this principle is that concepts that are tied to a large repertoire of diverse concepts or associations will be more memorable because the abundant associations provide a multitude of rich memory traces that can enhance the accessibility of the concepts. These meaningfully related associations or linkages to the target concept will be referred to as its *association set*. Thus, the implication of this view for brand name selection is that, consistent with findings offered by Kanungo and Dutta (1966), brand names will be more accessible in memory and thus more memorable or familiar to the extent that they possess a large rather than a small association set.

However, another substantial body of literature leads to an opposing inference. According to this research, the probability of accessing any particular concept diminishes as the association set size of the concept increases (Alba and Chattopadhyay 1985; Nelson and Friedrich 1980). Two reasons are often cited for this phenomenon. First, as the number of associations linked to a target concept increases, the strength of each linkage or retrieval path is thought to be weakened because total activation is dissipated over the large association set (Anderson 1976). Second, as the association set size increases, the number of competing associations that might be activated and interfere with access to the target concept elevates (Anderson 1976; Alba and Chattopadhyay 1985). Thus, the larger the number of associations that are encoded in relation to the target concept, the lower is the probability of accessing that item. These findings imply that brand names possessing a relatively small rather than a large association set will be more accessible and thus presumably more familiar. Perhaps it is a logic similar to this that often induces practitioners to search for unique brand names.

The present paper suggests that the outcomes implied by either of the preceding views concerning the relationship between brand name familiarity/ memory and the size of the brand name's association set may occur. It is proposed that what determines which of these outcomes takes place in a given instance depends on the distinctiveness of processing that the brand name engenders. As used here, the term distinctiveness of processing refers to the extent that during processing, individuals focus on the unique and distinctive meanings or connotations of the target concept/brand name (Eysenck 1979). The main hypothesis is that access to and thus familiarity of brand names that possess large versus small association sets may be inhibited when consumers are prompted to engage in nondistinctive processing. However, an opposite outcome is hypothesized to occur when consumers engage in distinctive processing. In the following section, a means of making the distinctiveness of processing construct operational is offered and the logic for the preceding predictions is developed.

ASSOCIATION SET SIZE AND DISTINCTIVENESS OF PROCESSING

To examine how the relationship between association set size and distinctiveness of processing may affect familiarity, a way is needed to operationalize the distinctiveness construct. A sizeable body of research suggests that this can be accomplished via word frequency (Eysenck 1979; Lockhart, Craik and Jacoby 1976). Rare, infrequently encountered words in the language are thought to stimulate distinctive processing as individuals "struggle to find [distinctive] meaning in them" in relation to their context (Jacoby and Craik 1979, p. 11). By contrast, the meaning of common, frequently encountered words is readily apparent and therefore these words are afforded relatively nondistinct processing (Lockhart et al. 1976).

Support for this thesis comes from evidence that implies infrequently encountered or novel words are not as readily perceived or processed as are common high frequency words (Catlin 1969). And like other novel words or concepts, such low frequency words receive greater attention (Warmer and McGray 1969) and take more time to process (Forster and Chambers 1973) as individuals engage in directed efforts to specify the meaning of, make sense of, and encode these words. Given such evidence that word frequency is an appropriate indicator of distinctiveness of processing, this variable will be adopted both in discussing the relationship between distinctive processing and association set size and in the research that will be reported.

Nelson's sensory-semantic model (1979) provides a starting point in investigating the relationship between association set size and brand name familiarity/memory. This model suggests that when individuals are exposed to a target word, they automatically activate in memory concepts that are related to this word. For example, consumers who are exposed to the brand name "Cheer" will automatically activate meaningfully related concepts or associations to the brand name word (e.g., applaud, joyfulness, comfort, etc.). Moreover, these concepts sometimes may be encoded in memory together with the target word (Nelson et al. 1985, p. 95). Whether these concepts that have been automatically activated are in fact encoded in memory with the target (brand name) word appears to vary as a function of the distinctiveness of processing that takes place during encoding. Employing word frequency as an indicator of distinctive processing, let us examine this critical thesis more fully.

Association Set Size Effects When Processing High Frequency Words.

As research reviewed earlier suggests, high frequency words tend to be readily processed with little effort (Catlin 1969). Thus, high frequency words are afforded relatively nondistinct processing during encoding such that little attempt is made "to integrate, specify, or restrict target [brand] information" with respect to a limited set of related concepts that uniquely and distinctively specify a particular sense of the words (Nelson et al. 1985, p. 95). From this it follows that a broad spectrum of the heterogeneous concepts in the association set that are automatically activated upon target word exposure will be *unselectively encoded* in memory together with the target (brand) word (c.f. Jacoby and Craik 1979). Note that because these encoded concepts are generally heterogeneous, their meanings should possess little semantic overlap with the connotations of the target word/brand name in the operating context. Hence, these associations might largely interfere with brand name accessibility. This implies that because, relative to brand names possessing small association sets, brands with large association sets should have more of these diverse associations that might interfere with the accessibility of the brand names, interference effects should be more pronounced for brand names possessing large association sets. Thus, the hypothesis emerges that when brand names are embodied by high frequency words, access to and thus familiarity with the brand names may be poorer for brands that possess a large rather than a small association set.

Association Set Size Effects When Processing Low Frequency Words.

A different scenario unfolds when brand names are embodied by low frequency words. Exposure to these relatively uncommon low frequency words, which are difficult to encode and assign meaning to, presumably induces distinctive processing. Such distinctive processing is directed at unambiguously specifying the meaning of the word in its context and discriminating it from other concepts (Lockhart et al. 1976). Thus, while general activation of concepts related to the target word or brand name occurs upon exposure to such low frequency words/brand names, the distinctive processing which these words are subjected to limits the breadth of association set concepts that are encoded in memory. Indeed, encoding of concepts in the association set is restricted to only those items that appear to meaningfully relate the brand name with other brand-relevant information presented in the context (c.f. Nelson et al. 1985). This *restrictive encoding* should result in the formation of strong linkages between the target word and some selected set of relevant concepts in the context or message. And this implies that regardless of the size of the association set, the breadth of associations to the brand name that are encoded in memory will be limited. As such, a large association set should not adversely effect the accessibility of the brand name. In fact, it may be that brand name accessibility and thus familiarity might be somewhat enhanced as the size of the brand name's association set increases because more associations will be available to meaningfully relate to the brand name.

OVERVIEW OF THE STUDY AND HYPOTHESES

The preceding theorizing suggests that accessibility to and thus perceived familiarity with a brand name may vary as a function of the brand name's association set size and the distinctiveness of processing induced by the brand name during encoding. Brand names are likely to be more accessible and thus appear to be more familiar when they are relatively common, high frequency words and have few rather than many meaningful associations related to them, but such effects might be eliminated or possibly reversed when brand names are relatively rare, low frequency words.

This hypothesis was examined in a study. Subjects were exposed to a set of ads for fictitious brands. Some of these brands, hereafter referred to as *critical brands*, had brand names that varied in terms of their association set size (small or large) and word frequency (high or low). The remaining brands are referred to as filler brands because they were used only for filler purposes and their brand names did not vary along these dimensions. Later after being exposed to the entire set of ads, subjects' perceived familiarity with the critical brands/brand names prior to the time of the study and their certainty about this familiarity were assessed. Hence, subjects were queried about their subjective perceptions of prior familiarity with brands that, in reality, did not exist in the market. Moreover, the robustness of treatment effects on familiarity over time was assessed by administering this measure after either a relatively long or short delay.

Because the theory makes no clear predictions about the effect of delay on certainty of perceived familiarity, no hypotheses concerning this variable are offered. However, formal hypotheses are offered that capture the anticipated interaction of brand name association set size and brand name word frequency on this measure.

H1: When critical brand names are high frequency words, greater certainty of the perceived familiarity of the critical brands/brand names should result when the brand names possess small rather than large association sets.

H2: When critical brand names are low frequency words, the certainty of perceived familiarity of the critical brands/brand names should be somewhat positively related to the brand names' association set size.

METHOD

Stimuli

Ads for eight fictitious critical and filler brands of toiletry products were constructed by combining copy claims obtained from a number of existing ads. The product categories featured in these ads included antiperspirant, blemish medicine, disposable razor, pain reliever, vitamins, soap, suntan lotion and bandages. The first three product categories listed above were randomly selected from the set and employed in ads for the critical brands, while the remaining categories were used in ads for the filler brands. Ads for the critical brands were each of comparable length (64-66 words), while the length of filler brand ads varied (36-83 words). Moreover, in each of the critical brand ads, copy was structured in an identical manner such that the brand name was identified in the first, third and fifth sentences of the text. This same structure was maintained for the filler brand ads with the exception that the brand name occurred only twice in the shorter filler ads.

Words used as brand names for critical products were determined on the basis of their association set size and the words' frequency of occurrence in the language. The brand names employed were selected from words with known association set sizes as determined in the research of Nelson and colleagues (Nelson, Bajo and Casanueva 1985; Nelson and Friedrich 1980; Nelson and McEvoy 1979). In this research, word set sizes were obtained by asking large groups of individuals to specify the first meaningfully related association that came to mind upon hearing each target word. Word set sizes were then derived by tallying the total number of different responses offered by at least two individuals. Next, the frequency with which these words occur in the English language was assessed by employing word usage estimates provided in Thorndike and Lorge (1944). Words were selected for use as critical brand names in the study only if 1) the size of their association set was either small or large (as defined by the standards employed in previous research), 2) the frequency of word occurrence was clearly low or high (low=15 or fewer occurrences and high=100 or more occurrences per one million words), and 3) the words did not convey extremely negative or unusual connotations in the context of a consumer product. In addition, pretest data were obtained (from 15 subjects) to ensure overall equivalence among groups in the imageability of the critical brand name words and the degree to which these words were related to the product categories employed.

On the basis of these criteria, three words were selected for critical brand name use that fulfilled the word frequency (low/high) and association set size (small/large) treatment requirements. Yard, Lake, and Room were high frequency/large association set size brand names; Cloud, Day, and Round were high frequency/small set size names; Crisp, Moose, and Bribe were low frequency/large set size names; and Cork, Shove, Dusk were low frequency/small set size names. Multiple critical brand names were selected for each treatment condition to reduce the likelihood that any treatment effects that might emerge were attributable to unique content embodied by the brand names. Words selected as brand names for the filler ads were Arise, Friday, Swift, Comment, and Incline; these words were relatively moderate on the critical treatment dimensions.

Procedure

One hundred females served as subjects and were given $5.00 to compensate them for their time. Participants took part in the study in groups that ranged in size from about 3 to 20 people.

Upon being seated, subjects were informed that they would be listening to a series of test ads being considered for use on radio. Participants were alerted that the ads had not yet been professionally produced and thus they would feature only the advertising text. Subjects were told that their task was to consider how clearly articulated, grammatically correct, and professionally written the ads were.

Subjects then listened to a series of tape recorded radio ads. On the tape, the three critical brand ads always were presented only once and aired in the fourth, seventh, and tenth positions. Filler ads were inserted in each of the other positions, which in total numbered 12. One of the short filler brand ads was repeated three times on the tape, two such ads were repeated twice, and two filler brand ads were presented only once. The inclusion of the filler brand ads and the multiple presentations of several of these ads was intended to enhance the complexity of the

TABLE 1

Certainty of Perceived Familiarity for the Critical Brands

	Short Delay		Long Delay	
	Association Set Size			
	Small	Large	Small	Large
Critical Brand Names with:				
High Word Frequency	38.13	29.86	39.56	37.38
Low Word Frequency	36.75	45.10	39.25	42.80

listening context and thus reduce the likelihood that subjects would devote an unusually high level of attention to the critical brand ads, thereby producing ceiling effects and undermining the external validity of the study.

Subjects performed the dependent measures at their own pace. To eliminate short term memory effects for the advertised brands and to maintain the study guise, all subjects first completed an irrelevant task that entailed rating the ads as a group with regard to their clarity, grammar, professional writing style, etc. Then half of the subjects were assigned to a treatment designated as the long delay condition. These subjects completed the perceived certainty of familiarity measures after a substantial delay (approximately 30 minutes), which was accomplished by having subjects complete some intervening tasks (e.g., a variety of opinion questions concerning topics unrelated to the current study) prior to filling out the certainty of perceived familiarity measures. The remaining subjects completed the familiarity measures after a short delay and thus participated in the short delay condition.

The measures designed to assess perceived certainty of familiarity were administered separately for each of the three critical brands. This entailed first asking subjects whether they had ever heard of each of the critical brands prior to participating in the study (1=no, 2=yes) and then asking subjects to rate how certain they were about their preceding responses (1=extremely uncertain, 7=extremely certain). Using these same scales another pair of somewhat similar questions also was asked. For each of the critical brands subjects were queried whether they had ever before heard of *any product* bearing the name of the critical brand and asked how certain they were about their ratings.

Results

Treatment effects were analyzed for the full 2 (small/large association set size) by 2 (low/high word frequency) by 2 (short/long delay) factorial design. Treatment means for the certainty of perceived familiarity measure are reported below. This measure was computed by summing the products of: (1) subjects' reported familiarity for each of the three critical brands and their certainty concerning each of these assessments, and (2) subjects' familiarity with any products bearing each of the three critical brand names and their certainty concerning these ratings.[1] Higher numbers indicate greater certainty of familiarity.

Subjects' certainty of perceived familiarity with the critical brands/brand names prior to their exposure to them in the study revealed a main effect of word frequency ($F(1,86)=5.39$, $p<.02$) that was qualified by an interaction of association set size by word frequency ($F(1,86)=10.95$, $p<.001$). All other effects were nonsignificant. Consistent with H1 and H2, when the critical brand names were high frequency words, subjects reported that they had greater certainty of familiarity with the critical brands/brand names when the association set sizes of the brands were small rather than large ($F(1,86)=4.65$, $p<.03$), but when the critical brand names were low frequency words, subjects reported that their certainty of familiarity with the critical brands/brand names was greater when the brands' association set size were large rather than small ($F(1,86)=6.38$, $p<.01$).

Conclusion

To summarize, the data obtained in this study suggest that the brand names assigned to products can influence the extent to which consumers perceive the products as familiar. Hence, if, as conventional wisdom suggests, consumers are attracted to and thus are more likely to purchase familiar brands, the findings offer important insight to marketers. These findings appear to hold regardless of whether a short or long delay separates exposure to the brand names and assessments of familiarity.

Brand names embodied by high frequency words seem to be perceived as more familiar when they possess relatively few associations tied to the name. This is thought to occur because these high frequency words stimulate nondistinct processing and therefore promote the unselective encoding in memory of heterogeneous concepts/associations related to the brand name. Moreover, because these diverse

[1] Separate analyses performed on each of these two measures revealed the same outcomes as those reported on the aggregate measure. That is, the interaction of association set size and word frequency was significant for both measures ($p<.009$ and $p<.008$, respectively) and no effects involving the delay manipulation emerged.

associations that are encoded in memory may possess little overlap in meaning with the relevant connotations of the brand name, they tend to inhibit access to the brand name. Thus, perceived familiarity of products bearing high frequency brand name words appears to be greater when the brand names possess a relatively small versus large association set because such names possess fewer associations that can interfere with access to the brand name in memory.

By contrast, brand names embodied by low frequency words appear to be regarded as more familiar when the brand names' association sets are relatively large. Presumably this occurs because the low frequency brand name words engender distinctive processing and, in turn, this induces selective encoding of associations tied to the brand name words; only those associations are encoded in memory that uniquely specify the meaning of the brand names in relation to their contexts. Thus, because low word frequency brand names that possess many associations are likely to have a greater number of associations to help specify the contextually-relevant meaning of the brand names, access to and hence familiarity with such brand names will tend to be enhanced for names with large rather than small association set sizes.

Future research that conceptually replicates and extends these findings would be useful. For example, distinctiveness of processing might be operationalized in an alternative manner, perhaps by varying the incongruity of (moderate word frequency) brand names in relation to the products they represent. In addition, it would seem worthwhile to investigate qualifications of the current findings that might well occur when repeated exposure to brand names having the characteristics of the ones examined in the current study takes place.

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Inhibiting Brand Name Recall: A Test of The Salience Hypothesis

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ABSTRACT

Two articles by Alba and Chattopadhyay (1985, 1986) demonstrated that having subjects think about a brand can interfere with the retrieval of competitive brand names. This paper reports the findings of a study designed to provide a further test of some conceptual and pragmatic issues germane to recall inhibition.

INTRODUCTION

In a series of recent experiments, Alba and Chattopadhyay (1985, 1986) have demonstrated that having subjects think about a particular brand can inhibit the recall of competing brands. Similarly, thinking about a particular product category was found to suppress the retrieval of competitive product categories (e.g., deodorant sprays versus deodorant soaps). Their results provide rather compelling support for the robustness of this effect. Recall inhibition was demonstrated across a number of different product categories and induction techniques. Moreover, inhibition was also observed among brands consumers would consider buying even after a full day had elapsed between the salience induction and brand recall, results which lend further support to the pragmatic importance of this effect.

Alba and Chattopadhyay's "preferred explanation" for why inhibition occurs is the salience hypothesis originally advanced by Rundus (1973). In essence, the probability of retrieving a brand name is determined by the strength of association between the product category and brand name divided by the summed strengths of associations between the product category and all brand names (referred to as the ratio rule). The presentation of a brand name causes an increase in associative strength, thereby enhancing its salience (i.e., the prominence or level of activation in memory) and accessibility at the expense of unpresented brand names.

Our inquiry into this area was motivated by both conceptual and pragmatic interests. As revealed by the discussion in the following section, relatively little progress has been made in establishing the tenability of the ratio rule. Moreover, our analysis of the ratio rule suggests some potential restrictions in the pragmatic value of inhibiting brand name recall.

THE SALIENCE HYPOTHESIS

As noted above, the salience hypothesis prescribes a ratio rule formulation to account for recall inhibition. The particular predictions one derives from the ratio rule depend upon one's assumptions about how the salience induction affects the cue item's strength (Basden, Basden and Galloway 1977). In order to illustrate these varying predictions, two examples are employed. The first example, presented in Table 1, represents the effects predicted when the increase in a cue item's associative strength is *proportional* to its preexisting strength. Table 1 depicts a product category comprised of four brands ranging in their preexisting associative strength from 1.0 (indicating a maximum association between the brand name and product category) to 0.0 (reflecting the absence of an association). The probability of recalling a given brand is derived from a brand's associative strength divided by the summed strengths of all brands. In addition to the preexisting associative strengths and recall probabilities, Table 1 also reports how these would change as a function of cueing with each of the brands. In deriving these numbers, we arbitrarily employed a proportional increase of one-third. The critical assumption here is that the change in strength is proportional rather than the particular magnitude at which the proportional change is assumed to occur.

The impact of cueing with a given brand can be derived from a comparison of the average recall probability for noncued brands (recall of noncued brands is the conventional criterion) based on preexisting (i.e., analogous to a control condition) associative strengths. For example, when brand A is used as a cue, the average recall probability for noncued brands is 16% [(32 + 16 + 0)/3]. In the absence of cueing, the average recall probability for noncued brands is also 16%. In other words, the ratio rule predicts that cueing with brand A should not induce inhibition since its associative strength is already at the maximum level.

Similarly, average recall probability is unaffected when brand D is used as a cue. Note, however, that brand D's expected inability to undermine retrieval is dependent upon the assumption that changes in associative strength are proportional to the preexisting level. As will be shown shortly, changing this assumption can lead to very different predictions.[1]

In contrast, inhibition is anticipated when cueing involves either brand B or C. When brand B is used as a cue, the average recall probability is 20.7% versus an average of 23% in the absence of cueing. The respective probabilities are 26.7% and 28.3% for

[1]The assumption that cueing increases an item's associative strength at a proportional rate appears problematic for items that are initially unassociated with the category (e.g., brand D in Table 1). It seems inconceivable that strength would remain unaffected by cueing as some increase, no matter how minute or temporary in nature, should occur when a person actively processes a single stimulus. This limitation could be overcome by modifying this assumption to include a positive constant (i.e., strength increase is equal to a constant plus some increment based on initial strength).

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TABLE 1

An Illustration of The Ratio Rule's Predictions Based on Proportional Increase Assumption

	Brand A	Brand B	Brand C	Brand D
Associative strength				
Preexisting	1.0	0.6	0.3	0.0
After cueing with:				
Brand A	1.0	0.6	0.3	0.0
Brand B	1.0	0.8	0.3	0.0
Brand C	1.0	0.6	0.4	0.0
Brand D	1.0	0.6	0.3	0.0
Recall probability				
Preexisting	53%	32%	16%	0%
After cueing with:				
Brand A	53%	32%	16%	0%
Brand B	48%	38%	14%	0%
Brand C	50%	30%	20%	0%
Brand D	53%	32%	16%	0%

Cued with:	Average recall probability of noncued brands: Treatment	Control
Brand A	16.0%	16.0%
Brand B	20.7%	23.0%
Brand C	26.7%	28.3%
Brand D	33.3%	33.3%

brand C. Thus, the use of brand B should produce a 10% reduction in recall probability [(23 - 20.7)/23] versus nearly a 6% reduction for brand C. In other words, brands more strongly (but not perfectly) associated with the product category should induce greater inhibition.

On the other hand, somewhat different predictions are derived from the ratio rule under the assumption that a cue item becomes, at least temporarily, *maximally* associated with the item category. Table 2 captures this situation. As before, cueing with brand A should not influence recall. However, a very different pattern emerges for the remaining brands. Whereas associative strength is enhanced more for strongly associated items under the proportional increase assumption, the maximum increase assumption produces a greater increase in strength for items possessing weaker preexisting associations. Consequently, the ratio rule prescribes greater inhibition for brands having weaker associations. Indeed, brand D is now anticipated to produce the strongest amount of inhibition.

We suspect that both assumptions about the increase in item cue strength are valid depending upon the particular recall context. If, for instance, inhibition is encouraged by presenting a single cue item and recall occurs immediately after the cue is removed, it would seem reasonable to believe that the cue's associative strength increases to the maximum level. On the other hand, the use of a large number of cue items and/or large time intervals between cue exposure and retrieval may favor the proportional increase assumption.

The preceding discussion suggests several fundamental predictions based on the ratio rule. First, regardless of which assumption may hold about the effect of cueing on a cue item's associative strength, the ratio rule predicts that inhibition will not occur when cueing involves an item of maximum strength (e.g., brand A in Tables 1 and 2). Second, the use of cue items with intermediate levels of association (brands B or C) is anticipated to undermine the retrieval of items possessing maximum association (as suggested by the decline in the retrieval probability of brand A in Tables 1 and 2). Even a cue lacking any association may cause this effect under the maximum increase assumption (e.g., the impact of cueing with brand D on brand A's recall probability in Table 2). Finally, the ratio rule predicts that retrieval should be differentially affected by the preexisting strength of cue items, although the precise pattern depends on how cueing influences a cue item's strength.

TABLE 2

An Illustration of The Ratio Rule's Predictions Based on Maximal Increase Assumption

	Brand A	Brand B	Brand C	Brand D
Associative strength				
Preexisting	1.0	0.6	0.3	0.0
After cueing with:				
Brand A	1.0	0.6	0.3	0.0
Brand B	1.0	1.0	0.3	0.0
Brand C	1.0	0.6	1.0	0.0
Brand D	1.0	0.6	0.3	1.0
Recall probability				
Preexisting	53%	32%	16%	0%
After cueing with:				
Brand A	53%	32%	16%	0%
Brand B	43%	43%	13%	0%
Brand C	38%	23%	38%	0%
Brand D	34%	21%	10%	34%

Cued with:	Average recall probability of noncued brands	
	Treatment	Control
Brand A	16.0%	16.0%
Brand B	18.7%	23.0%
Brand C	20.3%	28.3%
Brand D	21.7%	33.3%

Support for the salience hypothesis has come from findings that having subjects think about a particular item leads to a reduction in the retrieval of remaining category items. While such evidence is consistent with the salience hypothesis (assuming that the cue item's preexisting associative strength was less than maximum), it is also congenial with alternative explanations that have been offered to account for recall inhibition (Nickerson 1984). Consequently, a more demanding test would entail examination of the ratio rule's predictions about the role of relative associative strength.

In this regard, empirical evidence is extremely sparse. Only two studies have considered the potential influence of a cue's associative strength. In an early study, Karchmer and Winograd (1971) concluded that the preexisting strength of cue items had little effect on the amount of recall inhibition observed in their study. However, the accuracy of this conclusion is debatable. An examination of the reported recall means indicates that subjects exposed to weak cues retrieved 5.7% fewer items in the first experiment and 12.4% fewer items in the second experiment. In comparison, subjects receiving strong cues recalled 8.9% and 18.4% fewer items in the two experiments. Thus, recall inhibition was around 50% greater in both experiments for strong relative to weak cues.[2]

More recently, Alba and Chattopadhyay (1986; Experiment 1) report that variations in a cue brand's preexisting associative strength, operationalized in the form of a brand's retrieval probability during free recall, did not affect the amount of inhibition. There is, of course, the possibility that such null effects are more reflective of methodological than conceptual weaknesses (e.g., failure to use cues possessing "sufficiently" different levels of associative strength).

In sum, while the ratio rule provides a very precise framework for deriving predictions about the nature of recall inhibition, available evidence sheds

[2]This reinterpretation of Karchmer and Winograd's results is consistent with the ratio rule only if it is assumed that the strength of cue items increased at a proportional rate. In their study, subjects in the cued recall conditions were given a total of 25 cue items. Given this large number of cues, it seems unlikely that the associative strength of each cue item reached maximum strength. Consistent with this, subjects displayed less than perfect retrieval of the cue items during recall.

relatively little light on these predictions. The impact of cueing with items completely associated with a category has not been considered. Nor has research examined whether inhibition will also occur for items that are perfectly associated with a category. Although research has shown that cueing undermines retrieval, this finding is equally compatible with other explanations beyond the salience hypothesis. Research undertaking a more precise test of the ratio rule by considering the role of a cue's associative strength has yielded mixed support at best.

RESEARCH OBJECTIVES

One objective of this study was to provide a further examination of the ratio rule's predictions concerning the influence of a cue item's relative associative strength. Given the dependency of these predictions on how cueing affects a cue item's strength, it is difficult to unambiguously specify the direction of this effect (i.e., whether cues induce more or less inhibition depending on their strength), with one exception. Regardless of how cueing influences a cue's strength, the ratio rule does suggest that inhibition will be less for cues possessing maximum association than those having intermediate strength levels. Indeed, the ratio rule predicts that inhibition will not occur when cueing involves items of maximum strength. These considerations indicate that manipulations of a cue's strength, which include conditions representing maximum and intermediate levels of associative strength, should provide a more rigorous test of the salience hypothesis.

Accordingly, we employed a manipulation that encompassed the full range of associative strength. Depending on the particular condition, subjects were exposed to a cue brand possessing either a maximum, intermediate, or nonexistent level of association. Such a manipulation would undermine attributing any null effects of a cue's relative strength, as reported by prior investigations, to methodological factors (i.e., failing to use a manipulation of "sufficient" strength). Moreover, this manipulation should also provide evidence concerning any potential restrictions on a given brand's ability to evoke inhibition. Confirmation of the ratio rule's position that inhibition cannot be evoked by a cue that is perfectly associated with the category, for instance, would represent one such restriction.

Another objective was to examine the ratio rule's prediction that the recall of items possessing maximum associative strength can be inhibited. In the context of product categories and brand names, it would seem reasonable to believe that brand names may often achieve a perfect associative strength with a product category. Massive advertising budgets sustained over time may lead to a brand becoming synonymous with the product category. A consumer's preferred brand, which is likely to serve as an exemplar for the product category (cf. Alba and Hutchinson 1987; Cohen and Basu 1987), should also be maximally associated with the product category.

We are, however, skeptical about the potential for inhibition to encompass items having maximum association. Indeed, it seems quite inconsistent to have an item that is completely associated with a category and then expect less than total recall of the item. If in fact items are *perfectly* associated with a category, then we anticipate that activating a category will also trigger the activation of these items regardless of the presence or absence of cue items.

This issue was explored in the present study by testing whether inhibition would also occur for preferred brand recall. Beyond its implications for the soundness of the ratio rule, a test of preferred brand inhibition possesses considerable pragmatic significance. If inhibition effects do extend to the consumer's preferred brand, then the practical value of inhibition is enhanced considerably.

METHOD

Design

The influence of a cue brand's associative strength was tested in the context of a single factor design with four treatment conditions plus a control condition. Depending on the treatment condition, subjects were exposed to a print ad for their preferred brand or a brand drawn from either their consideration, familiar, or unfamiliar sets. Subjects in the control condition were exposed to randomly chosen brand names from the product category.

Subjects and Procedure

A total of 178 subjects recruited from undergraduate marketing classes at a major midwestern university participated in the study for course credit. The study consisted of two phases. In the first phase, a booklet containing a list of brand names for five product categories (soap, toothpaste, deodorant, TV sets, and shampoo) was administered to subjects in a classroom setting. Only two of these categories (deodorant and toothpaste) were of interest. The rest were included so as to obscure the relationship between the first and second phases.

The list for each product category appeared on a separate page with the brand names in alphabetical order. As the experimenter read the list aloud, subjects placed a "1" next to all of the brand names that were unfamiliar to them. Next, subjects were asked to write other brand names that they were aware of but which did not appear on the list. Blank lines were provided for this purpose at the bottom of the page. Subjects were then instructed to place a "2" next to those brand names that they would consider buying for their own use. Finally, subjects were asked to indicate the brand they preferred the most.

This initial phase of the study enabled us to operationalize the inhibition treatment conditions. After randomly assigning subjects to conditions, an ad was developed using an appropriate brand name. Subjects in the preferred brand cue condition, for example, received an ad for their preferred brand. In the remaining treatment conditions, there were typically several alternative brands from which to choose in developing the stimulus ad. In such cases, the brand was selected randomly. Thus, each treatment condition employed a variety of brand names which shared the property of belonging to the same brand classification category.

The second phase of the study involved testing for recall inhibition. In order to divorce the two parts from one another as well as minimize any potential carryover effects, six weeks elapsed between the first and second phase. Similarly, different experimenters conducted each part.

Subjects participated in small groups of two to eight. Subjects in the treatment conditions were told that the study focused on factors that make advertisements effective. They then opened a booklet in front of them and examined a print ad for one minute. If they finished before the time elapsed, they were to begin reading the ad again. After one minute, the experimenter instructed subjects to turn the page and indicate their evaluation of the ad on a set of semantic differential scales. This measure was employed simply for maintaining the cover story. On the following page, subjects encountered the recall measure asking them to list all of the brands from the product category they could remember. Subjects were given four minutes to perform this task. Very little recall was observed after three minutes, which suggests that the time allotted was adequate.

Subjects assigned to the control condition were exposed to a print ad for an unrelated product category (i.e., either a magazine or a wristwatch). However, a brand name from the test product category did appear immediately below the recall question. This brand was randomly determined for each subject. Thus, both treatment and control subjects were exposed to a cue brand, but differed in the amount of time they spent thinking about the brand prior to recall.

This procedure was then repeated a second time for a different product category. The only restriction imposed was that a subject not be assigned to the same experimental condition for both products. Toothpaste and deodorant comprised the two product categories. Product order was counterbalanced across subjects.

Stimulus Materials

Stimulus materials for treatment subjects were specially prepared ads, typed on white paper and devoid of illustrations. The copy for each ad contained statements which were mainly puffery. This was done to minimize the possibility of subjects engaging in elaborative processing and consequently being reminded of any other brands while reading the ads (see Alba and Chattopadhyay 1986). The copy for both product ads was approximately equal in length (135-145 words) and possessed the same number of brand mentions (seven). For the ads used in the treatment conditions, only the brand name was changed while the copy was held constant. The ads for the control group employed the same copy and brand names.

RESULTS

Table 3 summarizes the mean number of noncued deodorant and toothpaste brands recalled by experimental condition. An overall test of recall inhibition was first performed by comparing the average recall of the four treatment conditions versus the control condition. Inhibition was not detected for deodorant as the comparison failed to attain significance ($p>.1$). The contrast was significant ($p<.05$), on the other hand, for recall of the toothpaste brands. Treatment subjects ($M=7.94$) recalled fewer brands than control subjects ($M=8.50$). Consequently, subsequent analyses focused on the results for toothpaste.

A 2(Order) X 5(Experimental Condition) ANOVA was then undertaken to test for potential order effects. Of particular concern was the possibility that the initial product task sensitized subjects such that inhibition may have been greatly reduced, if not eliminated, for the subsequent product task. This concern was not supported as neither the order main effect ($p>.2$) nor the interaction ($p>.4$) achieved significance. Finally, we tested for gender effects with a 2 (Gender) X 5 (Experimental Condition) ANOVA. Although a significant ($p<.02$) main effect was observed such that females ($M=8.40$) recalled more brands than males ($M=7.73$), gender did not interact with the experimental conditions ($p>.4$). The following analyses are therefore pooled across product order and subject gender.

Before testing whether the amount of inhibition would vary with the associative strength of a cue brand, it was first necessary to determine whether associative strength differed as expected across the brand classification categories. Consistent with Alba and Chattopadhyay (1986), associative strength was inferred from the probability of a brand being retrieved during a free recall test. Strong support for the presumed differences was found in a separate study involving the same subject population. None of these subjects recalled a brand they had previously classified as unfamiliar, while 98% of them recalled their preferred brand. Recall rates for brands from the familiar (69%) and consideration (84%) sets fell between these two extremes. A very similar pattern was also observed in the control condition of the main study: unfamiliar (0%), familiar (60%), consideration (79%), and preferred (100%).

Pairwise comparisions were undertaken using the Tukey-HSD procedure. These analyses revealed that, relative to the control group, inhibition occurred only for those subjects cued with their preferred brand ($p<.05$). Comparisons among the cue conditions indicated no significant differences.

A test of whether recall for the preferred brand could be inhibited required estimating the proportion of subjects who recalled this brand. Recall of the preferred brand was nearly perfect across the conditions: control (100%), unfamiliar (100%), familiar (92%), and consideration (97%). Results for the preferred brand treatment condition are excluded since the preferred brand served as the cue brand. A contrast between the three appropriate treatment versus control conditions was not significant ($p>.25$). However, the strength of this finding is undermined by the fact that, for the treatment conditions in which it was appropriate to estimate preferred brand recall (i.e., where the cue brand was something other than

TABLE 3

Mean Noncued Brand Recall By Condition

Condition	Deodorant Mean	n	Toothpaste Mean	n
Control	8.85	34	8.50	36
Preferred	8.67	36	7.19	32
Consideration	9.11	38	8.00	37
Familiar	10.08	37	8.03	37
Unfamiliar	8.58	33	8.44	36

the preferred brand), inhibition was not observed for total brand recall.

DISCUSSION

We should first acknowledge that the recall inhibition effects observed here are relatively weak compared to those reported by Alba and Chattopadhyay. Inhibition was not detected for deodorant, and the magnitude of inhibition for toothpaste was far from overpowering. This difference may simply reflect the influence of methodological factors. Whereas Alba and Chattopadhyay processed subjects individually, our sessions consisted of multiple participants. In subsequent discussions with Alba and Chattopadhyay, they indicated that they had found greater inhibition when subjects are processed individually. Presumably, subjects are more likely to faithfully undertake the induction task when placed in a one-on-one setting.

Properties of the ads might also be a contributing factor. Our ads, unlike those employed by Alba and Chattopadhyay, lacked pictorial stimuli. The presence of such stimuli may facilitate efforts to enhance the salience of the advertised brand. Finally, the cover story may have inadvertently undermined the strength of the treatment induction. Subjects might have devoted some effort to critiquing the ad in anticipation of subsequent questioning, thereby detracting from their concentration on the brand itself.

Given this apparent limitation in the strength of the treatment induction, it is not possible to draw any strong conclusions about the ratio rule's prediction concerning the influence of a cue item's relative associative strength. Failure to detect recall differences between treatment conditions may simply be an artifact of a "weak" induction. This same constraint prevents any meaningful conclusion about the potential to inhibit the recall of items possessing complete association, such as the preferred brand.

More challenging to the ratio rule, however, is the finding from the preferred brand cue condition. Whereas the rule predicts that inhibition should not occur for cues having maximum associative strength, recall was in fact significantly lower for this condition. Even the validity of this result, however, is threatened by differences across the experimental condition in the effect of deleting the cue brand from subjects' recall protocols. Given that the likelihood of recalling a particular brand varies across the various brand classification categories, one might argue that deleting the cue brand penalizes some conditions more than others. For example, because the preferred brand enjoys virtually perfect recall, subjects cued with their preferred brand are more heavily "penalized" by deleting the cue brand than subjects in the remaining conditions. In the typical inhibition study, this problem is eliminated by deleting all of the cue brands from all of the conditions. Unfortunately, our particular design, in which different subjects received different cue brands even within a condition, renders this solution impractical (i.e., it would essentially eliminate all brands).

Thus, the strength of our evidence is greatly qualified by the above concerns. Obviously, further investigations are necessary to address the conceptual and pragmatic issues raised in this paper. Indeed, evidence concerning the potential for reducing retrieval of the preferred brand is clearly needed for clarifying the potential usefulness of efforts to induce recall inhibition. It is our hope that the present paper has raised some important issues that may help guide future work aimed at understanding the process and value of recall inhibition.

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Intergenerational Influence on Consumer Decision Making

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ABSTRACT

The extent of the influence of adult children on the consumer decisions of their elderly parents was studied. Fifty middle- aged adults participated in 30 - minute interviews regarding their influence on a recent purchase of their elderly parents and on the housing decisions of their parents. Two thirds of the adult children reported having at least a "fair" amount of influence on a recent decision of their parents. This influence varied by family life cycle, family structure and the financial and personal resources of the parents.

Intergenerational influence on consumer behavior "is an interesting question that has not yet received a great deal of attention within consumer research. Its potential effects, however, are very powerful..." (Wilkie 1986, p.181). In one of the few studies in this area, Woodson, Childers and Winn (1977) found strong intergenerational brand preferences for life insurance - young adults were very likely to choose the same life insurance company as their parents. This result demonstrated that consumer socialization continues beyond the nuclear family household, across the family life cycle. The purpose of the present study is to extend our understanding of consumer socialization across the life cycle, with a focus on reciprocal socialization: the impact of adult childrens' influence on the consumer decisions of their elderly parents.

Consumer Socialization

Early research on consumer socialization examined the social factors (parents, peers, and mass media) on the consumer behavior of children and adolescents (Ward, Wackman and Wartella 1977). Research on family influence has focused on decision making within the household, examining the relative influence of husbands and wives in the decision process, and to a limited extent, the influence of young children within the household (Berey and Pollay 1968; Davis 1976). Though the direction of influence was strongest within generations (husbands and wives) and from the older (parent) to the younger generation (children), there is evidence that children do exert some influence on the purchase decisions of their parents. Children's influence on the consumer decisions of their parents varies by the nature of the product, the stage of the decision process, and the nature of the child (Ward and Wackman 1972; Szybillo and Sosanie 1977; Jenkins 1978; Nelson 1979; Belch, Belch and Cerasino 1985; Swinyard and Sim 1987).

This effect has been labeled reciprocal socialization. Ekstrom, Tansuhaj and Foxman (1986) hypothesized that the child's influence will vary with the family structure (it will be greater for single parent households), socio-economic status of the family, and the child's level of product knowledge. Though their focus was on the young child within the household, their hypotheses may be applicable for older children's influence on their parent's consumption decisions. Does reciprocal socialization increase as the family passes through the life cycle? The next section will review the relevant research by examining consumer socialization across the life cycle.

Socialization Across the Life Cycle

While there has been a great deal of research on the socialization of the child, there has been much less work on socialization at later stages in the life cycle (Brim 1966). Social norms and role expectations vary across the life cycle. Kinship norms predict a role reversal as the parent ages - i.e., the role of giving help to the child is replaced with the adult child helping his or her parents as they lose self-sufficiency (Arling 1976). Hill (1968) studied the giving patterns across three generations - grandparent, parent and young adult generations. He found that the help *received* increased with age. It was highest for grandparents, and lowest for young adults. Specifically, the grandparent generation received more help than they gave across the major categories of giving (except child care). There is other evidence that aging parents receive more help than they give, especially when they were ill and widowed (Adams 1968; Troll 1971). Moreover, it is usually daughters that give more aid to their aging parents than sons (Adams 1968; Lang and Brody 1983).

Regarding consumer socialization, Moschis has written that "although it has received little attention, one aspect of socialization that is unquestionably important in later life roles derives from the reciprocal relationship between parent and offspring" (1987,p. 22). Research on the consumer behavior of older Americans has shown this to be the case: relatives are important sources of information about consumer products (Klippel and Sweeney 1974; Schiffman 1971). Smith and Moschis (1985) further showed that this influence was dependent on the age of the elderly parent: i.e., as the age of the parent increased, there was *less* interaction with family members about consumption. While this result conflicts with previous work, it can be explained as an artifact of the

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consequences of aging, and not the impact of the influence of the adult children. Disengagement theory predicts that people may reduce their exposure to information as they age. However, they may be more likely to rely on informal sources of information when they do make consumer decisions (Moschis 1987).

In sum, there is some evidence that role reversal exists for consumer decision making where adult children have an impact on the consumer decisions of their aging parents. The goal of this research is to determine the extent and nature of the influence of adult children on the consumption decisions of their elderly parents. The following propositions will guide the research:

1. Adult children's reported influence on the consumer decision making of their aging parents will increase with the age of the parents.

2. The adult child's influence will vary with family life cycle: adult children will report more influence on their widowed parent (solitary survivor) than on their still married parents.

3. The adult child's influence will vary with family structure: daughters will report more influence than sons.

4. Influence of the adult children will vary according to the financial resources and personal capabilities of the aging parent: children whose parents are experiencing health problems, or whose parents have few financial resources, will report more influence on the consumer decisions of their parents than children whose parents are healthy and relatively affluent.

METHOD

Subjects and Procedure

Using a mall intercept procedure, adults who had parents over the age of 60 were asked to participate in a 30 - minute interview. They were offered a $10 incentive for their efforts. Forty five women and five men comprised the final sample. Their parents' median age was 72 for their mothers and 78 for their fathers. There was a qualified refusal rate of approximately 25%.

Instrument

The interview questionnaire was designed to test the four propositions. The dependent variables were:

- the degree of self-perceived influence that adult children have had on their parent's major decisions, measured on a four point scale ranging from "a great deal of influence" to "none at all"

- the nature of the reported influence on a recent decision of their parents, open-ended and coded to determine: a) the nature of the product and b) the decision stage of their influence.

- the degree of self-perceived influence that adult children had, or expect to have, on their parent's decision to move from their home on the following dimensions (rated on a four-point scale as described above):
  - when to move
  - where to move
  - what type of dwelling to choose
  - how much to pay

(This specific consumer behavior was queried in this study because earlier research conducted by the authors found that 82% of a sample of Older Americans would ask the advice of their family and children when considering their next move.)

The independent variables were; parents' age, marital status and health, number of people in parents' household, and value of parent's home. For the adult children themselves, the independent variables were: income, age, sex, and educational attainment.

RESULTS

Table 1 presents the frequency distributions on the dependent variables. Two-thirds of the sample (66%) reported that they have had "a great deal" or a "fair amount" influence on their parents major decisions. These decisions included: moving/housing (28%), home repair (12%), parents' vacation (12%), health services (10%), durable goods purchase (10%) and financial matters (10%). A small proportion of the sample (6%) reported that they did not have an influence in their parent's major decisions.

The adult children were asked what type of influence they had on a recent decision of their parent(s). Over two-thirds (70%) reported that they provided information and advice. A small proportion (8%) reported that they were directly involved in the choice process.

In terms of their influence on their parents' moving decisions, again, a large proportion of the adult children reported that they have had or expect to have "a great deal" or "a fair amount" on when their parent's move, where they move to, and what type of dwelling they will select. They expected to have a lower degree of influence on how much their parents will pay.

To test the propositions, the data were submitted to a Pearson correlation analysis. The resulting correlation matrix is presented in Table 2. The influence of adult children on their parents' decisions did not vary by the age of the parent, but was impacted by the family structure: adult children reported more influence on parents who were widowed than on parents who were still married or divorced on their 1) major decisions ($r = .30$), 2)what type dwelling to select (marginal, $r = .23$), and 3) how much to pay for it ($r = .29$). Moreover, it was the daughters who reported a greater influence than the sons on when the parents should move ($r = -.29$). The

TABLE 1

Frequency Distributions on the Nature and Amount of Influence of Adult Children on Decisions of their Elderly Parents

Decision	Amount of Influence: Great Deal	Fair Amount	Some-What	None At all
"Recent major decision"	18%	48%	28%	6%

Type of Product or Service They Had Recently Influenced	Percentage who reported at least "Somewhat"Influence
Moving/housing	28%
Home repair	12%
Vacations	12%
Health services	10%
Durable goods purchase	10%
Financial matters	8%
Other	14%
Nature of Influence	
Provide advice or information	70%
Directly influence choice	8%
Other	22%

Housing Decision	Amount of Influence: Great	Fair	Some	None
"When to move"	24%	56%	10%	10%
"Where to move"	27%	51%	14%	8%
"Type of dwelling"	27%	56%	13%	4%
"Price to pay"	16%	33%	31%	20%

degree of influence did not depend on whether the parent lived alone or with others.

Influence also varied by the relative personal and financial resources of parent. Adult children reported a greater influence on their parents' decision of when to move if their parent(s) had health problems than if they did not (r = .28). They also reported more influence on their parents' decision of how much to pay for housing if their parents currently owned a lower priced home than a higher priced home (r =-.26). There was also a marginally significant negative correlation between value of the parents' home and the influence of the children on the parents' major decisions: more influence was reported by children whose parents had relatively lower versus higher home values (r = -.21).

The impact of the resources of the adult child was also marginally significant. The results showed that adult children with higher incomes reported a greater influence on their parents' major decisions (r = .21). In addition, children with higher educational attainment reported a somewhat greater impact on the decision of what type of dwelling their parents should choose (r = .20).

TABLE 2

Correlation Matrix

Independent Variables	Major Decisions	Dependent Variables: Moving Decision When	Where	Type	Cost
Income of child	.21[b]	.18	.09	.02	.11
Education of child	.01	.01	.17	.20[b]	-.09
Sex of child[1]	-.07	-.29[a]	-.22[b]	-.12	-.13
Age of mother	.09	-.01	.08	.08	.06
Age of father	.02	.13	.04	-.06	.10
Widowed parent	.30[a]	.10	.08	.23[b]	.29[a]
Parent lives alone	.12	-.08	-.002	.003	.008
Parent has health problem	-.02	.28[a]	.01	.07	.08
Equity in parent's home	-.21[b]	-.05	-.12	-.09	-.26[a]

[1] Dummy variable where 0 = female and 1 = male
[a] Statistically significant at $p < .05$
[b] Marginally significant at $p < .10$

DISCUSSION

The results demonstrated the importance of reciprocal consumer socialization in the later stages of the family life cycle. The respondents reported that they assisted their aging parents in a wide variety of purchase decisions. Their influence was greatest in the earlier stages of the consumer decision process, with over two-thirds reporting that they provided advice and information to support their parents' decision making. Only a few (8%) reported having a direct impact on choice.

Support was found for three of the propositions tested. The extent of adult children's influence on a recent major purchase was impacted by family life cycle: more influence was reported by children of parents who were sole survivors (widows) than those who were married or divorced. Note that this result cannot be explained by living situation, because there was not a significant correlation found between amount of influence and number of people living in a household. Adult children may provide, or be asked to provide, support for their widowed parents as a way to compensate for the loss of the spouse.

That adult children have more influence on their parents who have greater needs is also supported by the results testing a second proposition: adult children whose parents had health problems or lower financial resources reported having greater influence on their parents' housing decisions than those children whose parents were healthy and relatively affluent.

These results suggest that reciprocal socialization in later stages of the family life cycle is based on the needs of the aging parent. The informational influence of adult children may be offered as help to aging parents as they lose self-sufficiency. This help is not offered to parents simply as a function of age: no differences were found in children's influence by age of parent. This is not a surprising result given other research that has found the usefulness of non-chronological age measures in explaining consumer behavior of Older Americans (Barak and Gould 1985). Clearly, age alone does not create the need : it is the losses that accompany aging - loss of spouse, declining financial resources or ill health - that are related to the increasing influence of adult children in the decisions of their aging parents.

As an exploratory study, this research suffers from a lack of adequate sample size, unconventional scaling measures, a large number of dependent variables, and the measure of influence from only the perspective of the adult child. However, it supports the notion of the importance of the extended family as gatekeepers, information seekers, and deciders for the older American consumer, and serves as a base for future research.

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Intergenerational Influences in Adult Buying Behaviors: An Examination of Moderating Factors

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ABSTRACT

One interesting area of study which has received relatively little attention in the consumer behavior literature is the degree to which family influence carries over into our consumption activities as adults. Two studies have been conducted in an effort to begin to develop an understanding of the extent of intergenerational transfer (transmission of attitudes, values and behaviors from parents to children) and the impact of possible moderating factors in the process across a variety of choices. Hypotheses regarding intergenerational effects are developed from past consumer and sociological literature and are tested using data collected from two separate populations. Results of the two studies are presented, and the paper concludes by introducing a conceptual framework which integrates similarities and differences seen in the two samples.

The family has long been identified as the primary socialization agent for each new generation. Included in that socialization process is the development of a large set of skills and knowledge relevant to acting as successful consumers in a complex marketplace. It is through the family that we first learn skills such as budgeting or bargaining, that we are first exposed to the huge variety of products available and that we first develop attitudes toward and preferences for those products. One interesting area of study which has received relatively little attention in the consumer behavior literature is the degree to which this family influence carries over into our consumption activities as adults.

The transmission of attitudes, values and behaviors from parents to children is generally termed *intergenerational transfer*. Although it might be expected that evidence of such transfer would be strong, past sociological research has demonstrated only a modest relationship between parent and child attitudes and values (McBroom, et al 1985). However, this sociological research examines the transmission of general social values and norms. Almost no research has been conducted which examines such intergenerational effects in a consumer setting. The purpose of the present study is to examine the extent of intergenerational transfer of brand and store choices across a wide variety of products, and to examine possible moderating variables which may affect the duration of intergenerational influences through adulthood.

BACKGROUND

Consumer socialization has been defined as the processes by which young people acquire skills, knowledge, and attitudes relevant to their functioning as consumers in the marketplace (Ward 1974). Agents affecting these processes include family, peers, media and public institutions (e.g., government, schools). Very early discussions of consumption related socialization were offered by sociologists in discussions of the development of "conspicuous consumption" patterns. Speculations were offered, for example, that children learn "rational" aspects of consumption from parents, "expressive" aspects from peers and mass media, and broader, "social role" aspects from schools or government (Parsons, et al 1953). Unfortunately, these essays on socialization processes were not accompanied by any empirical examination of the phenomena being hypothesized.

More recent efforts by consumer researchers have empirically examined the socialization process, particularly regarding the development of consumer skills of children and adolescents (c.f. Ward and Wackman (1973); Moschis (1979)). However, relatively little research has focussed on the impact of intergenerational effects on consumer decision making (Wilkie 1987; Moschis 1985), and even less has examined the impact of these family influences on one's behaviors as an adult. Of particular interest is the development of consumer preferences and choice making skills during early adulthood. Research which has been conducted has examined a variety of moderating factors thought to impact the socialization process. Moschis and Churchill (1978), for example, concluded that the family's social class affects intergenerational transfer of consumer skills. They assert that adolescents from lower class families do not have the number of opportunities to participate in consumption decisions that middle and upper class children have, and additionally, lower class families may not engage in discussions relevant to consumer socialization as frequently as middle or upper class families. In another study examining socio-economic factors, Moschis, et al (1983) suggest that increased consumer knowledge is transferred in middle class families over those of other socio-economic status. Other studies have examined factors such as age (Moschis, et al 1986), the effects of parental communication styles (Moschis and Moore 1984; Moschis 1985), and gender (Moschis, et al 1977; Moschis and Churchill 1979).

In none of these studies is an attempt made to assess the importance of intergenerational influences in explaining adult behavior, particularly early adult behavior. In fact, almost no research has examined the influence of parents' consumption decisions on subsequent choices made by their adult offspring for the same product. The research that has been conducted includes one study by Woodsen, Childers and Winn (1976) which showed that intergenerational influences were strong for decisions about insurance companies and identified age as a moderator of the effects. Another study found significant relationships between undergraduate college students and their parents regarding favorite stores, brand loyalty, opinion leadership and innovativeness (Arndt, 1971). While these studies have identified the presence of intergenerational transfer, certainly more effort is needed to clarify how intergenerational influences are utilized by adults in their decision making processes and for what marketing situations these influences are likely to be important. The purpose of the studies to be described below, is to begin to develop a broader understanding of the contexts in which intergenerational influences occur and of the factors moderating such influences.

HYPOTHESES

As indicated above, very little research has been done which examines the effects of intergenerational transfer on adult consumption behavior. However, in an extensive review and integration of research examining family communication patterns and consumer socialization of adolescents, Moschis (1985) sets forth a number of propositions describing potential intergenerational effects and moderators of such effects. While the propositions have been developed to explain *adolescent* behavior and attitude development, when combined with past research introduced above, they can serve as a basis for expectations regarding adult behavior. The propositions Moschis sets forth are too numerous to explore in a single study, and so the present research focuses on possible moderating effects which may inhibit or enhance intergenerational transfer of *preferences*. In the section which follows, hypotheses are developed which describe the expected effect of a selection of these moderating factors on intergenerational carryover for product and store choices of adults. The factors have been selected primarily due to their presence in past studies of family decision making or in the conceptual framework offered by Moschis. The descriptive nature of the study is appropriate given the early stage of theoretical development which characterizes the intergenerational transfer effect in consumer decision making.

Marketing Variables

Past research suggests that intergenerational influence will vary for different types of products. For example, Moschis and Moore (1979) found that the perceived risk associated with a product choice mediated the extent to which adolescents accepted parental guidance. Other research has suggested that intergenerational transmission of product preferences is likely to be greater and longer lasting for shopping goods and products of high perceived risk and weaker and of shorter duration for convenience and specialty goods (Woodsen, Childers and Winn 1976; Moschis 1985). These results lead to the hypothesis that:

> *H1a*: Intergenerational influence will be greater for shopping goods than for convenience goods.

It would also be expected that store choice decisions would follow a similar pattern.

> *H1b*: Store choices for shopping goods will demonstrate a stronger intergenerational transfer than stores at which convenience goods are found.

Age

Many studies have shown that age is an important moderating factor in the degree to which parents' preferences or attitudes impact on their children's choices (Vener 1957; Moschis et al 1977; Moschis and Moore 1979). Additionally, Woodsen, Childers and Winn (1976) found age to moderate intergenerational influences in adults' decisions about insurance. They report that while early adult insurance choices are strongly affected by parental choice, as the consumers get older, their decisions are less similar to that of their parents. Based upon their findings it is hypothesized that:

> *H2*: Intergenerational influence will decrease with age for both product and store choices.

Gender

Researchers examining adolescent behavior have concluded that the degree of parental influence on consumer decisions is affected by the sex of the child. Because girls, especially teenagers, exhibit an earlier and relatively higher need for conformity to peer group norms, they are more likely to make decisions relevant to personal appearance independently of their family (Saunders, et al 1973; Moschis, et al 1977). As a result, less intergenerational influence is demonstrated for such products. This earlier pattern of consumer independence may also influence female decision strategies as they reach adulthood. Because they began making consumption decisions at an earlier age, intergenerational influences may be weaker generally for females than for males. Therefore it is hypothesized that:

> *H3*: Intergenerational influence will be stronger for males than for females in both product and store selections.

Family Relationships

Moschis (1985) reports that families' communication structures have an effect on the types of parental influences demonstrated in adolescent behaviors. The relationships he discusses are quite interactive - involving variables such as frequency, content and structure of the communication, with respect to the congruency of gender between parent and child, in addition to other non-family influences. However, a general conclusion which can be inferred from his discussion is that families that demonstrate more frequent communication have a higher likelihood of displaying intergenerational transfer. One possible indicator of such communication and family environment is the level of family orientation expressed by the offspring. It seems plausible that when individuals place more importance on the family and on parental authority, intergenerational transfer will be longer lasting and will be demonstrated for a broader set of contexts. It is therefore hypothesized that:

H4: Increased intergenerational influence for both product and store choices will be demonstrated when family orientation is stronger.

Additional Offspring Characteristics

A number of other factors may influence the strength of intergenerational transfer, including the individual's education, income and marital status and whether the household contains an extended family. For example, it would be expected that as level of education increases, individuals acquire increasing amounts of exposure to various models of decision making, and to consumer education generally. As a result the person would be less likely to mimic parental choices and to demonstrate instead an independent style of decision making. It is thus hypothesized that:

H5: As education increases intergenerational influence for both product and store choices decreases.

Similarly, as an adult offspring becomes more financially secure, or if the offspring income exceeds that of the parent, it would be expected that consumer choices would become more disparate from those of the parents, particularly for shopping goods which "represent" the status of the offspring. Therefore, it is hypothesized that:

H6a: As income increases intergenerational influence in product and store choices decreases.

H6b: The decrease will be more pronounced for shopping goods.

Marital status is another potentially important moderator of intergenerational influences The strongest demonstration of intergenerational influence would be expected for offspring who have never been married. Once the offspring participates in a cohabitation situation, factors such as resolution of conflicts regarding product or store preferences while adapting to the budget situation in the new household would be expected to decrease the level of intergenerational influence demonstrated. As a result it is hypothesized that:

H7: Intergenerational influences will be stronger for individuals who have never been married.

Finally, if the adult offspring are living with their parents, it is expected that product and store choices will be more similar to those of their parents than for those living away from their parents. This may be due to continued parental pressure in consumption decisions, or to a lack of environmental changes which may lead to more independent decisions. Stated formally, it is hypothesized that:

H8: Intergenerational influences will be stronger for individuals whose household includes an extended family.

METHODOLOGY

A number of the hypotheses developed above contain elements which might be expected to change over time. In order to examine adult behaviors as thoroughly as possible, and to consider the early adult period as well as adulthood generally, two separate surveys were conducted using distinct populations. Because the content of the surveys was identical, it will be outlined before the populations are described.

Product Type Ratings

Of primary interest in this study is the examination of intergenerational influence across a wider array of consumer choices than has been previously documented. In order to support the categorizations of convenience versus shopping goods, the products used in the survey were rated by a separate sample of twenty-six students on three characteristics. Using a commonly accepted definition of product types (c.f, Kotler, p. 466) a questionnaire was developed which required that the respondents rate each product on "time spent shopping for the product" (1= Almost no time; 5 = Great deal of time); "frequency of purchasing the product" (1 = Very Infrequently; 5 = Very Frequently); and, "comparisons made before purchasing the product" (1 = No comparisons made; 5 = Always make comparisons). After summing across the categories of convenience versus shopping goods, mean scores were shown to be significantly different on all three characteristics. Specifically, time spent shopping was greater for shopping products (Mean = 3.9) than for convenience products (Mean = 1.7; t-value = 12.25, $p < .01$); convenience products (Mean = 3.0) were purchased more frequently than shopping products (Mean = 1.7; t-value = 11.08, $p < .01$); and more comparisons were made for shopping products (Mean = 3.9) than for convenience products (Mean = 2.8, t-value = 5.32, $p < .01$).

Purchase Pattern Survey

Using the information described above, a survey was designed which required respondents to indicate whether they generally bought the same brand as their parents for 22 different convenience products and 13 different shopping products. Responses for the items included whether the respondents currently: buy the same brand as parents, buy different brand from parents, don't know or don't buy. Next, the same type of responses were given for 9 different store choices - five for shopping products and four for convenience products.

Respondents were then asked to complete an 11-item filler scale measuring internal-external locus of control, followed by a 9-item scale designed to measure their family orientation. This measure of family orientation was developed by Bales and Couch (1969) as part of a large set of items designed to measure values related to interpersonal relations. In the nine item sub-scale titled Acceptance of Authority, individuals' attitudes toward parental guidance and family participation are measured. Increasing scores on the scale indicate more acceptance of parental authority by the offspring and increasing importance of family.

A series of demographic questions was then completed which included age, education, marital status, income of respondent, whether they lived with their parents and whether their parents lived in the same metropolitan area.

Respondent Populations

As indicated above, two different populations were sampled in order to collect information from a broad section of the adult population. In the first study the survey was given to a convenience sample of undergraduate and graduate business students at a major midwestern university. Distribution and completion occurred with the class periods, thus eliminating problems of survey nonresponse. Usable questionnaires were collected from 123 students, ninety-one percent of whom were under the age of 30. Other characteristics of the sample included seventy-two percent never having been married, forty-three percent female, fifty-three percent undergraduate and ninety-three percent with household incomes of less than $15000/year.

The second study was conducted in order to examine the hypotheses using a population which represented a more diverse array of demographic characteristics than was possible using students as respondents. The population utilized in this study was defined as the non-faculty staff of a major midwestern university. A random sample of 300 was selected to receive the survey, from which 209 usable questionnaires were returned. Intra-university mail was utilized to send and return the surveys, but all respondent replies were anonymous. The range of demographic characteristics was much broader for this group and as a result is believed to more adequately represent a cross-section of consumers than does the group of business students. For example, the ages of respondents ranged from twenty-one to sixty-four, with about fifty percent of the sample being less than thirty. Household incomes ranged from less than $10000 to more than $90000, with twenty-eight percent of the respondents having never been married.

Dependent Measure Definitions

In order to examine the hypotheses developed above, an index was created which measures the proportion of consumption decisions made for which the brand purchased was the same as was purchased by the respondents' parents. Specifically, the number of responses "Same as Parents" was used as the numerator and the total number of products/stores for which intergenerational transfer was assessed was used as the denominator. The six indices which were calculated included a measure for convenience products, shopping products, total products, convenience stores, shopping stores and total stores. In order to assure that each of the indices was an adequate measure for the hypothesis tests, single sample Z-tests were conducted to evaluate whether the proportions calculated were statistically greater than zero. Each of the indices for both the student and non-student samples was found to be statistically different from zero. The actual values of the indices ranged from approximately twenty-nine ($z = 4.91$, $p < .05$) to forty-three percent ($z = 25.1$, $p < .01$) in the student sample and from approximately sixteen ($z = 11.4$, $p < .01$) to twenty-nine percent ($z = 20.4$, $p < .01$) in the non-student sample.

In the results sections which follow, the two sets of respondent data will be evaluated. In order to examine the moderating effects of the various stimulus and individual characteristics, t-tests were conducted when categorical variables were utilized. Overall indices of product and store choices are utilized for these tests because the indices for convenience versus shopping products or stores produced the same pattern of results. Correlations were calculated and evaluated when interval or ratio level descriptors were collected. Correlations are reported for both convenience and shopping categories because of differences seen across the categories.

RESULTS

Study 1 Results

The first set of hypotheses predict that the intergenerational transfer of brand or store choice will be greater for shopping goods than for convenience goods. In the sample of undergraduate and graduate students, the reverse was found. For both product and store choice, a greater percentage of convenience goods (Mean = 43.2) or stores (Mean = 40.1) were reported to be the same as parents than were shopping goods (Mean = 29.6) or stores (Mean = 29.0). Each of these differences was statistically significant ($t_{product} = 6.07$, $p < .01$; $t_{store} = 3.02$, $p < .01$).

The results of analyses of the various individual characteristics are found in Tables 1 and 2. Table 1 contains the mean index values for the categorical characteristics and Table 2 includes the correlations calculated between the indices and the interval or ratio level individual characteristic measures. Each of the tables will be referred to below, as the results of the remaining hypothesis tests are presented.

The second hypothesis predicts that intergenerational influence decreases with the age of the decision maker. The results of the hypothesis tests using data collected from the student sample are mixed. While all of the correlations are in the predicted direction (Table 2), the correlation between age and the convenience product index is not statistically significant. That is, while there does appear to be an inverse relationship between age and intergenerational influence in shopping product and both shopping and convenience store choices, the relationship is not statistically significant for convenience products.

The present study does not provide any evidence of differences between males and females for

TABLE 1

Mean Intergenerational Effect Indices Study 1 (N=123) and Study 2 (N=209)

Descriptors	Products		Stores	
	Study 1	Study 2	Study 1	Study 2
Gender				
Female	38.6	26.4	34.5	19.9
Male	38.5	22.7	30.4	18.0
	(n.s.)	(n.s.)	(n.s.)	(n.s.)
Marital Status				
Never Married	40.8	33.2	38.7	26.5
Other	33.0	22.2	15.9	16.5
	(t=2.31)	(t=4.25)	(t=5.33)	(t=3.00)
	(p<.05)	(p<.01)	(p<.01)	(p<.01)
Family Status				
Live with Parents	40.2	44.8	51.4	44.1
Live away from Parents	38.2	24.2	28.0	17.8
	(n.s.)	(t=4.66)	(t=4.35)	(t=3.99)
		(p<.01)	(p<.01)	(p<.01)
Parents in same city	---	30.6	---	32.2
	---	21.9	---	10.8
		(t=3.58)		(t=7.84)
		(p<.01)		(p<.01)
Education Status				
Undergraduate	44.7	---	42.7	---
Graduate (MBA)	31.2	---	20.4	---
	(t=4.56)		(t=5.04)	
	(p<.01)		(p<.01)	
High School	---	24.5	---	17.1
Some Undergraudate	---	28.2	---	26.1
Undergraduate Degree	---	25.3	---	16.2
Beyond "UG" Degree	---	24.0	---	17.5
		(n.s.)		(n.s.)

either product or store choice. No significant differences are seen between men and women in their indices of intergenerational transfer (Table 1), and so, hypothesis three is not supported.

The moderating effect of family orientation is examined in the test of hypothesis four. As predicted, the effect of intergenerational transfer increases with increasing perceived importance of family for both convenience and shopping product choices (Table 2). The effect is also present for the selection of shopping goods stores, but is not significant for convenience store choices (Table 2). Overall, hypothesis four is supported in three of the four analyses of the student respondents.

The final four hypotheses examine demographic characteristics not previously examined in the literature, but seemingly important in the understanding of intergenerational influence.

Hypothesis five predicts that added years of education will diminish the intergenerational transfer effect. The results support the hypothesis for both product and store choice (Table 1). A related factor, income, is examined in the test of hypothesis six, where mixed results are found (Table 2). As was evident in the examination of age effects, all correlations are in the predicted direction, and significant for both store choice and shopping goods. However, the correlation between income and the index of convenience product choices is not significant.

The impact of marital status on the intergenerational effect is examined in the test of hypothesis seven. As was predicted, the effect is stronger for both product and store choices when respondents have never been married (Table 1). However, in the examination of the effects of living in one's parents home, the difference in product choice

TABLE 2

Correlations of Intergenerational Effect Indices with Demographic and Family Orientation Variables

	Products		Stores	
	Convenience	Shopping	Convenience	Shopping
Study 1				
Age	-.14 p>.05	-.33 p<.01	-.30 p<.01	-.43 p<.01
Income	-.12 p>.05	-.25 p<.01	-.15 p<.01	-.24 p<.01
Family Orientation	.27 p<.01	.29 p<.01	.13 p>.05	.28 p<.01
Study 2				
Age	-.24 p<.05	-.13 p<.05	-.16 p<.01	-.27 p<.01
Income	-.09 p>.05	-.13 p<.05	-.02 p>.05	-.24 p<.01
Family Orientation	.17 p<.01	.09 p>.05	.05 p>.05	.07 p<.01

indices is not significant. Those respondents living with their parents do show a significantly greater proportion of similar store choices (Table 1). Overall, the results of the test of hypothesis eight are mixed.

In summary, the results of the first study provide support for several of the hypotheses developed above. However, there appear to be some complex relationships which develop for product versus store choices, or for convenience versus shopping products. Potential explanations of such complexities are offered in the section which follows.

Discussion of Study 1

The test of hypothesis one showed significant but reverse effects than were predicted by past literature. However, the results support an alternative argument for adult behavior, based upon the notion of time commitment. Using the logic that individuals are more willing to spend time choosing shopping goods, it might be expected that intergenerational influence would be strongest for convenience goods or "negative" goods (such as insurance, funeral parlors) where parental choices are used as a time-saving heuristic in decision making processes, especially when consumers have little motivation to use complex decision making processes.

As indicated above, many of the hypotheses regarding the moderating effects of individual characteristics on intergenerational influence were supported. The lack of a gender effect may be caused by complexities not considered relevant to the present analysis. For example, previous research showing gender effects has limited the product type being examined to what might be considered more "female relevant" products of clothing and personal care items (Moschis, 1985). In the present analysis the indices include many examples of more generalized categories. Because the purpose of the study is to aid in the development of a more general conceptual framework, the absence of a gender effect appears to support the notion that intergenerational transfer is of importance in understanding consumption decisions of both males and females.

Two variables for which hypothesis tests received only partial support were age and income. For each of these variables, all correlations were in the predicted, negative direction, but the correlations between the individual characteristics and choice indices were not significant for convenience products. One explanation of these results is that, as discussed above, intergenerational influence serves as a heuristic for these choices. As a result, the impact of the influence would be expected to be less strongly moderated by age or income. Convenience product and store preferences acquired from the family appear to have a more enduring effect for adults and to be relatively independent of individuals' discretionary spending potential. An alternative explanation may be that the correlations have been impacted by the constrained range of the age and income variables in a sample of student populations. The results of study two should add insight regarding these two potential explanations of the non-significant correlations.

Study 2 Results

In study two, as in the sample of students, the reverse of the hypothesized effect is found for the indices of convenience versus shopping product and store choices. For both product and store choice, a greater percentage of convenience goods (Mean = 29.3) or stores (Mean = 26.4) were reported to be the same as parents than were shopping goods (Mean = 16.2) or stores (Mean = 16.1). Each of these differences was statistically significant ($t_{product}$ = 9.16, $p < .01$; t_{store} = 4.24, $p < .01$).

Tables 1 and 2 contain the results of analyses of the various individual characteristics. Again Table 1 contains the mean index values for the categorical characteristics and Table 2 presents the correlations calculated between the indices and individual characteristic measures. One difference in the reported analyses of the second study is due to the four response categories utilized to measure education in study two. Because of the increased number of categories an analysis of variance was used to perform the hypothesis test. Once again, each of the tables will be referred to below, as the results of the remaining hypothesis tests are presented.

The results of the tests of hypothesis two are consistent across the product and store indices using data collected from the non-student sample. All of the correlations are in the predicted direction and are statistically significant (Table 2). That is, the inverse relationship between age and intergenerational influence is present for both convenience and shopping product and store choices.

As in study one, there is no evidence of differences between males and females for either product or store choice. No significant differences are found between men and women in their indices of intergenerational transfer (Table 1), and so, hypothesis three is, again, not supported.

The moderating effect of family orientation is less clear in the analysis of the Study 2 data. As predicted in hypothesis four, the effect of intergenerational transfer increases with increasing perceived importance of family for convenience product choices (Table 2). However, the effect is not significant for the shopping product or either category of store choice (Table 2). Overall, hypothesis four receives only weak support when examining the non-student response data.

Other demographic characteristics also appear to provide mixed evidence of moderating intergenerational influence. Hypothesis five is not supported in Study 2. Varying years of education appear to have no significant effect on intergenerational transfer for either product or store choices (Table 1). However, as in the first study, the related income factor shows mixed results (Table 2). All correlations are in the direction predicted in hypothesis six, but the correlation between income and the indices of both convenience product and store choices are not significant.

Finally, as was predicted in hypothesis seven, the intergenerational transfer effect is stronger for both product and store choices when respondents have never been married (Table 1). Additionally, the same effects are seen when the respondent is living with their parents. Those respondents living with their parents show a significantly greater proportion of similar product and store choices (Table 1). So, in Study 2, both hypotheses seven and eight are supported. One additional question asked of the non-student sample was whether they currently lived in the same metropolitan area as their parents. As seen in Table 1, this geographic proximity variable does significantly moderate intergenerational influence for both product and store choices.

Discussion of Study 2

The tests of H1 once again showed significant but reverse effects than were predicted by past literature. These results, combined with those of Study 1, appear to offer strong support for the alternative argument based upon the notion of time commitment. Again, this explanation suggests that for adults, the intergenerational influence is strongest and most enduring for convenience goods or "negative" goods (such as insurance, funeral parlors). Alternatively, adults are more willing to spend time selecting shopping goods and are more likely to utilize more information in making such decisions than would be provided by simply examining their parents' choices.

Fewer of the hypotheses regarding the moderating effects of individual characteristics on intergenerational influence were supported in the second study. One consistent finding was the absence of gender differences in intergenerational transfer for either products or stores. As stated earlier, this may be due to the lack of gender specific product choices which have been examined in past research (Moschis, 1985). In the present analysis the indices include many examples of more generalized categories. The consistency of the finding across the studies does support the notion that intergenerational transfer is an important concept in developing an understanding of consumption decisions of both males and females.

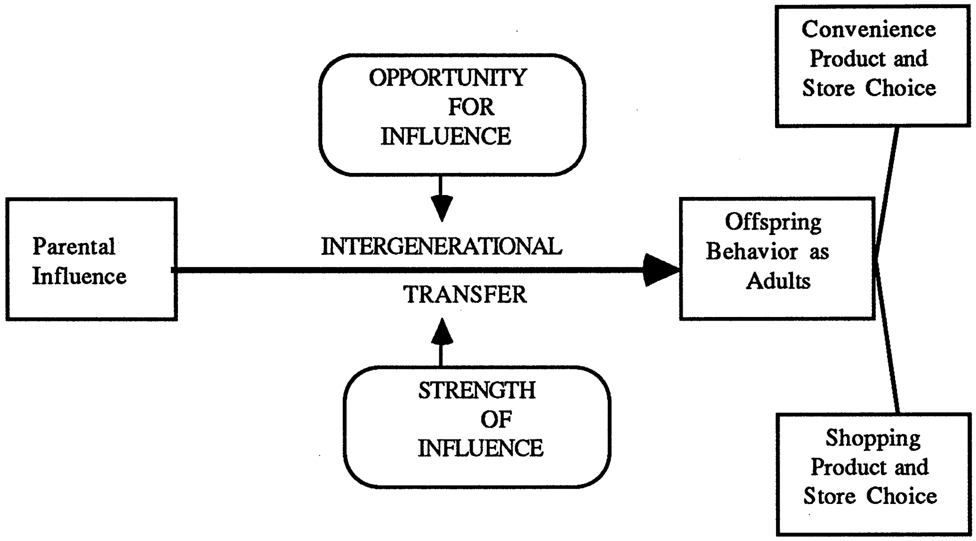
Two variables for which hypothesis tests received differential support across the two studies were age and income. The role of age as a moderator of intergenerational transfer is seen more strongly in the second study. In this study, all correlations were significant and in the predicted direction. That is, it appears that all choices reflect less intergenerational influence as age increases. As suggested earlier, this may support the notion that Study 1 findings represent a constrained age range in the sample of student populations where the large majority of the respondents had spent limited time away from their parents' home.

Interestingly, convenience product and store preferences acquired from the family *do* appear to have a more enduring affect for adults across their discretionary spending potential. This may be due to the fact that convenience goods and stores are less socially visible (so heuristics are used in decision making), whereas shopping good choices are seen as more reflective of the shopper, and therefore parents' choices are seen as less relevant to the decision as more discretionary money becomes available.

Another difference in the two studies is seen in the relationship of family orientation with intergenerational influence. The magnitude of the correlations decreases substantially in the second

FIGURE 1

Conceptualization of Intergenerational Influence



study, with the only significant relationship indicating that intergenerational influence in convenience product choices increases with family orientation. One possible explanation for this inconsistency between the studies, is a change in the respondents' perspectives when completing the "Family Orientation" scale. The scale format does not specify which family group should be considered when responding, so, whereas the student sample (72% Never Married) would be expected to answer the questions based upon their experiences as *children*, many of the respondents in the second study may have responded as *parents*. As a result, the measure is not necessarily representing the relationship which would be relevant to intergenerational influence in the present study. This is also supported by the findings in both studies regarding the negative impact on intergenerational influence of ever being married. Any future research examining these relationships must clearly indicate to adult respondents which family experiences they must consider when completing such scales, and may also want to consider the impact of multiple sets of parents when studying married respondents.

In summary, a number of differences have been identified in the two studies. The discussions offered above have suggested some explanations for these differences; however, in some cases the discrepancies themselves appear to be informative. In the final section the findings of the two studies will be integrated and used to develop a model describing the nature of moderating effects on intergenerational transfer.

CONCLUDING DISCUSSION

Figure 1 presents a simple conceptualization of the intergenerational transfer process, based upon the results presented above. The definition of intergenerational transfer, as the impact of parental influence on the behavior of offspring as adults, is represented as a precursor to choices regarding product and store choices. (Note that this is not to be construed as a complete model of choice, it represents only the nature of the intergenerational transfer process.) Moderating variables, which affect the transfer process are seen as falling into one of two categories. The first category represents variables which impact *the strength of the influence.* These variables include age, income, education and family orientation. For each of these variables, parental influence decreases as the opportunity for shopping experience increases. One situation for which parental influence continues to endure to a greater extent across these experiences is in the selection of convenience products. The best explanation for this effect seems to be that knowledge of parental choices is used as a time-saving heuristic when the products are not complex or involving.

The second category of moderators reflect the *opportunity for parental influence.* Variables such as marital status, living with parents and geographic proximity to parents all relate to the opportunity for continued interaction with parents. In general it appears that continued opportunity for interaction prolongs or emphasizes the degree to which adults' choices are tied to those of their parents. Effects of one of the variables in this category - marital status - may be more complex than can be identified in the present study. Although being married clearly serves to reduce the influence of the respondents' parents in this survey, the nature of the questions did not allow the examination of possible influences of the spousal parents.

The purpose of this study was to examine intergenerational influence present in product and store decisions and to identify the nature of moderating effects in the intergenerational transfer process. The discussions above have presented specific comments regarding such moderating effects, as well as to develop a conceptual framework with which to further categorize and describe such effects. This represents only the first step in fully understanding the role of parental influence on adults' consumption decisions. Future research is needed to identify the processes by which some of the effects seen in this study occur. For example, the present study does not explore the manner in which intergenerational effects are integrated into a marital situation. Understanding how a couple reconciles inconsistent parental experiences, or how parental influence is considered when an adult (or couple) moves to a different geographic area is beyond the scope of this research, but may help to further delineate the intergenerational transfer process. While many questions remain to be asked and answered regarding intergenerational effects, this paper has demonstrated the existence of such effects in a broad cross section of the population for both product and store choices.

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Proposal and Development of A Dialectical Model: Examining the Elderly Consumer

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ABSTRACT

This paper proposes and develops a model of elderly consumer socialization based on theoretical perspectives and empirical findings which combine the mechanistic and organismic approaches to development. Whereas the concept of consumer socialization has been applied only in studies of the young, it is suggested that it can apply to the elderly; and specific variables which could be included in such a model are discussed.

INTRODUCTION

In spite of increasing interest shown by marketers and other groups such as educators and public policy makers in the elderly consumer, marketing researchers (e.g., Schiffman 1971, 1972a, 1972b; Phillips and Sternthal 1977) have only begun to attempt to increase as well as interpret what little research there is on the topic (Meadow, Cosmas, and Plotkin 1980). Because of the steadily increasing size of this population segment, expected to grow 100 percent in fifty years (Allan 1981) it has become of even more concern to these various groups. Even gerontologists have specifically addressed the area of the elderly consumer behavior (e.g. Klippel and Sweeney 1974, Krauser et al. 1983). The available research is primarily descriptive; however, and lacks theoretical structure (Meadow, Cosmas, and Plotkin 1980). What is needed are specific conceptual frameworks to guide research in this area so that we may move from "mere ad hoc responses to scientific questions toward the cohesive bodies of knowledge characteristic of disciplines" (Shocker and Zaltman 1977, p. 405) The purpose of this study is to suggest an approach to the study of the elderly consumer which includes the biological, psychological, and sociological aspects which most gerontologists (e.g. Atchley 1972, Neugarten 1968; Riley et al. 1969) agree influence the aging process. Two theoretical perspectives, developmental and social learning, are integrated by the socialization approach into a dialectical model which considers both the mechanistic and organismic orientations to life span development.

BACKGROUND

Most explanations of differences in the behavior of the elderly are closely tied to theories of alterations in the biophysical and socio-psychological stages of life-span development. Aging is a complex phenomenon involving sociological, psychological, and biological factors (Atchley 1972, Baltes 1978, Botwinick 1978, Neugarten and Havighurst 1976, Riley and Foner 1968), and any attempt to give a complete picture of the life span through analysis of only one of these dimensions would be misleading. As Koller (1968) states, "The unraveling of the tangled skein of biological changes, psychological attributes, and social factors complicates the problem of fully understanding aging individuals. Which are causes and which are effects may not yet be known, but their mutually reinforcing impacts are apparent" (p.99).

Environmental forces, motivation, and other developmental factors interact with and contribute to the individual's need structure which is likely to affect his/her behavior (e.g., Erikson 1968, Kuhlen 1959, Kutner et al. 1970, Pressey and Kuhlen 1957, Riley and Foner 1968, Rosow 1974, Young 1966). Looft (1973) identifies two paradigms or general approaches to the study of human nature whose basic premises are at odds: the mechanistic and the organismic. The former assumes humans to be reactive creatures and the latter assumes an active, initiating organism. Skinnerian theory and Piagetian theory, respectively, are exemplars. The belief of some (e.g. Overton and Reese 1973) that the two positions have different truth criteria is considered by Looft to render them irreconcilable. Others, however, (e.g. Lerner 1978, Reigel 1975 and 1976) modify this view of unbridgeable, irreconcilable paradigms by suggesting they may constitute a thesis and antithesis awaiting a dialectical thesis. This would require conceptual compromises between the organismic orientation and the mechanistic perspective. A dialectical view is based on the concept of the contradiction of opposites (thesis and antithesis) and their continual resolution (synthesis). Thus, one would conceive of epigenesis as probabilistic with nature (maturation) in dynamic interaction with nurture (experience) to produce developmental change differently according to the quality and timing of interactions (Schneirlia 1957). The two views are parallel to those of cognitive developmentment and social learning, which are often incorporated into broader models of socialization (Riley et. al 1969, Rosow 1974, Moschis and Churchill 1978). Table 1 shows the confrontation of model assumptions along with those found in the general model of socialization.

Scholars subscribing to the organismic model view development as internal to the organism, in contrast with the mechanistically oriented, who assume that the organism changes primarily in response to changes in its environment. The socialization model sees the two as interactive and interdependent, with both qualitative and quantitative changes (Reigel 1975 and 1976). The organismic view holds that later developmental changes reflect continuations of processes whose directions and quality can be described by quantitative increases of elements present at earlier stages (continuity), whereas the mechanistic view acknowledges that behavior in

TABLE 1

A Confrontation of Model Assumptions Of Approaches to the Study of Development

	Approaches		
	Organismic Model Kohlberg Piaget, Long et al.	Mechanistic Model Social-learning (Bandura), factor trait (Cattell)	Socialization Model Riley et al., Rosow, Moschis and Churchill
Model Issues			
A. External vs. internal locus of the developmental dynamic	Internal	External	Both
B. Qualitative vs. quantitative change	Qualitative	Quantitative	Both
C. Continuous vs. discontinuous change	Discontinuous	Continuous	Both
D. Universality vs. relativity of development	Universal	Relative	Relative
E. Significance of chronological age	Intrinsic	Extrinsic	Intrinsic

Source: Adapted from Looft (1973)

later stages of development is new and qualitatively different from that in an earlier period (discontinuity).

Because there is neither the considerable magnitude of change nor the universal character of change observable in adult years as in childhood, Flavell (1970) argued that changes during adult years lack a biological growth process that lends to childhood changes their inevitability, magnitude, and directionality with species uniformity and irreversibility. However, as Dimmick, McCain and Bolton (1979) point out, the biological and physical development of individuals "must be taken into account, especially at the extremes of the life cycle" (p. 13). Werner (1957) states an orthogenetic principle: "Whenever development occurs it proceeds from a state of relative globality and lack of differentiation to a state of increasing differentiation, articulation, and heirarchic integration" (in Lerner 1978, p. 126).

Whether the course of developmental change is common to all human beings or whether each person follows a unique developmental pathway involves the issue of cultural and subcultural differences. All people are alike in some respects due to the existence of certain biologically endowed personality determinants that are universal to the species; some people are like others due to memberships in certain statuses (culture, ethnicity, gender, vocation); and in some ways, each person is unique because of genetic composition and unique experiential encounters (Kluckhohn and Murray 1949). The socialization model is compatible with all thee views as an eclectic approach toward understanding cognitions, attitudes, and behaviors and is a synthesis of the mechanistic and organismic views.

Finally, significance of chronological age is different in the two opposing models. Many mechanistic scholars simply reduce age to time, proposing that the same general processes or mechanisms underlie behavioral change at all ages; thus age itself, as a focus of attention is relegated to minor status, for "time itself causes nothing" (Looft 1973, p. 35). The task is not to explain age differences but to account for change in terms of the determining mechanisms. In contrast, preformed organismic theories posit stages of development to be characterized by their chronological age boundaries. Age is intrinsic to a sequence of stages, and attempts are made to determine age-normed development functions.

Age as intrinsic to a model means that it is correlated with invariant, sequential changes and that implicit or explicit assumptions about the importance of maturation underlie the changed sequence. As extrinsic, however, age is a minor consideration since it is not inherent to the behaviors observed. Age is specifically considered in a socialization model; therefore, it is intrinsic. There are numerous indicators that "chronological age is, and most likely will continue to be, a basic dimension of developmental psychology" (Looft 1973, p. 35).

It is perhaps recognition of the preceding issues that has led several several researchers in life span developmental psychology (e.g. Baltes 1979; Baltes and Labouvie 1973; Baltes, Reece, and Nesselroade 1977) and in sociology (e.g., Riley et al. 1969, Rosow 1974, Ahammer 1969) to conclude that the socialization approach to the study of the elderly is necessary due to the complex nature of aging. Therefore socialization, traditionally tied to studies of children (e.g., Piaget 1952), has not only been applied to studies of adults (e.g., Albrecht and Gift 1975), but to the elderly as well.

Rosow (1974) has described the transition to old age in terms of socialization, as have Riley and her associates in sociology (Riley and Foner 1968, Riley et al 1969), and Baltes and his associates in life span developmental psychology (Baltes 1978; Baltes and Labouvie 1973; Baltes, Reece and Nesselroade 1977). Dowd and others (1981) note that aging is not an automatic process whereby the older person is "fashioned from the whole cloth of the middle-age recruit" (p. 351). Rather, the transition to a new life space is more appropriately conceptualized as a series of interactions between the individual and others in his/her environment, and recognition is given to the idea that older people, like their younger counterparts, can be socialized (Dowd, Sission, and Kern 1981).

To view transition into old age in terms of socialization should not be unusual, given its traditionally close association with other well-known developmental stages (e.g., childhood, adolescence, adulthood) (Piaget 1952; Kohlberg 1969; Long, McCrary, and Ackerman 1980). Individuals proceeding through the middle and later years must continually learn to play new or altered roles and to relinquish old ones (Brim 1966). Moreover, with the secular trend toward increased longevity, more mature people will be called upon to play a variety of roles in the social structure (Riley *et al.* 1969). Thus, there is a continuous need for socialization in adulthood. Learning to respond to new demands does not stop at the end of childhood (Albrecht and Gift 1975).

It has long been noted by marketers that certain behavior patterns change over the life cycle (Engel, Kollat and Blackwell 1978; Wells and Gubar 1966). Retirement and old age are dramatized by the relinquishment of certain consumption categories (consumer durables, children's education expenses, etc.) and the assumption of others (health care, securities and investments, travel), within the context of the role shift. Similarly, as people grow older they tend to interact differently with various sources of consumer information (Bernherdt and Kinnear 1976; Hendricks and Hendricks 1977; Phillips and Sternthal 1977; Real, Anderson and Harrington 1980).

In order to keep pace with these changes, the elderly consumer must continuously learn, forming new attitudes and skills and changing old ones (Mauldin 1976). This suggests that the person's increasing experience with the marketplace, associated with increasing variety of needs for products and services, is likely to result in formation and change in his/her cognitive structure. Therefore, in much the same way socialization applies to consumer learning in a general context, it should also apply to the development and change of elderly consumers' cognitions, attitudes, and behavior toward marketing stimuli.

A CONCEPTUAL FRAMEWORK

An implicit, long-range goal provided by the discussion to this point would be the building of an integrated model of elderly consumer behavior wherein the complementary processes of each type of development would be explicated. As Cattell stated: "Most debators are sane enough to recognize that everything is partly environmental and partly hereditary in origin, the only issue is a quantitative one of *how much* each contributes" (Cattell 1975, p. 32).

According to some life span developmental researchers, a major concern is the need for methodologies that are specifically designed for the analysis of ontogenetic changes (Baltes 1979). A general conclusion about development-specific research is that existing methods often result in a situation where the phenomenon of development is either ruled out on an *a priori* methodological basis or only captured in an inadequate manner due to lack of development-sensitive methodology.

In addition to the obvious need for longitudinal methods, there have been efforts to advance cohort-sequential methodology (Riley et al. 1969; Rentz, Reynolds, and Stoudt 1981), methods using the socialization approach as an appropriate way to integrate various biological and socio-psychological factors involved in aging (Riley et al, 1969), and the use of structural equation models in identifying long-term casual chains (e.g., Kohn and Schooler 1977, Schaie 1979, Labouvie 1974). If one acknowledges that change is pervasive, that individuals live in a changing biocultural context and that the explanation of long-term processes is apt to involve complex historical paradigms, then development-specific methodology is crucial (Baltes, Reece and Nesselroade 1977). A Russian proverb quoted by Solzhenitsyn (1973) illustrates the dilemma faced by researchers attempting explanations of the elderly's cognitions, attitudes and behavior: "Dwell on the past and you will lose one eye....Forget the past and you'll lose both eyes" (p.x.) One can choose either the development of tedious and complex models or procedural simplicity by which "we may be more productive for the moment and thereby own more of the present but less of the future" (Baltes, 1979, p. 274).

The socialization framework considers antecedent-consequent relationships mediated by socialization processes (McLeod and O'Keefe, 1972) and includes both the "nature" and "nurture" aspects required by a dialectical model (Riegel 1975 and 1976). Figure 1 shows a conceptual model of consumer socialization, proposed and tested by Moschis and Churchill (1978) using adolescent respondents, and the proposition is made that this model can be applied to the study of the elderly consumer, and even to consumer behavior in general (Moschis 1987).

The socialization approach would be particularly intriguing for consumer research on the elderly because it specifically considers the structure and content of learning and how it changes over time (Brim 1966). Recent reviews of consumer socialization, that is, the process by which people acquire skills, knowledge and attitudes relevant to their effective functioning as consumers in the marketplace (Moschis 1981, 1987, Moschis and Smith 1985b) suggest that this approach might prove useful in studying the elderly consumer, and some preliminary investigations in this area have been made (Smith and Moschis 1985; Smith, Moschis, and Moore 1981,1982, 1985).

VARIABLES IN THE CONSUMER SOCIALIZATION MODEL

While no single set of theories and concepts has been agreed upon by socialization researchers to guide research in the area of consumer socialization, a rough blue print does exist outlining the main types of variables that should be included in a model of socialization in general (McLeod and O'Keefe 1972) and consumer socialization in particular (Moschis and Churchill 1978, Ward 1975). Specifically, the model uses age or life cycle as an index of maturation, while social structural variables (e.g., sex, social class, race) are used to place an individual in his/her social environment. The socialization processes incorporate both sources of information, usually referred to as "socialization agents," and the type of learning process (modeling, reinforcement, and social interaction) actually operating. Generally, socialization processes are conceived as having direct influence on criterion variables, while the influence of antecedent variables (age and social structural variables) can be both direct and indirect by their impact upon socialization processes (e.g., Moschis and Churchill 1978; Moschis and Moore 1979). The influence of socialization processes and social structural factors are likely to differ over the person's life cycle (Moschis 1987).

Antecedent Variables

Theory and research suggest two important antecedent variables in the consumer socialization of older adults: age and sex. While other variables such as social class are likely to be important, their effects may not be unique to consumer socialization at this stage in the life cycle. Rather, differences in consumer socialization due to such other factors are likely to be noted at earlier stages in life and remain the same in later years (Moschis 1987).

Age. While the use of chronological age for classifying an individual as an older adult is open to debate (Roedder-John and Cole 1986, Moschis 1987), several researchers prefer to use sixty-five as the cut off point for old age. However, because many cognitive orientations toward old age begin to form as individuals approach retirement, several researchers use fifty-five as a cut off point. Consumer behavior among older adults, as in other age groups, differs in two important ways: first, it is different from the consumer behavior of younger adults; second, it differs across age groups of older individuals. Research on the consumer behavior of the older adults has found differences not only between younger adults (under 55) and older adults, but also within age groups of the latter, especially between the 55-64 and the 65 and over age groups (e.g., Lumpkin, Greenberg, and Goldstucker 1985; Smith 1982). However, specific subgroups are not addressed because they are not consistently acknowledged in developmental studies (cf. Roedder-John and Cole 1986). Instead, aging is viewed as a continuous developmental process.

Sex. Developmental and socio-psychological theories suggest that sex differences are important in the aging process. It has been suggested, for example, that sex differences in elderly friendship patterns may represent a stronger effect on outcomes than cohort differences (Baltes 1978). Neugarten (1972) suggests that sex differences may diminish with age due to a variety of biological and sociological factors, while Sherman and Schiffman (1984) present theoretical underpinnings and relevant data on age-gender differences.

Socialization Processes

In later years the importance of some socialization agents may diminish while that of others, including new ones, may increase. For example, social institutions like clubs and senior citizen centers are likely to become important agents for the aged person in much the same manner that school is for young people. In fact, a study by Burton and Hennon (1980) found senior citizen centers to be the third most preferred source of consumer information, after television and newspapers, even though their importance is likely to vary by social structural factors such as residence status. As individuals grow older they experience role attrition--through retirement, children leaving home, death of friends or spouse--their life space contracts, and there is less involvement with others. Thus, there is a decrease in interaction with informal information sources (family, co-workers, etc.) and a compensating increase in interaction with formal information sources (television, newspaper, etc.).

Mass media help older persons compensate for other kinds of loss-financial, physical or social - and they provide a socially acceptable substitution for previous activities (Young 1979). In general, older persons tend to use less radio but they are heavier users of newspapers and television than younger groups. In particular, there appears to be a marked increase in exposure to newspapers and television past the age of 60 which declines after the age of 70 (e.g., Real et al. 1980). Interestingly, the motives for media use also seem to change with age. Starting at about age 60, older people use the mass media for information more than entertainment purposes (Bernhardt and Kinnear 1976, Morrison 1979, Phillips and Sternthal 1977, Schramm 1969).

Although the influence of informal socialization agents is likely to decline at later stages in life, these sources of information still might play an important role in the socialization of the older adult. In late life socialization, however, major modifications of the familiar early learning model must be made. One is the focus on reciprocal communications between parent and offspring that may play a part in socializing the parent during his or her later years (Riley et al. 1969). Older people in this country see or speak with their child(ren) an average of once a week and prefer to remain close (Lipman 1961). Thus, there appears to be ample opportunity for parents to learn from their offspring. Studies have found relatives to be important sources of consumer information for the elderly (Klippel and Sweeney 1974, Schiffman 1971). The child's influence on parental consumer socialization and consumer behavior is suggested in a study examining the decision making process of elderly persons regarding entering a nursing home. The study found significant participation by relatives in the decision making process (Baumgarten, Rao, and Ring 1976).

Friends and neighbors are important sources of primary relationships in later life; they also provide help and contact with the outside world (Atchley 1972). Rosow (1970, 1974) identifies peers and organized groups as agents of change in elderly socialization. The elderly's learning of appropriate behavior may occur through interaction with peers (Ahammer 1969). Klippel and Sweeney (1974) identified friends and neighbors as specific information sources for older consumers, and so did Schiffman (1972a), who used level of social interaction as an explanatory variable for the degree of perceived risk in purchasing a new product.

Outcomes

When viewed from a socialization perspective, consumer behavior of older adults refers to those aspects which are likely to develop or change in this particular stage in the life cycle. As Ward (1975) noted, outcomes of consumer socialization are neither specific nor invariant. While several patterns of consumer behavior acquired earlier in life are likely to change little in later years, the focus in the socialization of older adults is upon those skills, attitudes and behaviors that undergo formation and change (Riley et al. 1969). Although research is far from adequate to suggest every possible aspect of the older person's consumer behavior which is likely to change with aging, the available data presented justify changes that might occur with respect to consumer role perceptions, information processing, preferences for products and brands, including the processes leading to them, and (dis)satisfaction with marketing stimuli and processes.

Consumer Role Perceptions. The consumer role is likely to change significantly for the aging individual (Maudlin 1976). One study found the elderly's perception of their efficiency as consumers in the marketplace -- i.e., consumer-role perceptions to decline with age (Smith, Moschis, and Moore 1987). Research also suggests that older people may lack adequate socialization into roles assumed in later life. For example, government and proprietory investigations have found older adults to have inaccurate perceptions of their consumer role such as awareness of unfair practices and understanding of multiple medication interactions.

Age may also affect perceptions related to family decisions. Specifically advancing age may have what Sherman and Schiffman (1984) call an "equalizing effect"--i.e., men's life situation deteriorates at a more rapid rate than is the case for aging women, resulting in male-female equalities which were absent during mid-life. Traditional sex-role boundaries may gradually fade due to the reduction of differences between roles and the sharing of household chores (Lipman 1961). The result is that in terms of decision-making, there is more egalitarianism (Lipman 1961, Neugarten 1972). In two studies, for example, age was positively related to egalitarian sex-role perceptions among the elderly (Smith and Moschis 1985, Smith et al. 1982).

Information Processing. The elderly have been reported to process information less efficiently than younger people, requiring more time, slower pacing of stimuli, and less distracting influences (Phillips and Sternthal 1977, Roedder-John and Cole 1986). Such a deficiency in information processing capabilities may explain the elderly's greater susceptibility to advertising. The effect of advertising in general has been found to have a significant impact on the consumer behavior of the elderly (French and Crask 1977).

Another age decrement in consumption problem-solving situations concerns data integration. For aging persons a great deal of information gathered about the purchase can not be recalled, creating conditions for reluctancy to gather, and therefore process, newly gathered information. Elderly consumers were found to make less than average use of open-code dating, product components, warnings, nutritional labeling and unit pricing because this information is hard for them to read or comprehend (Bearden, Mason, and Smith 1979; Reinecke 1975; Silvenus 1979).

Product Selection. General consumption patterns are closely tied to the person's need structure which is often the result of changes in stages of the life cycle so that specific products are likely to enjoy various levels of demand depending upon the age of the older person (Gilson 1982). Compared to younger people, older consumers use fewer attributes to evaluate products. Older people were found to make less use of informational aids such as open-code dating and nutritional labeling (Schewe 1985), but more use of general attributes such as brand name and store reputation (Martin 1975, Lumpkin et al. 1985).

(Dis)satisfaction and Complaining. Although older consumers recognize shabby practices readily, they tend to avoid direct action to correct the wrong. Work by Zaltman, Strivastava, and Deshpande (1978) and Bernhardt (1981) found that older consumers were less aware of unfair practices and were less likely to complain than younger consumers. Rather, they usually resolve the problem indirectly by shopping elsewhere in the future (Bernhardt 1981, McMahon 1976).

CONCLUSION

The preceding discussion has indicated that a consumer socialization approach to the study of elderly consumers may be an ideal way to incorporate both the developmental ("nature") and environmental ("nurture") effects on their consumer behavior in a dialectal model. By considering antecedent variables, socialization processes (agent plus type of learning), and certain outcomes of consumer socialization, various theories developed to understand the aging person can be integrated and synthesized. This offers a rich method of testing many relationships and validating previous findings. Thus many opportunities would exist for future studies to explore new relationships and/or re-examine previous empirical findings guided by a conceptual framework which could be further supported or modified.

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On The Relationship Between Motives And Purchase Decisions: Some Empirical Approaches

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The primary focus of this paper is on extending the general framework of the FCB Grid (Vaughn 1980, 1986, Ratchford 1987) to the study of imagery and emotion associated with brands. Specifically, we discuss two techniques, VIP and ICON, which have recently been developed by FCB (Foote, Cone and Belding) for determining brand imagery and emotion; an important feature of these techniques is that they are primarily nonverbal. We attempt to establish a link between these techniques and the grid model, and functional models of attitudes. Finally, we discuss the potential application of these procedures to determining motives underlying brand purchase decisions.

While this presentation will focus extensively on various techniques developed and used at FCB, it is most emphatically not our intent to "sell" the techniques or the agency. Rather the intent is to provide an example of what practitioners are doing and find useful in the hope that this will stimulate and guide the thinking of academicians.

THE FCB GRID

In order to motivate our discussion of extensions of the FCB Grid model, we make a brief presentation of the basic features of that model. Details are presented in (Vaughn 1980, 1986; Ratchford 1987).

The development of the grid model began with the observation that traditional consumer behavior theories provided four basic explanations:

Economic motives with cost/utility forces driving purchase.

Responsive actions based on rote learning and habit formation.

Psychological drives from deep emotions and subconscious desires.

Social goals reflected in peer-group imitation, role status and visibility.

Although interesting in the abstract, these theories never made much practical contribution to more effective advertising. They did, however, lead to the widely-known hierarchy of effects model and eventually to other useful theorizing.

The FCB Grid can be seen as an extension of the hierarchy model to different types of purchase decisions. The grid postulates that the hierarchy varies depending on whether the decision is: (1.) high vs. low in involvement; (2.) thinking vs. feeling. Involvement, in its simplest form, is interest level or motivational intensity. Think/feel is left brain (logical, linear)/right brain (holistic, symbolic) information processing (see, for example, Holbrook and Moore 1981, Zajonc and Marcus 1982, Batra and Ray 1985 for a discussion of this distinction). Though the general idea that information processing varies with involvement and think/feel was not new, the basic insight of the grid model is to incorporate these into a simple planning framework. This can be described as in Figure 1.

This grid might be thought of as a simplified model of the consumer's mind space. To determine where specific purchase decisions fall on the grid, scales to measure a consumers' perceived levels of involvement and think/feel were developed; details are presented in Ratchford (1987). Using these scales, consumers' placement of a large number of purchase decisions on the grid has been studied in the U.S. and around the world. Especially because it acknowledges the "feeling" dimension of purchase decisions, the grid has proven very useful for stimulating advertising ideas in the visual, nonverbal realm and for challenging FCB to better understand and use emotion in strategic and creative development.

EXPANDING THE FEELING DIMENSION

While think and feel refer to modes of information processing in the grid model, these are closely related to underlying categories of motives. Thus if the purchase decision is based on a utilitarian motive (Katz 1960, McGuire 1976, Holbrook and Hirschman 1982) -- the need for performance of a function on one or more readily-defined attributes, information processing will be thinking (cognitive), stressing evaluation on performance-related dimensions. In this case, one might expect the traditional multi-attribute model to work well.

But there a number of motives which are likely to trigger "feeling" decisions -- decisions which require holistic, symbolic modes of information processing. In general, these motives would be what McGuire calls *affective* motives; affective motives stress the need to reach satisfied feeling states. From McGuire's classification system, and a reading of related literature, it is suggested that the major categories of "feeling" motives are as follows:

1. *Ego gratification*: the need to defend, enhance, and express one's basic personality (Vaughn 1980). This is an important component of McGuire's (1974, 1976) classification system of motives, and encompasses Katz' (1960) ego-defense (negative) and value expressive (positive) functions.

2. *Social acceptance*: the need to be viewed favorably in the eyes of others. While this could be viewed as a component of ego gratification, it is discussed by Vaughn (1980) as social theory, and is a component of

McGuire's classification system (affiliation, modeling). It therefore seems useful to list this as a separate category.

3. *Sensory*: the desire for pleasure to any of the five senses. While this might technically be labeled ego gratification, something like consuming a pizza need not be central to one's values. Nevertheless, this event involves a type of affective satisfaction, e.g., the taste feels great. Food items which go beyond utilitarian needs, music, pleasant scenes, all satisfy sensory needs.

Given their nature, gratification of the above three affective motives is likely to require "feeling" information processing: emotion, image, and holistic judgments are likely to be central. Consider, for example, the purchase of perfume, in which all three of the above motives are likely to play a role: the perfume may express characteristics of one's personality, must be acceptable socially, and obviously must have the proper smell (pleasant, sexy). Instead of carefully weighing the costs and benefits of levels of various attributes, the perfume buyer is likely to base his/her decision on a mixture of holistic evaluation of smell, brand imagery, judgments of how others will like the perfume, emotions conjured up by the various brands.

None of these is likely to be easily verbalized. Clearly, the standard practice of asking consumers to rate perfumes on a number of attributes, and scoring each brand on some average or sum of the ratings, will not capture the decision process for choosing perfume or other feeling products very well. What is needed are techniques for determining how brands fare on the various dimensions of "feeling." Moreover, these techniques must be capable of preserving aspects of these judgments which are difficult to verbalize. The two techniques, VIP and ICON, which are outlined in the following section of this paper, attempt to accomplish these objectives.

VIP AND ICON

Overview

VIP, or Visual Image Profiling, has been used for a number of years. In VIP, stimuli consist of 100 photos of faces, 50 men and 50 women, which have been rated on an array of personality and lifestyle characteristics by a U.S. probability sample of consumers. In applications of VIP, respondents assign these to brands in a product class; the result is a profile of personality and lifestyle characteristics associated with each brand. To the extent that persons choose brands which are consistent with their self concept, which is implied by the ego satisfaction motive, brand choice should be driven by these personality and lifestyle characteristics.

ICON, or Image Configurations, is a newer technique which attempts to get at emotional content associated with brands. Stimuli consist of 60 photos of situations which have been rated on emotional content by a sample of respondents. As in VIP, respondents assign these pictures to brands; the result is a profile of emotional associations for each brand. Again, it is postulated that these emotional associations will be related to brand choice. An important feature of both VIP and ICON is that respondents assign the pictures, rather than verbal rating scales, to brands: the intent is to get beyond the possible limitations of applying verbal methods to the study of "feeling" items.

Development and Application of VIP

While the nonverbal feature of this technique is of central importance, there is a need to know how consumers are likely to evaluate each of the photos used as stimuli. This is most readily done through conventional verbal techniques. For VIP, a development study was done in which each of the 100 photos (50 male and 50 female) was rated by a sample of 50 respondents on 99 personality and lifestyle items, demographics, and affinity and aspiration. The personality and lifestyle items were in the form of statements with the stem: "The person in the picture is the kind of person who...." Responses were on a three-point scale: "describes very well, describes somewhat, does not describe at all." Demographic questions asked respondents to judge the age, income, education, occupation of the person in the picture. Finally, respondents were asked whether they share similar qualities with the person in the picture (affinity), and whether they feel they would like to have qualities similar to those of the person in the photo (aspiration).

To determine lifestyle and personality traits, responses to the 99 items were factored (separate analyses were run for men and women), and additive scales were constructed for each factor. For both men and women 16 factors were retained. Examples of both male and female factors are presented in Table 1.

Unfortunately, space limitations and the limitations of printing technology precluded us from including in this paper several examples of the VIP and ICON photos which were in our ACR presentation; interested readers may obtain a longer version of this paper which containes these examples from the senior author.

The female picture included in our presentation was rated by respondents as an "acceptance seeker", "sociable", "organized intellectual", age 40, income $35,000, college educated, white collar, managerial occupation. By contrast, the male picture which we showed was rated as "hard driving", "individualist", "pragmatist", having a violent temper, cynical and disbelieving. Altogether, he's a tough customer, who might easily be part of a brand's personality profile.

When respondents apply the pictures to brands in a category, examining the collage of pictures applied to a given brand often provides strong insights into the personality associations of a brand. For example, one collage, which was associated with one brand of a commonly purchased package goods product, showed blue-collar, rather rough-and-tumble males. In comparison, the profile of a competing brand showed young, modern mothers, and family settings.

TABLE 1

Examples of Male And Female Factors From VIP Picture Ratings

Factor	Associated Statements
<u>Male Factors</u>	
Striver	Going up in the world Will be earning a lot of money in five years Always seems very elegant Takes the trouble to dress well Has very sophisticated tastes
Hard Driving	Willing to work at a project longer than most people Likes to work out problems on their own People turn to them when they want something done Feels sure about decisions they make Doesn't like to leave anything unfinished Has a lot of self confidence Willing to work very hard to get ahead Spends a little more to be sure of high quality
<u>Female Factors</u>	
Acceptance Seeker	Looks for name of manufacturer on package Important others have a high opinion of them Especially enjoys being complimented Other people want to be like Is concerned about nutrition Has a lot of self confidence
Sociable	Enjoy sitting and listening to the rain falling Gives friends a lot of help and advice Would enjoy sitting before a crackling fire Would not let little annoyances upset them Goes out of their way to meet people Warm-hearted and sociable Relaxed and easy going Always cheerful to be around

While it is possible to derive a score for each brand on each personality dimension by adding the scores on each dimension for each picture assigned to the brand, collages such as those discussed above tend to have the most practical value for creative work: the visual information contains a richness which is not readily portrayed in verbal scales. At the same time, the visual information can be subject to misinterpretation; the verbal scales are useful for providing guidance. But, aside from this, the verbal scales are secondary in importance to the visual information provided in the brand personality profiles.

Development and Application of ICON

Except that emotions rather than personality factors are involved, the procedure used for developing ICON is similar to that for VIP. Thus an assessment of the emotional content of the 60 ICON pictures was made by having each of the pictures rated on 75 emotion words by a sample of 50 respondents. The emotion words were obtained from a thorough study of the extensive literature on typologies of emotion in psychology: at least 38 sources were consulted, and an attempt was made to cover all of the major categories of emotion delineated in the literature. For each picture which they saw, respondents were asked to "X" the boxes for all words that describe how each picture makes you feel.

In analyzing emotional associations for each picture, we looked at both the pattern of individual words assigned to the picture, and at general emotion categories associated with each picture. The latter were constructed by applying the VARCLUS procedure in SAS to the word assignment data, where the observations were pictures by subjects. Twelve categories of emotion, which are broadly consistent with other classifications in the literature, emerged: Joy, Displeasure, Tenderness, Enthusiasm, Confusion, Attraction, Sympathy, Depression, Serious, Quiet, Fear/Hate, Skeptical. Additive scales of the words comprising each of these categories were constructed.

TABLE 2

Alternative Indexes of Emotion For Two Brands of Toothpaste

	Brand A		Brand B	
Emotion	Pictures	Words	Pictures	Words
Joy	1.071240	1.006676	0.858971	0.897388
Displeasure	1.045769	1.090566	1.149339	0.883792
Tenderness	1.061679	1.106371	0.836163	1.306475
Enthusiasm	1.081407	1.020412	0.979262	0.837276
Confusion	0.962481	1.025318	1.067658	0.543872
Attraction	0.748387	0.550790	0.900139	0.482068
Sympathy	0.937074	0.838896	1.157646	1.223712
Depression	1.026548	0.826186	1.197288	0.964136
Serious	1.027428	1.468069	1.183819	1.733592
Quiet	0.860663	0.965605	1.146303	1.408543
Fear/hate	1.111498	1.339291	1.134321	0.837276
Skeptical	1.012698	0.973719	1.127446	0.66284

As with VIP, the main intent of associating words with pictures is to provide guidance about the meaning of the pictures. As stated above, the main application of ICON is to determine which pictures consumers associate with brands, and thereby to obtain evidence about emotions associated with brands. As with VIP, it is generally most instructive to look at the collage of pictures associated with competing brands.

As an example, consider two photos which a sample of consumers most often associated with a major brand of toothpaste (call it Brand A). It would be evident from looking at the photos that an underlying emotional content of joy and tenderness is associated with this brand. Conversely, it would be evident from looking at the photos of a competing brand (Brand B) that emotions associated with this brand are tranquil, quiet, relaxed, sad, sentimental.

As with VIP, visual examination of the collage of pictures assigned to a brand is likely to be most helpful in stimulating thinking about advertising strategy. However, it is also possible to develop a score for each brand on words or emotions from the picture assignment data. For each word k, a score for each brand j might be computed as:

$$S_{kj} = SUM_i\ (w_{ki}\ p_{ij}),$$

where w_{ki} is the proportion of assignment of word k to picture i, p_{ij} is the proportion of assignment of picture i to brand j, and the sum is over the i = 1...60 pictures. Similarly, for each generic emotion m, a score for each brand j may be computed as:

$$T_{mj} = SUM_i\ (e_{mi}\ p_{ij}),$$

where e_{mi} is score of picture i on emotion m (proportion of the time words comprising that emotion are assigned to that picture), and everything else is as above.

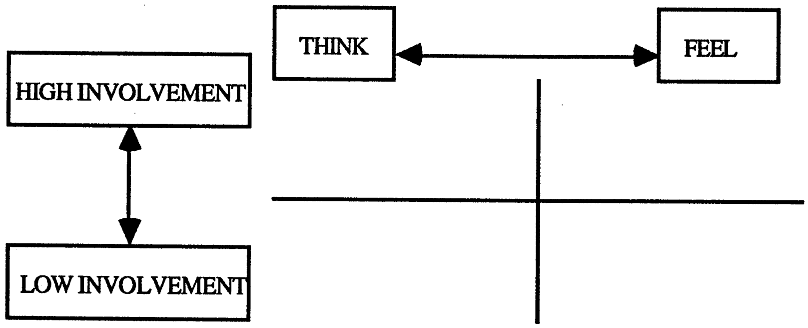
At this point one might ask why it isn't easier and better to simply have respondents rate brands on words directly rather than have them assign pictures which have been rated on words. While we may not have a complete answer to this question at this time, it is clear that using pictures will not necessarily give the same results as having brands rated on words directly. In the study of toothpaste brands discussed above, for example, it was found that the highest scoring words describing Brand B were tranquil, quiet, relaxed, sad, sentimental when pictures were used, and the scoring method outlined above was applied; when Brand B was rated on words directly, the highest scoring words were satisfied, secure, protected, nostalgic, pleased.

To continue the example, Table 2 presents indexes of emotion for toothpaste Brands A and B. For pictures, these were constructed by first scoring each brand on each emotion as outlined above. Then the scores were divided by the grand mean of all scores across emotions and brands. This gave an index unadjusted for propensities to assign a particular emotion or brand. The indexes in Table 2 were obtained after removing the effects of emotion and brand by dividing the unadjusted indexes by the product of overall indexes for the corresponding emotion and brand: these "double centered" indexes may be interpreted as measuring degree of association between brand and emotion. The procedure for constructing indexes from words assigned directly to brands was the same, except that raw scores were simply the proportion of the time words associated with that emotion were assigned to that brand.

Table 2 indicates that there is a reasonable amount of agreement between indexes constructed from pictures and words for Brand A; the correlation coefficient between the two sets of indexes for Brand A is .67. But, for Brand B, there is almost no agreement between the two sets of indexes: the correlation between them is only .27, and is not significant. For pictures, there are above average

FIGURE 1

The FCB Grid



scores for depression and displeasure for Brand B; these negative associations do not come out for words applied directly. Conversely, Brand B is well above average on tenderness for words, but well below average on this emotion for pictures.

While reasons for similarities/differences in emotional profiles when pictures vs. words are assigned to brands must be the subject for further study, we conjecture that differences may result because pictures get at emotions which are not easily expressed verbally.

Applications of VIP and ICON

Perhaps the most important point to make about VIP and ICON is that they are eminently practical tools which have been used with considerable success: the advertising community badly needs tools which attempt to go beyond the limitations of purely verbal responses. While both techniques have been used in quantitative studies, they have been used most extensively in small-sample qualitative work where the general intent is to develop strategies which may lead to fruitful creative ideas. VIP can be used to profile brand users or dimensionalize personality issues wherever and whenever they may be creatively useful. ICON is primarily a diagnostic tool that generates soft, exploratory data for creative development. It provides emotional range and nuance identification by providing brand feeling differences and similarities.

The two techniques have been integrated into a planning system called Consumer Insights Mapping. In the first stages brands and category attributes are plotted in the involvement and think/feel spaces of the Grid depicted in Figure 1. Then VIP and ICON are used to add personality and emotional depth. The result is a thorough mapping of knowledge of the category which becomes the first step in the advertising planning process.

POTENTIAL APPLICATIONS TO DETERMINING MOTIVES

The techniques outlined above are meant to get at perceptions of brands on dimensions of personality or emotion. The techniques are related to the major dimensions of feeling outlined above: VIP would seem most directly related to ego gratification: expression of one's personality; emotional associations uncovered through ICON might be related to any of the three categories of feeling - ego, social, sensory - outlined above. The next step is to establish a link between these perceptions and overall evaluations of brands (attitudes), and consequent brand choices.

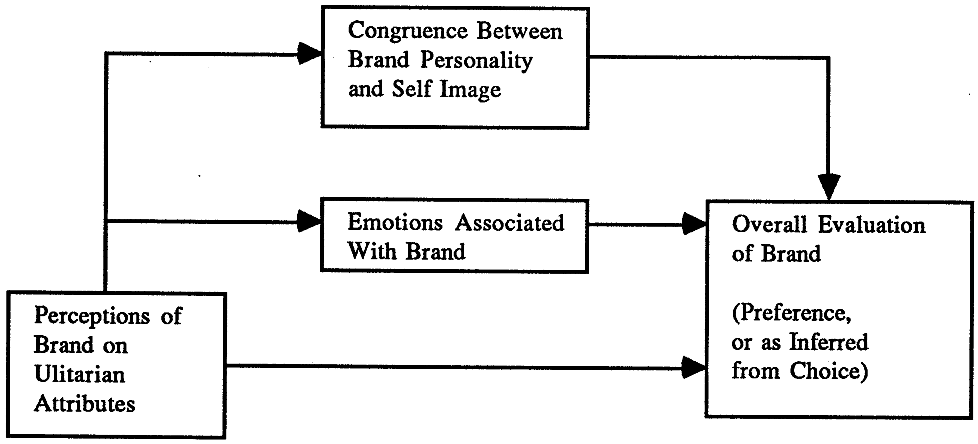
In the case of VIP, the link would appear to be well established. Thus there is a well established body of theory which postulates a relationship between self image and brand image; this body of theory motivated the development of VIP in the first place. In essence this body of theory postulates that consumers will choose brands which are congruent with either their actual or ideal self image. If so, knowledge of personality characteristics associated with a brand should help one to predict what types of consumers will choose it. While work in this area is plagued by the usual definitional and measurement problems, empirical evidence generally supports the postulated link between brand image and self image (Sirgy 1982). Thus VIP can be linked to purchase decisions and choice.

While there doesn't seem to be any elaborate body of theory linking the emotions revealed by ICON to brand choice, this is probably not needed: it seems obvious that positive or negative emotions can be associated with the consumption of alternative brands, and that these emotions can motivate brand choice. Havlena and Holbrook (1986) demonstrate that respondents can readily associate emotions with consumption experiences.

The more interesting question would be to determine the relative influence of brand personality as revealed by VIP, brand emotion as revealed by ICON, and other utilitarian attributes on brand choice. This would say something about the relative importance of image congruence, emotion, and

FIGURE 2

Relation Between Brand Preference and Determinants



utilitarian factors as motives. Such evidence would provide valuable guidance for advertising: one would like to stress the factors which are most salient to overall evaluations. Moreover, this evidence would provide a means of validating the placement of individual products on the FCB Grid: one would expect the utilitarian factors to be most important for "thinking" products, the personality and emotional factors to be most salient for "feeling" products.

Lutz (1978) provides a valuable clue about how to evaluate the relative contribution of the various thinking and feeling factors to one's overall evaluation of a brand. Lutz argues that the expectancy-value framework implicit in the standard multiattribute model used in marketing (Wilkie 1986, p.460), can be used to measure attitude functions, e.g., their motivational basis. One could thus measure attitude toward a brand as the sum of expectation that the brand performs a particlar function (expectation that it is congruent with one's personality, provides a particluar emotional experience, performs a given utilitarian function) weighted by the importance of that function. The weights would thus indicate which motives were most influential for a particluar product category.

One might estimate the weights using the general framework outlined in Figure 2. The VIP and ICON techniques might play a central role in this process. In Figure 2, brand personality, emotions assoicated with the brand, and brand attributes determine an overall evaluation, which might be measured interms of a preference rating, or inferred from brand choice. The attributes also may have an indirect effect on preference through possible effects on brand personality and emotions. While the framework in Figure 2 might easily be extended to incorporate influences of advertising and other exogenous factors on perceptions of attributes, personality, and emotions, these extensions are not necessary for the study of the basic relation between motives and overall preferences.

Measurement would follow from ratings of alternative brands by a sample of consumers. Conventional attribute and preference measurements could be obtained. In addition, consumers would apply the VIP pictures to both the brands and to their own personality. This would provide the basis for calculating a congruence measure for each brand; one of the measures suggested by Sirgy (1982) might be used. The congruence measure might be derived by adding the scores associated with each picture on major personality/lifestyle dimensions across pictures assigned to brands or oneself. Conversely, it might be obtained from examining the frequency of matches of pictures assigned to oneself and a given brand. Similarly, respondents would be asked to assign the ICON pictures to each brand. As outlined above , scores on major dimensions of emotion can be calculated for each consumer from the picture assignments.

For each brand and consumer this would result in a preference measure, ratings on a number of functional attributes, a measure of congruence between brand and self, scores on major dimensions of emotion. Using data pooled across consumers and brands, the relation between these variables outlined in Figure 2 might be estimated as a recursive system of equations. The regression coefficients would then identify the importance of each of the determinants of preference.

CONCLUDING COMMENTS

This paper has focussed on approaches that have been found to be of value to advertising practitioners. By definition these approaches suggest directions which these practioners would find a fertile ground for future development. The major themes running through our discussion have been the need to get at "feeling" aspects of purchase motives and decisions, and the need to go beyond conventional verbal techniques to get at aspects of these feeling decisions which are difficult to verbalize. We believe that further efforts in these directions, and also in determining the relative influence of thinking vs. feeling factors in various purchase decisions, could have great practical value.

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Products, Personalities and Situations in Attitude Functions: Implications for Consumer Behavior

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ABSTRACT

Although functional theories of attitude (e.g., Katz, 1960; Smith, Bruner & White, 1956) have conceptual appeal and applied utility, a lack of methods for operationalizing them has hampered empirical progress for several years. Recently, however, researchers have developed a variety of methods that capitalize on new personality and social constructs to identify or manipulate the functions of attitudes. This paper reviews these operational developments as they relate to consumer attitudes, focusing particular attention on the role of products and brands in eliciting attitude functions. It is proposed that an understanding of the motivations underlying product attitudes and purchase decisions must account for the interrelation of a variety of factors that can influence attitude functions, including products, personalities, and situations.

Decades of research on attitudes and persuasion have suggested that people are quick to form attitudes toward a wide variety of products, persons and issues, and that attitudes are often held and defended with remarkable tenacity. The fact that attitudes are so pervasive and resilient suggests that attitudes serve important psychological needs for the individual. This assumption -- that consumers' attitudes serve important motives -- underlies the various research programs being discussed in this session.

The motivational significance of attitudes was the central focus of an influential set of models collectively known as the "functional theories" of attitude (e.g., Katz, 1960; Kelman, 1958, 1961; Smith, Bruner & White, 1956). Conceptually, this set of theories has been perhaps the most influential approach to studying the motives underlying attitudes. Functional theorists focused on the utility of attitudes in performing key functions for the individual: maintaining consistency in one's frame of reference, expressing one's values and identity, obtaining social acceptance, and protecting self-esteem. Further, they proposed that identifying the functions an attitude serves is vital to predicting the conditions under which the attitude will change, the type of message required to change it, and the relation of the attitude to behavior. Unfortunately, although functional theories had conceptual appeal and applied utility, they had one critical deficiency: a lack of methods for identifying or manipulating them. Without such operations, empirical progress was stalled, and few studies were conducted that shed light on the functioning of consumer attitudes -- until recently.

Now, with a growing interest in the motivational underpinnings of cognitive constructs, researchers are returning to the question of what psychological needs are served by attitudes. Fortunately, recent attempts to study attitude functions have spawned a variety of new approaches to identifying the functions that attitudes serve. These methods have typically capitalized on new social cognition or personality constructs, refining and updating functional theories in the process. This paper reviews these operational developments overall, and then focuses on one approach in particular that has afforded new insights into the role of attitude functions in consumer behavior. We turn first to a summary of the functions that attitudes have been proposed to serve.

Functions of Attitudes

Functional theorists suggested that attitudes could be classified by the psychological needs that they met, and they proposed lists of functions that attitudes could serve (Katz, 1960; Kelman, 1958, 1961; Smith, Bruner & White, 1956). Their lists focused on similar motives underlying attitudes (see Table 1), all of which have implications for consumer attitudes.

Katz (1960) proposed that attitudes serve a *knowledge* function, helping to organize and structure one's environment and provide a sense of understanding and consistency in one's frame of reference. This is perhaps the most fundamental function attitudes serve, and all attitudes serve this function to some extent (Fazio, 1989). The notion is that simply *having* attitudes toward products, issues, and the like can provide a reassuring sense of understanding and facilitate the task of making decisions. In another paper in this session, Mark Zanna discusses his research on the role of this function in attitude-relevant judgments.

Attitudes may also serve a variety of other needs: Attitudes can maximize rewards and minimize punishments obtained from objects in one's environment, a function that Katz labelled the *utilitarian* function. A product attitude would serve this function to the extent that it summarizes the positive and negative outcomes one associates with the product (e.g., pleasant taste, spoils quickly) and guides behavior that obtains or avoids those outcomes (e.g., purchasing or eating the product, keeping the product refrigerated). Attitudes toward a wide variety of products probably serve this utilitarian function. (Smith, Bruner & White, 1956, proposed an *object-appraisal* function which, like the knowledge and utilitarian functions, classifies objects in order to make responses available that maximize one's interests.)

Attitudes also play an important role in self-expression and social interaction. Through the attitudes we hold and discuss, we express our central values, establish our identity, and gain social approval. This social role of attitudes will be referred to here as the *social identity* function (also labelled the *social adjustment* function by Smith, et al. and the *value-expressive* function by Katz), and it is of

Table 1

FUNCTIONS OF ATTITUDES

KNOWLEDGE FUNCTION: (Katz, 1960)
Attitudes organize and structure one's environment
Attitudes provide a sense of understanding and consistency
(Also: "Object-appraisal function," Smith, Bruner & White, 1956)

UTILITARIAN FUNCTION: (Katz, 1960)
Attitudes summarize rewards, punishments associated with objects
Attitudes guide behavior that maintains rewards, avoids punishments
(Also: "Object-appraisal function," Smith, Bruner & White, 1956)

SOCIAL IDENTITY FUNCTION:
Attitudes mediate relations with others and obtain social approval
Attitudes express central values
Attitudes symbolize one's social identity
(Also: "Social adjustment function," Smith, Bruner & White, 1956
"Value-expressive function," Katz, 1960)

SELF-ESTEEM MAINTENANCE FUNCTION:
Attitudes protect the ego through defense mechanisms
Attitudes associate self with successful others ("basking")
(Also: "Externalization function," Smith, Bruner & White, 1956
"Ego-Defense function," Katz, 1960)

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obvious relevance to attitudes toward a great many products. For example, one's attitude toward a luxury item may be seen as symbolic of one's identity, and may be publicly expressed in order to convey a favorable, high-status image to others. One could distinguish between public, impression management motives and private identity motives that comprise the social identity function, and the papers in this session by Mark Snyder and Ken DeBono focus on this distinction and its relevance to product attitudes.

Finally, attitudes can serve a *self-esteem maintenance* function in a variety of ways. Functional theorists suggested that attitudes can protect the ego through psychodynamic defense mechanisms that distance the self from threatening objects. This was labelled the *externalization* or *ego-defense* function, and it was applied primarily to the analysis of prejudiced attitudes. Attitudes may also maintain self-esteem in other ways, such as by associating the self with successful others, a process that has been called "basking in reflected glory" (Cialdini, Borden, Thorne, Walker, Freeman & Sloan, 1976). Attitudes toward products that facilitate this process -- e.g., a sweatshirt bearing the name of a hometown championship sports team -- may serve a self-esteem maintenance function.

These functions are not necessarily the only ones that attitudes serve. Other functions, or delineations of functions, can be proposed (for example, Batra and Ahtola's paper in this session suggests distinctions between the utilitarian and hedonic functions of attitudes). Regardless of which list of functions is proposed, however, identifying the functions of attitudes may be very important. Functional theories proposed that the conditions under which an attitude will change depend upon the functions the attitude serves. Thus, understanding the functions of consumer attitudes has potentially vital implications for predicting advertising effectiveness and consumer behavior. Unfortunately, as noted before, functional theories proposed little in the way of operations that would allow such predictions to be tested.

Personality Characteristics

Presumably, attitude functions can be influenced by any number of factors. The first factor to gain research attention by functional theorists was personality. Early research typically used personality differences to operationalize attitude functions, based on the operational assumption that the dominant psychological needs met by attitudes vary between individuals. With this approach, identifying the functions of an attitude meant identifying categories of people whose attitudes tend to serve certain functions. For example, in much of the early work by Katz and his colleagues, the ego-defensiveness of racial attitudes was inferred from the attitude-holder's scores on such psychodynamically-based measures as TAT stories, the F-scale for authoritarianism, and the like (e.g., Katz, Sarnoff & McClintock, 1956; Stotland, Katz & Patchen, 1959). Although the results were of interest to the understanding of racism and other prejudices, attitudes toward ordinary consumer products are less likely to be ego-defensive in nature (Lutz, 1981).

More recently, newly-developed personality measures have been used to identify attitude functions that are more relevant to consumer attitudes. For example, several studies by Snyder and DeBono (e.g., 1985, 1987) have used assessments of self-monitoring (Snyder, 1974) to identify the social functions served by individuals' attitudes, focusing on private versus public identity motives. Their results (see their papers in this session) have yielded consistent evidence that high and low self-monitors differ in the social functions that their attitudes typically serve. Further, these differing orientations toward public versus private identity goals were found to have direct implications for advertising effectiveness. Thus, the personality characteristics of consumers have been successfully used to predict the functions that their attitudes tend to serve and the effectiveness of advertisements directed at those attitudes.

Situational Characteristics

Situational factors have also been shown to influence the functions served by attitudes. By varying the context in which attitude-relevant information is encountered, experiments have directly manipulated the presence of particular functional goals. Kelman's studies of compliance, identification and internalization processes (1958, 1961) are perhaps the best-known examples of this operational approach. In these studies, Kelman manipulated aspects of messages about social policies (segregation, science education) in order to induce different motives for subjects to accept a message's position. The messages either differed in terms of the source of the communicator's power (Kelman, 1958) or discussed different motive-relevant implications of the position espoused in the message (Kelman, 1961). These message manipulations appeared to be effective in inducing different motives for accepting social influence. Thus, Kelman's research demonstrated that features of the message itself can change the motives associated with an opinion. In terms of advertising messages, the results imply that ad copy and carefully-chosen spokespeople (e.g., "teen-idols" or sports heroes) may not only change consumers' attitudes about products and issues, but may even change the motivations that underlie those attitudes. (However, see Shavitt, 1989, for a discussion of possible limitations on such effects.)

Recent studies of situational influences on attitude functions have focused on factors external to the message itself -- i.e., the *context* factors that surround message exposure or decision making. For example, research by Bernd Schmitt (presented in this session) showed that tasks that immediately preceded exposure to advertisements affected the salience of certain functions in processing the ads. The salient functional dimensions, in turn, significantly influenced both the effectiveness of the ads and the types of motives that the resulting attitudes were linked to. Thus, transient and subtle factors surrounding ad exposure can have relatively profound effects upon the motivations that underlie product attitudes. And such factors can be manipulated in order to study those motives experimentally. (See also Shavitt & Fazio, 1987, for evidence that the salience of functional dimensions can be "primed" in this manner.)

The decision making context can also have an influence on the functions served by attitudes. Recent research has shown that situations that create a *need* for an attitude as a guide in decision making heighten the motives associated with the knowledge function of attitudes. For example, several studies by Mark Zanna and his colleagues (see his paper in this session) employed time pressures in attitude-relevant decision making tasks to heighten the knowledge function of attitudes. The results suggested that time pressured subjects relied more on their existing attitudes and less on a careful consideration of available data when making their decisions. Thus, when situational constraints made it difficult to arrive at more informed judgments, attitudes appeared more likely to serve a knowledge function by providing a convenient (although not necessarily appropriate) guide to decisions (see Jamieson & Zanna, 1989, for a review).

Situational manipulations were also employed in studies by Fazio, Lenn and Effrein (1983) to induce knowledge function goals for forming new attitudes. In their research, some subjects were lead to expect future questioning about, or interaction with, new attitude objects (intellectual puzzles). These subjects therefore expected that it would soon be useful to have an evaluation of the puzzles, as a guide for their upcoming tasks. When such knowledge function goals were introduced, the results indicated that attitudes toward the puzzles were formed spontaneously, but were not formed spontaneously when these goals were absent. Thus, results across a number of studies have suggested that attitudes can serve a knowledge function, and that situational factors can be manipulated in order to heighten or elicit goals relevant to this function. Further, the knowledge function operations employed in these studies are directly relevant to consumer decision making situations, particularly those in which there is a lack of time to make a purchase decision, or there is an anticipation of future decisions that could be aided by new product evaluations. Thus, the studies suggest some conditions under which product attitudes would be likely to be formed and used in guiding purchase decisions.

Product Characteristics

In addition to the effects of situational and personality factors, attitude objects themselves may play an important role in the functions of attitudes, and may provide a useful new basis for operationalizing attitude functions. In the domain of consumer behavior, this implies that products and brands should be thought of as potential sources of attitude functions, a conclusion consistent with Ratchford and Vaughn's findings (see their paper in this session).

Shavitt (1987, 1989) proposed that the purposes that a product (object) can serve may exert an important influence on the functions that attitudes toward it will serve. Some products seem to serve *primarily* one purpose. For example, coffee serves a utilitarian purpose because of the outcomes intrinsically associated with it (such as pleasant taste or nervousness). But it typically does not serve, for example, a social identity purpose of impressing others or expressing one's values. Other products may serve multiple purposes. For example, a car serves both the utilitarian purpose of providing transportation and the social identity purpose of expressing status and identity. Thus, coffee may tend to elicit attitudes that serve a utilitarian function (by guiding its purchase and consumption in order to maximize positive outcomes), but be relatively unlikely to elicit attitudes that serve a social identity function (e.g., by discussing or displaying the attitude to others). In contrast, cars may elicit attitudes that serve either or both functions.

The purposes served by products may stem from a number of sources. Characteristics of the product itself, including its physical features (e.g., taste, texture) and other attributes (e.g., washability, fuel efficiency, cost) should contribute to the purposes a product can serve. Also, the predominant cultural or societal definitions of a product (e.g., "stylish," "wasteful," "avante garde") should play an important role in determining what the product can do for an individual. Without a shared societal definition of the meaning of designer jeans, for example, they would be ineffective in eliciting social approval. Of course, the purposes that products serve should not be viewed as predetermined or unchanging. They can change as product features are modified or as societal definitions of the product change over time.

Objects that seem likely to engage only certain attitude functions and unlikely to engage others (e.g., coffee) have been capitalized on as a basis for operationalizing attitude functions. That is, the functions of subjects' attitudes have been varied by presenting subjects with different products to respond to.

A number of general criteria have been used to select such products for experimental use (see Shavitt, 1987, for a discussion of these criteria). For example, to the extent that a product is intrinsically associated with important rewards and punishments, it should elicit attitudes that serve a *utilitarian* function. A product such as an air conditioner should fall into this category because attitudes toward it tend to be based largely on the rewards (e.g., comfort) and punishments (e.g., high utility bills) intrinsically associated with it. In contrast, products that are considered to symbolize other concepts, such as values, social classifications, or group affiliations, should tend to elicit attitudes that serve a *social identity* function. This should be particularly true to the extent that the product is associated with behavior routines likely to be performed in public. Flags, wedding rings, school sweatshirts, and the like fall into this category because attitudes toward them are likely to be based on the values and social classifications that they symbolize, and because these attitudes may guide public behaviors that display one's attitudes to others.

Several studies have yielded support for the viability and construct validity of methods based on these product selection criteria (Shavitt, 1987; Shavitt & Fazio, 1987, 1988; Shavitt, Han, Kim & Tillman, 1988). In one study (Shavitt, 1987), 96 subjects' attitude essays toward a variety of products (air conditioners, coffee, weddings rings, American flags, school sweatshirts, and several other objects) were coded to assess whether items that primarily engage one attitude function could be identified using these selection criteria. For most of the products, the predominant attitude function emerging in the attitude essays was consistent with expectations, suggesting that varying products is a viable basis for varying the functions of attitudes. In addition, the study yielded a reliable coding scheme for attitude essays that can assess the functions of attitudes toward a wide variety of objects, from appliances to social groups.

Subsequent studies have varied the products and brands to which subjects were exposed in order to investigate a number of hypotheses about attitude functions. In research on the role of attitude functions in advertising effectiveness (Shavitt, 1987), subjects read ads about products that were expected to engage primarily either a utilitarian or a social identity attitude function. The utilitarian products were air conditioners and coffee. The social identity products were greeting cards and perfumes. For each product, subjects read an ad for a fictitious brand advertised with utilitarian arguments (e.g., "The delicious, hearty flavor and aroma of Sterling Blend coffee come from a blend of the freshest coffee beans") and an ad for a brand advertised with social identity arguments (e.g., "[Savoy Coffee] says something about the type of person you are. It can reveal your rare, discriminating taste").

Across two separate studies, independent measures largely supported the effectiveness of this product-based approach as a manipulation of functions. Moreover, the studies yielded consistent evidence that ads that were relevant to the function primarily engaged by a product were more effective than ads that were relevant to another function. Functionally relevant ads elicited more favorable attitudes toward the brands they supported, a preference for purchase of those brands, and more favorable attitudes toward the ads themselves. Thus, this research provided support for a key hypothesis of the functional approach: The conditions required to change an attitude depend upon the function(s) the attitude serves.

In another study (Shavitt & Fazio, 1987), existing brands of products were employed as a functional manipulation. This study explored the role of attitude functions in the relation between attitudes and behavior predictions. It was expected that this relation would be strong to the extent that the functional dimensions salient at the time of attitudinal and behavioral expression corresponded. Otherwise, the two expressions might be guided by different evaluations, reducing the relation between them.

Two brands of soft drinks were employed to manipulate the functions that were salient at the point of behavior prediction, when subjects predicted their likelihood of buying and drinking the target brand. One of the brands was expected to engage primarily a utilitarian function (7-Up) at the point of behavior prediction and the other primarily a social identity function (Perrier mineral water). (Independent measures supported our assumptions about the functions engaged by these brands.) The functional dimension that was salient at the time of attitude expression had been manipulated independently, at an earlier point in the study, using a "priming" procedure in which subjects rated either 20 food items for their taste (utilitarian prime) or 20 actions for the impression they make on others (social identity prime) immediately before expressing their attitude toward the target brand.

The results strongly supported the hypothesis: When the functional dimension that was salient at attitude expression (the primed dimension) matched the function that was salient at behavior prediction (the function engaged by the brand), the correlation between attitudes and behavior predictions was significantly greater than when those functions did not correspond (see also Shavitt & Fazio, 1988).

Overall, then, the results of a number of studies have supported the viability of employing products as a method of varying attitude functions. The selection criteria that were briefly reviewed here have been effective in identifying products that operationalized particular attitude functions, as indicated by a variety of measures. Furthermore, the data emerging from these studies have yielded insights into the role of attitude functions in advertising effectiveness and in the attitude-behavior relation.

Interactions among Products, Personalities and Situations

So far, the three types of operational factors discussed here have been considered in terms of their individual effects on attitude functions. However, in order to fully understand the motives underlying product attitudes and behavior, it is important also to account for the interrelation of these factors. How will the effect of, for example, situational factors interact with product characteristics to influence the functions of attitudes?

The interaction among situational and product factors may depend largely upon the likelihood that a product will engage the functions typically induced by a given situation. That is, situational factors are unlikely to induce certain attitude functions for products that rarely engage those functions. To illustrate, the functions of attitudes toward a highly utilitarian product (e.g., an air conditioner) may be unlikely to be affected by situations designed to induce a social identity function. Thus, even in situations in which one's central values or the evaluations of one's peers are highly salient, the function served by one's attitude toward air conditioners may nevertheless remain largely utilitarian. However, the functions of one's attitudes toward products that frequently engage a social identity function (e.g., cars or clothing) may be strongly influenced by such situations.

The same type of prediction could be made for the interactive role of personality characteristics and products in attitude functions. For example, although individuals who are chronically concerned with creating favorable social impressions will be more likely overall to have attitudes that serve a social identity function than individuals who are not chronically concerned with this goal, this effect should be enhanced for products that frequently engage a social identity attitude function and attenuated for those that do not. Evidence for this interaction of personality and product factors was provided in a study by Shavitt, Han, Kim and Tillman (1988). In this study, subjects' level of self-monitoring predicted the functions of their attitudes toward products to the extent that those products were likely to serve the public image concerns of the high self-monitor. For products that frequently engage such a social identity function (e.g., high school class rings), high self-monitors were more likely to hold social identity attitudes and low self-monitors were more likely to hold utilitarian attitudes. However, for products that rarely engage a social identity function (e.g., coffee), attitudes were consistently utilitarian, regardless of self-monitoring levels (Snyder & DeBono's data, 1985, also provide suggestive evidence for this point).

Interactions among product factors and personality or situational characteristics underscore the important role of products and brands in the functions of consumer attitudes. These interactions have operational implications, as well. They suggest that the effectiveness of personality and situational inductions of attitude functions may be limited to products that are likely to engage the functions to be induced (see Shavitt, 1989). Thus, personality factors to be assessed or situational characteristics to be manipulated should be selected to correspond with the products being studied (or, alternatively, products should be selected to correspond with specific personality or situational operations).

It is hoped that future research will continue to explore the interactive roles of products, personalities, and situations in attitude functions. Such research can shed light on the complex interrelation of marketplace factors that affect the motives of consumers' attitudes.

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Selling Images versus Selling Products: Motivational Foundations of Consumer Attitudes and Behavior

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It has been called "the most potent influence in adapting and changing [our] habits and modes of life, affecting what we eat, what we wear, and the work and play of the whole nation" (Coolidge, cited by Fox, 1984, p. 97). It has been compared with "such long-standing institutions as the school and the church in the magnitude of its social influence" (Potter, 1954). It "dominates the media, it has vast power in the shaping of popular standards, and it is really one of the very limited groups of institutions which exercise social control" (Potter, 1954). "It" is advertising, whose messages reach out to us, with their words and their pictures, from our newspapers and our magazines, from our radios and our televisions.

Like it or not, advertising is virtually impossible to avoid or to ignore; on television alone, viewers are exposed to tens of thousands of commercial messages every year (Hacker, 1984). So pervasive is the reach of advertising that it is difficult, if not "impossible to visualize an America without it" (Hacker, 1984). The commercial messages of advertising may be viewed as attempts at persuasion and social influence. Indeed, as one of the giants of the advertising industry, William Bernbach of Doyle Dayne Bernbach once said that "Advertising is persuasion, and persuasion is ... an art. Advertising is the art of persuasion" (cited by Fox, 1984, p. 251).

Persuasion is, of course, not only an art; it is also a science, and, as such, principles of persuasion can be investigated with scientific methods. And, for those of us concerned with the scientific study of persuasion, advertising can provide one laboratory within which to investigate principles of persuasion, to understand the science behind the art of persuasion. As students of persuasion, my co-workers and I have often used advertising as a vehicle to test hypotheses about the motivational foundations of attitudes and behavior. Although I am by no means an expert on advertising, I have been exposed to enough ads in my role as a consumer to have become aware of two contrasting approaches to advertising.

THE MESSAGES OF ADVERTISING

Some ads, I have noticed, appeal to the *images* associated with the use of the product, images that one may gain and project by using the product. Practitioners of this image-based approach to advertising seem to believe that how a product is packaged by its advertising is as important as the product itself. Therefore, they tend to create advertisements that are very striking in their visual appeal, paying particular attention to the finer details of form and color. 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. These image-oriented ads rarely, if ever, emphasize the features of the product itself. Consider two of the images currently being offered to North American men -- the rugged masculine man, who smokes Marlboro cigarettes and the beautiful androgynous man, who wears Calvin Klein jeans. In neither of these cases does the ad contain any explicit information about the product itself, only allusions to the images to be gained by identifying oneself with the product.

Other ads, it strikes me, focus on claims about the intrinsic merit, inherent quality, and functional value of the *product* itself. These ads tell the consumer how good the product is, how well it works, or, in case of things to eat and drink, how good they taste. Recent advertisements for Total cereal, emphasizing its nutritional benefits, clearly fall into this category. So too ads featuring the Pepsi challenge taste tests, designed to communicate the supposedly superior taste quality of Pepsi. And, of course, there are all those ads that claim that great taste is reason we should smoke this or that cigarette and all those ads that promise how much we will savor the fine taste of this or that whisky.

In some of our research, we have inquired into the effectiveness of these two advertising strategies. That is, we have asked: What is it that makes image and product appeals succeed in engaging, motivating, and persuading consumers? One way to address such a question is to identify *categories* of people who are especially responsive to either type of advertising, one category of people who are especially responsive to advertising that is based on appeals to image considerations and a contrasting category of people who are especially responsive to advertising that focuses on information about products themselves. Such a strategy reflects a larger, global strategy for the study of links between personality and social behavior (see Snyder & Ickes, 1985). According to this strategy, one seeks to identify categories of people who typically manifest contrasting behavioral orientations in social situations, with the members of these categories then serving as subjects for investigations of the processes that account for these contrasting orientations.

DIFFERENT MESSAGES FOR DIFFERENT PEOPLE

Are there, then, these two categories of people who are differentially influenced by these two types of advertising? In our research, we have found the psychological construct of self-monitoring (Snyder, 1974, 1979, 1987) helpful in answering this question. High self-monitors typically strive to be the type of person called for by each situation in which they find

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themselves (Snyder & Monson, 1975). They are concerned about, and are adept at, tailoring their behavior to fit social and interpersonal considerations of situational appropriateness (Lippa, 1976) and, as a result, their behavior often displays marked situation-to-situation shifts in the images they convey to other people (Danheiser & Graziano, 1982; Shaffer, Smith & Tomarelli, 1982).

High self-monitors are identified by their relatively high scores on the Self-Monitoring Scale (Snyder, 1974). Items typically endorsed by high self-monitors include: "I would probably make a good actor.", "In different situations and with different people, I often act like very different persons.", "I'm not always the person I appear to be.".

Because of their concerns with being the "right" person in the "right" place at the "right" time, high self-monitors ought to be very sensitive to the images of self that they project in social situations (indeed, there is some suggestion that they may be; Snyder, Berscheid, & Glick, 1985; Snyder, Berscheid, & Matwychuk, 1988) and, as such, they may be especially attentive to, and influenced by, advertising messages that convey information about the images that they will acquire and project by virtue of using particular consumer products. That is, to the extent that an advertisement allows high self-monitors to perceive that a given product has the potential to be used to create or enhance an image, they should react favorably to it. They should resonate to the cigarette ad that promises sophistication (even if the ad says nothing about the quality of the tobacco in the cigarette), to the car ad that features a sporty-looking car (even if the ad says nothing about the performance and handling characteristics of the car), and the toothpaste ad that offers whiter teeth and brighter smiles (even if the ad says nothing about the cavity-fighting capability of the toothpaste).

By contrast, low self-monitors typically do not attempt to mold their behavior to fit situational and interpersonal considerations (Snyder & Monson, 1975). Instead, they tend to guide their behavioral choices on the basis of information from relevant inner sources, such as attitudes, feelings, and dispositions (Snyder & Tanke, 1976). As a result, low self-monitors typically display substantial correspondence between their private attitudes and their actual behavior in social contexts (Snyder & Swann, 1977; Zanna, Olson, & Fazio, 1980).

Low self-monitors are identified by their relatively low scores on the Self-Monitoring Scale (Snyder, 1974). Items typically endorsed by low self-monitors include: "I have trouble changing my behavior to suit different people and different situations.", "I can only argue for ideas which I already believe.", "I would not change my opinion (or the way I do things) in order to please people or win their favor.".

Unlike their high self-monitoring counterparts, low self-monitors are less concerned with the images they project to others in social situations; instead, they are more concerned that their behavior in social contexts be an accurate reflection of their underlying attitudes, values, and dispositions. As such, they may be particularly responsive to advertisements that feature attributes of the product itself. Information about product attributes may be readily interpreted by these people in terms of their underlying attitudes, values, and other evaluative reactions. Take, for example, a low self-monitor who is partial to Scotch whisky. To maximize the consistency between his or her favorable attitude toward Scotch and the behavior of drinking a Scotch whose taste he or she will actually enjoy, this low self-monitor ought to drink only those brands of Scotch that taste like good Scotch should taste, brands whose taste he or she therefore would enjoy. Hence, he or she should be particularly attentive to and responsive to advertisements that inform consumers about the good taste of particular brands of Scotch. Such ads would provide information useful in making consumer decisions that provide opportunities to act in a manner consistent with underlying attitudes.

IMAGES VERSUS PRODUCTS IN ADVERTISING MESSAGES

Are high and low self-monitors differentially responsive to ads that promise images and those that inform about the product itself? To answer this question, we have created advertisements that, in pictures and words, presented image-versus product-oriented messages to consumers. Reactions to our ads, collected in a series of empirical investigations, suggest that high self-monitors are particularly responsive to image-oriented advertising and that low self-monitors are particularly responsive to product-oriented messages (see Snyder & DeBono, 1985; 1987; 1988).

In our research, we have worked with simulated ads for products as diverse as coffee and cars, for whiskies and cigarettes, for shampoos and tanning lotions, for perfumes and colognes. Typically in these studies, we have created mock-ups of advertisements for a particular product, with each ad being made up of a picture and a slogan. Consider specifically one study in which we worked with ads for perfumes and colognes (Snyder & Attridge, 1988). In this study, we designed our mock-ups of ads so that both the pictorial message and the written message would convey information *either* about the image associated with the fragrance and its users *or* about the fragrance product itself.

Thus, an ad for a women's perfume featuring a picture of a couple in a romantic setting and the slogan "Timeless Romance" would be constituted of an image-oriented pictorial message and an image-oriented written message, whereas an ad featuring a picture of the fragrance product itself and the slogan "A Soft Floral Scent With a Hint of Musk" is constituted of a product-oriented pictorial message and a product-oriented written message. Similarly, an ad for a men's cologne featuring a young man who is the picture of success and upward mobility and the slogan "Success Has Always Been Your Style" would be constituted of an image-oriented pictorial message and an image-oriented written message, whereas an ad featuring a picture of the fragrance product itself and the slogan "A Fresh Spicy Blend of Citrus and

Jasmine" is constituted of a product-oriented pictorial message and a product-oriented written message.

When we had college students evaluate these ads on a series of dimensions designed to tap their evaluative reactions to the ads, we found that high self-monitors assigned more favorable evaluations to those ads that convey information about the images to be gained by using the particular fragrance whereas low self-monitors assigned their most favorable evaluations to those ads that convey information about the fragrance product itself. Specifically, when evaluating image-oriented ads, the higher a respondent's self-monitoring score, the more favorable their evaluations; by contrast, when evaluating product-oriented ads, the lower a respondent's self-monitoring score, the more favorable their evaluations. Moreover, when asked their reasons for using fragrance products, high self-monitors are substantially more likely than low self-monitors to cite considerations of creating, enhancing, and maintaining social images.

In addition, by including other relevant personality measures, we were able to more precisely specify what type of person will respond most strongly to image-oriented advertising and what type of person will respond most strongly to product-oriented advertising. In addition to being a high self-monitor, the person who finds image-oriented advertising appealing is also likely to be high in public self-consciousness (Fenigstein, Scheier, & Buss, 1975) and high in fashion awareness (Hirschman & Adcock, 1978). And, in addition to being a low self-monitor, the person who finds product-oriented advertising appealing is also likely to be low in public self-consciousness and low in fashion awareness. That is, when evaluating image-oriented ads, the higher a respondent's public self-consciousness and fashion awareness, the more favorable their evaluations; by contrast, when evaluating product-oriented ads, the lower a respondent's public self-consciousness and fashion awareness, the more favorable their evaluations.

The results of this investigation reinforce those of our earlier work with advertising messages for other products, including ads for coffee, whisky, and cigarettes (e.g., Snyder & DeBono, 1985). By considering systematic and global differences in personal and social orientations (such as self-monitoring), we were able to identify distinct types of people particularly likely to respond either to the appeals of image-oriented advertising or to the claims of product-oriented advertising.

The differing kinds of persuasion involved in advertising are also revealed by people's reactions to ads involving endorsements and testimonials. For example, the race car driver who lends his expertise about things automotive to this or that brand of motor oil may be most influential with low self-monitoring consumers, who might weight his credibility highly in their judgments of the oil's quality. But, the movie star who lends her aura to this or that brand of coffee may be most impressive to high self-monitoring consumers, who may be attracted to the image-fashioning potential of being identified with such an alluring figure.

Indeed, there is some support for these notions. In one study (Snyder & Miene, 1987), college undergraduates examined a profile of a fictitious person who would be giving a testimonial endorsement, either for a stereo headset or for a camera. Half of them read a profile of a person with a socially attractive personal image while the other half read a profile of a person possessing expertise with the product endorsed. These profiles contained no information or ad slogans about the product itself; the profile was simply paired with the name of the product. A content analysis of free responses to these profiles revealed that low self-monitors demonstrated a clear preference for an endorser with expertise, while high self-monitors showed a clear preference for an attractive endorser.

In related work, we have also found parallel differences in how people use information concerning product form and product function in evaluating consumer products. For example, in one study in which people evaluated automobiles, high self-monitors responded more favorably to the car with the more attractive appearance, judging it to be of higher quality; by contrast, low self-monitors assigned higher quality ratings to the less attractive car, perhaps reflecting an implicit theory that one should be wary of the quality of attractive products, since an attractive exterior may be hiding inner deficiencies (DeBono & Snyder, in press).

Quite conceivably, our findings may have implications for the working worlds of advertising and marketing. Consider just two speculations. First, image-oriented advertising campaigns that have worked (such as the one with the Marlboro man) may have worked because they have succeeded in engaging and motivating the image concerns of one identifiable subset of consumers, namely high self-monitors; by the same token, product-oriented advertising campaigns that have succeeded (such as that for Total cereal) may have succeeded because they have been effective in engaging and motivating the product concerns of another distinct group of consumers, namely low self-monitors. Second, image-oriented high self-monitoring consumers may display less "brand loyalty" than low self-monitoring consumers. That is, high self-monitors may purchase a variety of different brands, each with a different image, and switch among them in their attempts to display a variety of different images, each specifically appropriate to one of the different roles they play in their lives. Low self-monitors may strive to find that one brand that best captures the essence of their personal attitudes, values, and preferences; having found it, they may stick with that brand with great loyalty.

FUNCTIONAL BASES OF ATTITUDES AND PERSUASION

As tempting as it is to offer words of wisdom to the advertising industry, the fact of the matter is that (as I stated at the outset) our simulated ads essentially have been vehicles for conducting basic research on the processes of attitudes and persuasion. And, we have learned several lessons from our endeavors. One of these lessons concerns the functions of attitudes, and about the functional bases of persuasion and social influence. Taken together, our studies provide evidence, albeit indirect, that attitudes may be serving different functions for high and low self-monitors. In our studies, high self-monitors seem to have formed more favorable evaluations of ads that potentially could aid them in choosing consumer products useful for the purpose of creating and displaying social images. By contrast, low self-monitors in our studies reacted positively to ads that would allow them to choose consumer products that might help them to express their underlying attitudes, values, and personal preferences.

The notions that people may hold similar attitudes for different reasons, and that the same attitude may serve different functions for different people, are the fundamental tenets of the *functional theories* of attitudes (e.g., Katz, 1960; Smith, Bruner, & White, 1956). Theoretical analyses of self-monitoring (e.g., Snyder, 1987) provide a framework for articulating the functional implications of our research on reactions to advertising messages. To the extent that the characteristic interpersonal orientation of high self-monitors is a pragmatic one of fitting themselves to their social circumstances, this interpersonal orientation may also include social attitudes that are formed on the basis of how well they serve the ends of behaving in ways appropriate to the various reference groups that make up their social circumstances. As such, the social attitudes of high self-monitors may be said, in the language of the functional theorists, to be serving a *social adjustive* function. By contrast, to the extent that the characteristic interpersonal orientation of low self-monitors is a principled one of choosing behaviors that accurately reflect, truthfully express, and meaningfully communicate their own personal attributes, that interpersonal orientation may also include social attitudes formed on the basis of how well they reflect, express, and communicate more fundamental underlying values. As such, the social attitudes of low self-monitors, once again in the language of the functional theorists, may be said to be serving a *value expressive* function.

I should emphasize, though, that our research on reactions to advertising provides only *indirect* evidence that the attitudes of high and low self-monitors may be serving different functions. The messages associated with the various advertisements focused on implications or consequences of holding value expressive or social adjustive attitudes, but not on the actual functions themselves. More *direct* evidence that attitudes may be serving different functions for different people would be provided by studies involving interventions designed to directly engage particular functions.

A study by DeBono (1987) employed precisely this approach. By manipulating the functional relevance of a message, DeBono demonstrated that, in accord with the hypothesized social adjustive function of their attitudes, *high* self-monitoring students were particularly influenced by the message that played upon *social adjustive* concerns (in this case, what their peers thought) and, in keeping with the hypothesized value expressive function of their attitudes, *low* self-monitoring students were more influenced by the message that addressed itself to *value expressive* concerns (in this case how their attitudes meshed with important values).

These results (and related ones by DeBono and his co-workers; DeBono, 1988) highlight the utility of adopting a functional approach to the study of persuasion and social influence. They suggest that the persuasion settings necessary for successful social influence may need to be very different for different people. That is, people may have different motivational bases for maintaining their attitudes and, for a message to have its maximal impact, these motivations must be identified and addressed.

THE BOUNDARIES OF THE FUNCTIONAL APPROACH

Earlier, I characterized our strategy of inquiry as one borrowed from the domain of personality and social behavior. In this strategy, researchers try to identify categories of people who typically manifest the phenomena of concern to them. One benefit of this strategy may be its ability to help define and articulate the scope of the functional theories themselves. A (if not the) fundamental proposition of the functional approach is that the same attitude may serve different functions. What are the boundary conditions of this proposition -- when does it hold and when does it not? At least two kinds of factors can, in principle at least, be specified: those dealing with the *attitudes* whose functions are of concern, and those dealing with the *situations* in which these attitudes can and do operate (cf. Snyder & DeBono, 1988).

Some attitudes may be capable of serving a wide variety of functions. Other attitudes, by contrast, may be capable of serving a somewhat narrower range of functions. And, some attitudes may even serve one and only one function. Only to the extent that attitudes are capable of serving multiple functions will it be possible to verify the fundamental tenet of functional theories. Only then will it be possible to identify classes of people whose attitudes typically serve one or another function. That is, properly speaking, the functional theories apply only to attitudes that are capable of serving multiple functions. For this reason, we have heeded this prescription in our research. Thus, for instance, in our studies of people's reactions to advertising messages, we specifically chose products that could be advertised equally well (and, in fact, are being advertised) with appeals to social adjustive and value expressive considerations. It remains, of course, to identify the moderating variables that specify the range of functions potentially served by particular attitudes.

Just as attitudes may vary in the functions they potentially can serve, so too can the situations in which attitudes operate vary in the functions they can engage. Some situations may be so clearly structured that they can and do engage attitudes serving one and only one function. Other situations, may be more conducive to multiple functions; that is, they may have the potential to engage multiple functions. Needless to say, it is this latter type of situation that has been of interest to us in our research. We intentionally have worked with situations in which it would be possible to observe some people responding as if motivated by social adjustive considerations and other people acting as if motivated by value expressive concerns. Again, properly speaking, the functional theories only apply to situations of this latter type -- those that "afford" multiple functions to be engaged and served.

In closing, I should note that interest in the functional approaches has waxed and waned over the years. Elsewhere, we have speculated on some of the reasons for the rise and fall and rise again of the functional perspective (Snyder & DeBono, 1988). That they initially rose to prominence, and that they are once again attracting attention, reflects the enduring importance of their central goal, that of discovering and understanding the psychological functions served by attitudes. The lesson our research and theorizing teaches is that: Taking into account the dynamic interplay of features of individuals, of attitudes, and of situations may permit more precise specifications of the functional bases of attitudes, persuasion, and social influence. The functional approaches, long out of fashion, may once again be ready to claim the allegiances of new generations of basic and applied researchers.

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On the Processing of Functionally-Relevant Consumer Information: Another Look at Source Factors

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ABSTRACT

Two studies are reported which suggest that attitude functions may interact with a message's source to influence processing strategy. In particular, individuals for whom attitudes serve a social-adjustive function appear to systematically process the meesage of a socially or physically attractive source whereas individuals for whom attitudes serve a value-expressive function appear particularly likely to systematically process the message of an expert source. Implications for advertising and consumer behavior are discussed.

The decade of the 1980's has witnessed a renewal of interest in persuasion, social influence, and persuasion-related phenomena. One consequence has been a rekindling of interest in the role that source factors play in the persuasion process. Traditionally, source factors have been thought to play an important role in determining the effectiveness of a persuasive communication, although their specific role seems to shift as a function of the predominant theoretical orientation of the times. For example, earlier, more stimulus-response models (e.g., Hovland, Janis, & Kelley, 1953) portrayed source factors as serving as incentives for attitude change, whereas more recent, cognitive, models of persuasion (e.g., Chaiken, 1987; Petty & Cacioppo, 1986a, 1986b) have suggested that source factors play a multifaceted role.

Specifically, cognitive models suggest that under conditions of low personal involvement, source factors have a direct impact on the effectiveness of a persuasive message. In the interest of cognitive economy, individuals tend to more heuristically process the message, relying on source factors and not on the content of the persuasive message to decide whether the attitude position advocated is valid (Chaiken, 1987; Petty & Cacioppo, 1986a, 1986b). Thus, for example, under conditions of low personal involvement, individuals are more likely to agree with an attractive source than a non-attractive one regardless of the quality of the arguments offered (Chaiken, 1980).

By contrast, when an issue is more personally involving, source factors are believed to have little, if any, direct impact on the persuasiveness of a message. Individuals tend to more systematically process the message, often basing agreement on the cogency and strength of the arguments used (Chaiken 1987; Petty & Cacioppo, 1986a, 1986b). Thus, under these conditions, individuals are more likely to agree with a source who is armed with convincing arguments than one who has more specious arguments regardless of the source's physical attractiveness or expertise (e.g., Petty, Cacioppo, & Goldman, 1981).

Lastly their are times when the source factors themselves affect people's motivation to engage in effortful processing. In particular, under conditions of moderate involvement, individuals are more likely to process systematically the message of an attractive or an expert source than the message of an unattractive or non-expert source (e.g., Puckett, Petty, Cacioppo, & Fisher, 1983).

Importantly, the re-emerging functional perspective on attitudes (Katz, 1960; Smith, Bruner, & White, 1956) has the potential to further our understanding of the role that source factors play in the persuasion process. In particular, Kelman (1961) has suggested that the source factors of attractiveness and expertise can, under specified conditions, make a persuasion situation more personally involving than it otherwise might be. He suggests that for individuals who define themselves through their relationships with others, who are concerned that they play roles appropriate for their circumstances, and who are concerned that they maintain satisfying relationships with others, a persuasion situation involving an attractive source may be particularly motivating and involving. Similarly, he proposed that when individuals are concerned that their actions and beliefs are congruent with their important values, a persuasion situation involving an expert source becomes particularly motivating and personally involving.

This characterization of the influence process suggests that when the interpersonal needs of an individual can be satisfied by a message's source, source factors, because of the increased involvement they engender, may motivate a recipient to process more systematically a persuasive message. That is, if source factors do indeed make persuasion situations differentially involving for different people, then individuals should be differentially motivated to analyze and scrutinize the content of the persuasive message as a function of the message's source.

To test this hypothesis however, it is first necessary to identify individuals for whom the source factors of expertise and attractiveness should be differentially involving. We believe the differing functional bases of the attitudes of high and low self-monitoring individuals make them prime candidates in this search. High self-monitoring individuals (as identified by their relatively high scores on the Self-Monitoring scale, Snyder, 1974; Snyder & Gangestad, 1986) typically strive to be the type of person called for in each situation in which they find themselves. They are concerned about, and are adept at, tailoring their behavior to fit social and interpersonal considerations of appropriateness. Importantly, the attitudes of high self-monitoring individuals appear to serve a social adjustive function. High self-monitoring individuals are concerned with what important reference groups believe and will readily change their attitudes if they discover that their attitudes are at odds with a significant majority of their peers (DeBono, 1987). Thus, one could argue that the social-adjustive nature of their attitudes may lead high self-monitoring individuals to find a situation involving an attractive source particularly involving, which may in turn lead them to more systematically process what the source has to say.

In contrast, low self-monitoring individuals (as identified by their relatively low scores on the Self-Monitoring scale) typically do not attempt to mold their behavior to fit situational and interpersonal considerations of appropriateness. Rather, these individuals tend to guide their behavioral choices on the basis of relevant inner sources such as values, feelings, and dispositions (cf, Snyder, 1987). Moreover, the attitudes of low self-monitoring individuals may play a value-expressive function. Low self-monitoring individuals are concerned that their attitudes reflect accurately their important values and they will readily change their attitudes if informed that their present attitudes are not congruent with important values (DeBono, 1987). This value-expressive orientation may lead low self-monitoring individuals to find a situation in which an expert source is delivering a message to be particularly involving, which may lead them to more systematically process the source's message.

Do the differing functional orientations of high and low self-monitoring people lead them to process the messages of expert and attractive sources differently? In an attempt to answer this question, DeBono & Harnish (in press) conducted a partial replication of Kelman's (1961) classic experiment on the three processes of attitude change. In particular, we had one-hundred male Michigan State University undergraduates listen to a counterattitudinal message delivered by either an expert or socially attractive source. The attitude topic revolved around a current controversy on the campus of Michigan State University. The women's pom-pom squad, in a fund raising effort, produced a calendar in which members, rather revealingly dressed (e.g. in bikinis), posed with various members of the campus community (e.g., the University president). Most students did not question the propriety of the calendar (although a small, but vocal, minority did), so the message students heard delineated reasons why the calendar should be banned from campus.

Those subjects randomly assigned to the expert condition believed the message came from a nationally known, well-published research psychologist who specializes in the effects of the print media on attitudes and beliefs. Those assigned to the attractive source condition believed that the message came from an honors student at MSU who is very active in student government and is presently the chair of the MSU chapter of the Student Poll. Subjects in this condition were informed that although the student would be speaking in the first person, the views he expressed were based on the consensus opinion of MSU students as assessed by a recent student poll.

Within each source condition, participants were randomly assigned to hear one of two versions of the message. In the strong argument condition, the speaker said that the calendar promoted sexist attitudes toward women, further reinforced the stereotype of women as sex objects, and tarnished the progressive and enlightened image of the University. In the weak argument condition, the speaker said that the calendar gave free advertising to the swimsuit manufacturers, would lead parents to wonder if their investment in their daughter's education was worthwhile, and would draw too much attention away from athletes at sporting events as attention would now be focused on the pom-pom squad.

After hearing the speaker, we asked students for their personal attitudes toward the calendar (1 = worthless, 7 = valuable), we asked them to list all the thoughts they had while listening to the message and to code them in terms of the favorableness toward the speaker's arguments, and, after a filler task, we asked them to recall as many of the speaker's arguments as possible.

The results for post-message attitudes are displayed in Table 1.

A self-monitoring x source x argument strength ANOVA revealed a significant three-way interaction, $F(1, 92) = 32.72$, $p < .001$. As can be seen, high self-monitoring individuals were responsive to the quality of the message arguments only when the speaker was socially attractive, forming negative attitudes toward the calendar only after hearing the strong arguments. In contrast, high self-monitoring individuals formed relatively negative attitudes toward the calendar when the source was an expert, regardless of argument quality. These data suggest that high self-monitoring individuals were systematically processing the message of the attractive source, but were more heuristically processing the message of the expert source.

This pattern of data is reversed for low self-monitoring individuals. They appeared to be sensitive to argument quality only when the source was an expert; they agreed with the attractive source regardless of argument quality. Thus, they appeared to systematically process the message of the expert source, but seemed to more heuristically process the message of the expert source.

This interpretation is buttressed by an examination of the cognitive response and recall data. To examine the nature of the thoughts people had while listening to the message, we calculated the proportion of favorable thoughts relative to the total number of favorable and unfavorable thoughts. These are displayed in Table 2.

A self-monitoring x source x argument strength ANOVA revealed a significant three-way interaction, $F(1, 92) = 6.33$, $p < .02$. As can be seen, the thoughts of high self-monitoring individuals appeared to be a function of argument quality only when the source was an attractive one, further suggesting that they were systematically processing that source's message. By contrast, the thoughts of low self-monitoring individuals appeared to be responsive to argument quality only when the source was described as an expert, thus suggesting that they were only systematically processing his message.

Lastly, an examination of the recall data revealed self-monitoring x source interaction. High self-monitoring individuals were able to recall more when the source was described as socially attractive than when described as expert ($M = 3.58$ vs. $M =$

TABLE 1

Mean post-message attitude scores

Self-monitoring Classification	Argument Strength: Strong	Argument Strength: Weak
High		
Expert Source	4.07 (n=13)	3.61 (n=13)
Attractive Source	3.31 (n=13)	5.54 (n=13)
Low		
Expert Source	3.50 (n=12)	5.67 (n=12)
Attractive Source	3.64 (n=11)	3.69 (n=13)

Possible range: 1 - 7. Lower scores indicate more unfavorable attitudes toward the calendar.

TABLE 2

Mean proportions of favorable thoughts

Self-monitoring Classification	Argument Strength: Strong	Argument Strength: Weak
High		
Expert Source	.30	.10
Attractive Source	.50	.07
Low		
Expert Source	.38	.08
Attractive Source	.19	.17

3.27), low self-monitoring individuals were able to recall more when the source was described as expert than when described as socially attractive (M = 3.29 vs. M = 2.42).

Taken together, these data suggest that different sources can indeed make persuasion situations differentially involving for different people and a result of this differential involvement is a differential processing of the persuasive information. When a source can fulfill the interpersonal needs of an individual, it appears as though that individual becomes willing to take the time and energy to process systematically what the source is saying. As such, the individual becomes responsive to argument quality and is only persuaded by strong arguments. By contrast, when the source can not fulfill the interpersonal needs of an individual, that individual, not caring to exert much cognitive energy, more heuristically processes the message, using the source as a persuasion cue and agreeing with the source regardless of argument quality.

Before discussing the implications of these findings for advertising and consumer behavior, it is important to address the generality of these findings. When we speak of source attractiveness, we can mean one of two things. We can mean social

TABLE 3

Mean post-advertisement attitude scores

	Argument Strength	
Self-monitoring Classification	Strong	Weak
High	7.92 (n=13)	5.47 (n=21)
Low	8.15 (n=20)	7.93 (n=15)

Possible range: 2 - 14. Higher scores indicate more favorable attitudes.

attractiveness, as in the study above, or we can mean physical attractiveness. Given that the physical attractiveness of others and of objects seems to be important for high self-monitoring individuals (DeBono & Snyder, in press), DeBono & Telesca (1988) set out to discover if a physically attractive source has the same information-processing effects on high and low self-monitoring individuals as did the socially attractive source.

In this study, we informed sixty-nine Union College undergraduates that a new sun tan lotion, "Savage Tan", was being introduced to New York's Capital District and that they would be asked to preview and evaluate one of the advertisements for the product. The advertisement contained two parts. The first, the visual, was a slide of a darkly tanned, physically attractive woman described to participants as a local model. She was pictured standing in front of a painting of a sunset holding a container of "Savage Tan". The second part of the advertisement was a voice-over played for participants on a cassette recorder. For some of the participants the voice over contained rather strong arguments for using the product. They were told that the lotion was scientifically designed and proven to protect the user from harmful ultraviolet rays and contained special ingredients to help prevent premature aging and wrinkling of the skin. For the remaining participants the voice over contained weak, rather specious arguments in favor of the product. Participants were told that the lotion was silky smooth and easy to apply and it came in a newly-designed container that had an easy-to-grasp handle.

Following exposure to the advertisement, we asked participants to evaluate the product (on two seven point scales: 1 = weak, 7 = strong, and 1 = worthless, 7 = valuable), write down all the thoughts that they had about the product and its presentation while they were observing the advertisement, code their thoughts in terms of their favorableness toward the product, and finally, recall three things about the presentation: who promoted the product, and the two arguments that the spokesperson used.

Post-message attitude toward the product are displayed Table 3. A self-monitoring x argument strength ANOVA revealed a two-way interaction, $F(1, 65) = 10.43$, $p < .01$, such that the attitudes of high self-monitoring individuals were affected by argument quality, becoming favorable toward the product only after hearing strong arguments, whereas the attitudes of low self-monitoring individuals became favorable regardless of argument quality. This suggests that high self-monitoring individuals may have been systematically processing the model's message whereas as low self-monitoring may have been more heuristically processing the message.

A significant self-monitoring x argument strength interaction for the proportion of favorable cognitive responses (See Table 4) tells a similar story. Only the thoughts of high self-monitoring individuals were affected by argument quality: they tended to have a higher proportion of favorable thoughts in response to the strong arguments than to the weak whereas there was no difference in the proportion of favorable thoughts by low self-monitoring individuals as a function of argument quality. Moreover, high self-monitoring individuals were able to recall significantly more of the message than were low self-monitoring individuals, ($M = 2.24$ vs. $M = 1.68$, $p < .05$).

What are the implications of these studies for advertising and consumer behavior? One general answer would be "tentative". We are fully aware that the methods we have chosen to conduct our research carry with them the baggage of all laboratory research: the limited scope of stimuli used and the inherent problems of external validity. Nonetheless, we believe that our research has the potential to contribute to an understanding of "real world" persuasion attempts. For example, an ostensibly interesting implication of these results is that, to make maximum use of source factors, it may be more effective to present a source that is not 'functionally

TABLE 4

Mean proportions of favorable thoughts

Self-monitoring Classification	Argument Strength: Strong	Argument Strength: Weak
High	.63	.16
Low	.32	.34

relevant' to the individual. Overall, low self-monitoring individuals were more persuaded by the attractive sources than were high self-monitoring individuals and high self-monitoring individuals were more persuaded by expert sources than were low self-monitoring individuals. For example, it mattered little to low self-monitoring individuals what attractive sources said whereas high self-monitoring individuals were only persuaded when the source had strong arguments.

The soundness of this strategy, however, may be a function of the goals of the persuasion attempt. That the attractive and expert sources elicited differing processing strategies in high and low self-monitoring individuals may also have implications for the duration of the attitude change engendered and the likelihood that the attitude change will translate into behavior change. In particular, research has suggested that attitude change induced via systematic, or central route, processes tends to be of a longer duration than attitude change resulting from more peripheral route processes and is more likely to be related to behavior (cf. Petty & Cacioppo, 1986b). Therefore, although, individuals were more persuaded by non-functionally relevant sources, this attitude change was most likely short-lived and not behaviorally-related. Hence, a strategy of using a non-functionally relevant source may be ultimately effective if one only desires relatively short-term attitude change. By contrast, to the extent that one is interested in more long-term, behaviorally-related attitude change, a functionally relevant source may be more effective, given that the source has convincing arguments.

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Attitude-Behavior Consistency: Fulfilling the Need for Cognitive Structure

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In answering the question, "why do people have attitudes; of what use are people's attitudes to them?", various theorists have noted that people must hold the attitudes they do because in having and using them they are somehow functional for the individual. To have and to hold attitudes must serve to reduce various psychological needs, to satisfy various motivational drives. Although such needs and drives may be of chronic and enduring concern to the individual, they may also be of acute origin, and it is an examination of people's attitudinal responses to situated needs and motives that is the focus of the present paper. The situated conditions we chose to examine have been conceptualized as ones promoting or inducing the need for cognitive structure.

Following from the similar notion of intolerance of ambiguity, Arie Kruglanski (in press) has characterized the need or motivation for structure as a cognitive need, defined specifically as the desire for clear, certain or unambiguous knowledge that will guide perception, judgment and action, in preference to the undesirable alternative of ambiguity and confusion. When the need for structure is aroused, people will be less likely to generate new ideas or hypotheses about the world as well as less likely to validate their knowledge. Instead, they will tend to "freeze" on their current knowledge and rely upon it to guide them in their perceptions, decisions and behavior.

Evidence has now been generated to support this general notion. Kruglanski and his co-workers, for example, have shown that high need for structure conditions can cause "freezing" on a wide variety of cognitive tasks, inducing effects such as heightened primacy in impression formation and increased numerical anchoring in probability estimation (Freund, Kruglanski & Shpitzajzen, 1985; Kruglanski & Freund, 1983). Moreover, convergent support may be found in other literatures, if manipulation of stress and arousal can be reconceptualized in need for structure terms (e. g., Holmes, Zanna & Whitehead, 1986). The overall conclusions drawn for these studies is that an aroused need for structure causes restrictions in information processing, and the retreat to overlearned or recently activated knowledge.

The question an attitude theorist must naturally ask is whether or not an individual's *evaluation* of some stimulus object, that is, his or her attitude about that object, is the kind of knowledge that the individual would find at all useful to rely upon in conditions motivating the need for structure. The answer may be that people's evaluative knowledge is, indeed, a particularly efficient guide for sizing up the world. It is efficient because all objects are ordered along a common evaluative metric. What better way to know how to react to an object than to know how one feels about it, to know what one's attitude is about it? In other words, attitudes may fulfill basic needs for clarity and structure when people are confronted with the "blooming, buzzing confusion" of the world because they quite simply summerize the basic goodness versus badness of objects, and therefore imply what a person's approach versus avoidance tendencies should be with regard to those objects.

Such an idea is hardly new. Katz's (1960) *knowledge* function and Smith, Bruner and White's (1956) *object appraisal* function both asserted that one of the primary functions of attitudes was to impart structure, consistency and understanding to the world. And it would seem that maximum clarity can be achieved by ordering objects along a single evaluative dimension. Thus, theoretical precedents exist for the view that attitudes, one's evaluative summaries of the world, are prime candidates as structures that may be seized upon when situational conditions motivate an acute need for clarity and structure.

Let me now turn to some recent tests of the notion that attitudes may function to well-serve a person's need for guiding organization in situations demanding clarity of judgment, even, I should add, when the norms of the situation suggest that it is inappropriate to let one's attitudes "color" one's judgments. In these experiments, conducted in collaboration with David Jamieson of the University of Manitoba, subjects participated in a decision-making simulation in which they were placed in the role of jurors and asked to render individual verdicts on a series of court cases. The cases were crafted to be fairly ambiguous and to potentially implicate subjects' attitudes about controversial social topics such as affirmative action and capital punishment. We hypothesized that when our subjects found themselves in a situation that aroused a need for cognitive structure, they would increasingly rely on their evaluations of the relevant general issues to structure their perceptions of the specific cases, and to guide their judgments and decision making, even though we made it clear to them that as "jurors" they were to be as "objective" as possible in their deliberations. Because of this clear demand to be "data-driven," attitudes were not expected to relate to perceptions and judgments when the situation aroused the need for cognitive structure to a lesser degree.

Following Kruglanski, we used the pressure of time to manipulate need for structure. In our control or Low Need for Structure condition, subjects were given as much time as they needed to complete their task. In the experimental or High Need for Structure condition, subjects were placed under severe time constraints.

Now, in addition to manipulating need for structure via the induction of time pressure, we also measured the degree of subjects' self-monitoring propensities. We reasoned that the increased reliance on attitudes to structure perception and guide judgments when the need to do so is great might be a process especially characteristic of those individuals for whom attitudes normally serve important functions in the organization of their social worlds. Low self-monitors have been conceived as just such individuals, whose perception, judgment and behavior are most likely to be influenced by internal referents such as attitudes (Snyder, 1974, 1979). High self-monitors, in contrast, tend to prefer external referents such as social norms and situational cues to behavioral appropriateness as their guides for social perception, thought and action.

We, therefore, expected that situational conditions demanding structure and dispositional tendencies to self-monitor might interactively moderate attitude-judgment consistency in our studies, with attitudes exerting their greatest influence on case judgments among low self-monitoring individuals in high need for structure circumstances.

METHODS AND RESULTS

Subjects reported for a study of decision-making in which they were told that their role was to deliver as fair and objective a decision as they could on a series of court cases; that is, they were instructed to be "involved but impartial decision makers." These normative prescriptions for impartiality were reiterated several times throughout the procedure to insure that attitudes and judgments were generally uncoupled. Subjects in the Time Pressure condition were given little rationale for the constraints of time, save that "sometimes decisions have to be made quickly." They were given an average of just three minutes to read each case and answer its associated questions. Participants in the No Time Pressure condition completed the cases under no time restrictions whatsoever.

The first study (actually three exact replications of each study were conducted, employing a total of 50 to 70 subjects per condition) involved an affirmative action lawsuit which was modelled after materials used by Snyder and Swann (1976). Subjects read about a female biologist who had applied for an academic job at the University of Toronto but who had been passed over in favor of a slightly less qualified male applicant. Subjects read prosecution and defence arguments before recording their perceptions and judgments of the matter on a series of measures which followed.

Correlations of subjects' attitudes toward "affirmative action in the workplace," (measured in an unrelated, prior context by the semantic differentials: good-bad, desirable-undesirable, acceptable-unacceptable, and just-unjust) with an index which combined their perceptions of the unfairness of the University's decision regarding the plaintiff with their reported likelihood of deciding the case in her favor indicated that only the perceptions and judgments of *time-pressured, low self-monitors* were significantly influenced by their personal attitudes ($r = .42$; the other correlations were not reliable and ranged in magnitude from -.02 to .21), and this was true despite situational demands for objectivity and impartiality given repeatedly throughout the procedure.

In the second study subjects read about a reputed premeditated murder case that was based largely on circumstantial evidence. The crown had brought a charge of murder against a man following the apparent accidental drowning of his wife while the two were on a camping trip to a secluded lake. Prosecution and defense arguments were again presented before subjects were asked to record their perceptions of the trial and to report how likely they would be to vote the defendant guilty of first degree murder. The correlations between subjects' attitudes toward the "reinstatement of capital punishment" (assessed in the same manner as the affirmative action attitudes) and an index of their capital judgments (comprising their judged likelihood of conviction combined with their actual verdicts) strongly replicated the pattern attained for the affirmative action case. Once again, although both high and low self-monitors were able to make *attitude-independent judgments* when unpressured by time (r 's of .02 and .09, respectively), only high self-monitors were able to do so when time limited ($r = .06$). In contrast, the attitudes of low self-monitors again seem to have been implicated to a great extent in their judgments ($r = .50$).

DISCUSSION

Overall, the results from these two studies indicate that low self-monitors, those individuals characterized by a chronic motivation to rely on attitudinal knowledge in their transactions with the world, were the very persons who seized upon their evaluations as a way of structuring their perceptions and judgments when the need to do so was strong. The studies illustrate that even in the face of countervailing norms, attitudes can function to provide clarity in situations which motivate a need for structure, and this may be particularly true of people for whom attitudes normally serve important organizing functions.

Now, one potential criticism of our research is that we have manipulated need for structure only by manipulating time pressure, an operationalization that may have invoked other critical causal motivations beyond the need for structure. In response to this problem, we note that Kruglanski and his colleagues (e. g., Freund et al., 1986) have recently reported successful inductions of the situated need for structure by operations other than time pressure, providing needed converging support for the construct. In addition, we have replicated our studies using a recently developed individual difference measure of the extent to which people are chronically concerned with structure (Naccarato, Thompson & Parker, 1988). High scorers endorse such items as: "It bothers me when something unexpected disrupts my daily routine," "I become quite uneasy when put into an unpredictable situation," and "I like to have a place for everything and everything in its place." Low scorers endorse such items as: "I enjoy being spontaneous," "I like to be with people who are unpredictable," and "I enjoy the exhilaration of being put in unpredictable situations." In this follow-up study, instead of manipulating time pressure in an acute way, we measured individuals' chronic need for structure and then exposed them to our court cases under conditions of no time pressure. The two-way cross classification of subjects by *need for structure and self-monitoring* provides a conceptual replication of our earlier design. The results indicated that need for structure and self-monitoring do seem to jointly moderate attitude-judgment consistency in the theoretically predicted manner. Collasped across the affirmative action and premeditated murder cases, only those individuals chronically high in need for structure and low in self-monitoring exhibited attitude-judgment consistency (r = .30 vs. r 's which ranged from .00 to .18).

While it will be important to continue to replicate and extend these data with other manipulations of the need for structure construct and to extend the research paradigms into the domain of consumer choice, we believe both that the desire for structure is an important need state that attitudinal processes may serve to reduce, and that there is great empirical and ecological appeal in time pressure as a method for instantiating this situated motivation.

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Consistency Criteria and Unidimensionality: An Attempt at Clarification

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There has been much debate in marketing recently about so called consistency criteria and unidimensional measurement. In trying to clarify the issues this paper argues that these criteria, as specified in confirmatory factor analysis, are of very limited value.

INTRODUCTION

Consistency criteria have been proposed in various guises a number of times in the past 60-70 years beginning with Spearman and Holzinger (1924) in psychology, Costner (1969) and Blalock (1971) in sociology and now recently in marketing (Kumar and Dillon, 1987a,b; Anderson and Gerbing 1982; Anderson, Gerbing and Hunter, 1987). However, the treatment of these criteria in marketing has ignored similar work in other disciplines and produced conclusions that are either incomplete or questionable.

First, contrary to what is claimed by Anderson, Gerbing and Hunter (1987), Anderson and Gerbing (1982) were not the first to introduce consistency criteria in marketing. For example, Bagozzi (1980) and Fornell and Larcker (1981) both discussed these criteria as "vanishing tetrads," whose application have a long history and are new neither to psychologists nor marketers. It is also well known that they are not sufficient tests of either unidimensional measurement or correct model specification unless *all* tetrad equations (i.e., internal and external consistency and consistency in solutions of correlations between factors) are examined. Kumar and Dillon (1987a, 1987b) reiterate these points, whereas Anderson, Gerbing and Hunter (1987) maintain that consistency criteria can be readily applied via confirmatory factor analysis to assess unidimensionality. This paper will make the following arguments:

(1) Consistency criteria are nothing but special cases of vanishing tetrads.

(2) Vanishing tetrads can be examined via MIMIC models and tested via standard statistics in LISREL, EQS, and similar programs.

(3) There are cases in which internal and external consistency criteria are met even though all measures are not unidimensional.

(4) Unidimensionality as evaluated via confirmatory factor analysis is a joint property of the data and the model specification. It is not a property of the measures that can be generalized to other specifications.

Most of these arguments are not new. Anderson and Gerbing (1982) acknowledge the sources of the consistency criteria as well as vanishing tetrads. In a later paper with Hunter (1987), they also acknowledge that internal consistency can be viewed as a special case of external consistency but that they had been less than complete in formulating this criterion (this was also a major point in the criticism by Kumar and Dillon, 1987a).

The second argument that tetrads can be examined directly in LISREL with MIMIC specifications is straightforward as we will show this.

The third argument that the satisfaction of consistency criteria in terms of the fit of a unidimensional confirmatory factor analysis model does not imply unidimensionality is a point made by Kumar and Dillon (1987a). This is correct and also shown in texts such as Kenny (1979) and Blalock (e.g., Blalock, 1971) and others. We will present a proof.

The final point is probably the most important: Unidimensionality is a property of both model specification and data. If one is changed, unidimensionality is no longer assured. The implication of this is that confirmatory factor analysis is of very limited applicability in examining unidimensionality.

CONSISTENCY CRITERIA AS MIMIC MODELS

The overidentifying restriction in a confirmatory factor analysis with, say, four variables is that of a vanishing tetrad

$$\frac{R_{13}}{R_{14}} = \frac{R_{23}}{R_{24}} \tag{1}$$

where R is a correlation coefficient. The test of a vanishing tetrad was originally suggested by Spearman and Holzinger (1924).

We will first show that vanishing tetrads can also be tested via MIMIC models in traditional covariance structure analysis. If such tests are programmed for the computer, they can possibly give the analyst useful information as to model respecification. However, contrary to the suggestion by Anderson, Gerbing and Hunter (1987), they cannot always be used for the evaluation of unidimensionality. Rewriting equation (1) as

$$(R_{13}R_{24}) - (R_{14}R_{23}) = 0 \tag{2}$$

It becomes obvious that the correlation matrix

$$\underset{\sim}{R} = \begin{bmatrix} R_{13} & R_{14} \\ R_{23} & R_{24} \end{bmatrix} \tag{3}$$

must have rank 1. This is equivalent to a second canonical correlation coefficient of zero if

$$\eta = \pi_1 x_1 + \pi_2 x_2 \tag{4}$$

$$\xi = \pi_1^* x_3 + \pi_2^* x_4 \tag{5}$$

where η and ξ are canonical variates and $\underset{\sim}{\Pi}$ and $\underset{\sim}{\Pi}^*$ are canonical weight vectors. Further, as shown by Bagozzi, Fornell and Larcker (1981), a MIMIC model of the following type (in LISREL notation)

$$\underset{\sim}{\eta} = \underset{\sim}{\Gamma}\underset{\sim}{\xi} \tag{6}$$

where $\underset{\sim}{\Gamma}$ is a coefficient vector and,

$$\begin{bmatrix} x_1 \\ x_2 \end{bmatrix} = \begin{bmatrix} \xi_1 \\ \xi_2 \end{bmatrix} \tag{7}$$

$$\begin{bmatrix} x_3 \\ x_4 \end{bmatrix} = \begin{bmatrix} y_1 \\ y_2 \end{bmatrix} = \begin{bmatrix} \lambda_1 \\ \lambda_2 \end{bmatrix} = \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \end{bmatrix} \tag{8}$$

with no restrictions on the errors (i.e., the variance-covariance matrix of $\underset{\sim}{\varepsilon}$ is not constrained to be diagonal) can be used to statistically test if equation 1 is true (using the likelihood ratio chi-square test). Nevertheless, without a computerized program to estimate all possible MIMIC model combinations, any type of tetrad analysis quickly becomes very tedious as the number of variables increases. For larger models, the number of tetrads to examine grows exponentially (see for example, Kenny, 1979). There is however, a computer program available for the researcher who wishes to examine tetrads in order to improve a specific model or to find alternative models. The TETRAD program (Glymour and Scheines, 1986) computes all tetrads implied by the model in question and produces diagnostics for model revision.

CONSISTENCY CRITERIA AND UNIDIMENSIONALITY

Even though vanishing tetrads can be used to examine model misspecification, they are not always sufficient tests for unidimensionality. In order to see this, we begin with a very simple model with one overidentifying restriction (depicted in Figure 1A).

A Simple Model

Given the standard error assumptions and standardizing all variables to a mean of zero and unit variance, we can write the parameter matrix of the model in Figure 1A in LISREL notation as:

$$\underset{\sim}{\Sigma}_1 = \begin{bmatrix} 1 & & & \\ \lambda_{x1}\lambda_{x2} & 1 & & \\ \lambda_{x1}\phi\lambda_{x3} & \lambda_{x2}\phi\lambda_{x3} & 1 & \\ \lambda_{x1}\phi\lambda_{x4} & \lambda_{x2}\phi\lambda_{x4} & \lambda_{x3}\lambda_{x4} & 1 \end{bmatrix} \tag{9}$$

Proposition 1: The overidentifying restriction for the two-construct/two-indicator model implied by equation 9 is identical to the vanishing tetrad of equation 1.

Proof: Consider the submatrix

$$\underset{\sim}{\Sigma}_1^* = \begin{bmatrix} \lambda_{x1}\phi\lambda_{x3} & \lambda_{x2}\phi\lambda_{x3} \\ \lambda_{x1}\phi\lambda_{x4} & \lambda_{x2}\phi\lambda_{x4} \end{bmatrix} \tag{10}$$

It is easy to show that $|\underset{\sim}{\Sigma}_1^*| = 0$ since

$$(\lambda_{x1}\phi\lambda_{x3})(\lambda_{x2}\phi\lambda_{x4}) = (\lambda_{x1}\phi\lambda_{x4})(\lambda_{x2}\phi\lambda_{x3}) \tag{11}$$

simplifies to

$$\lambda_{x1}\lambda_{x2}\phi\ \lambda_{x3}\lambda_{x4} - \lambda_{x1}\lambda_{x2}\phi\ \lambda_{x3}\lambda_{x4} = 0$$

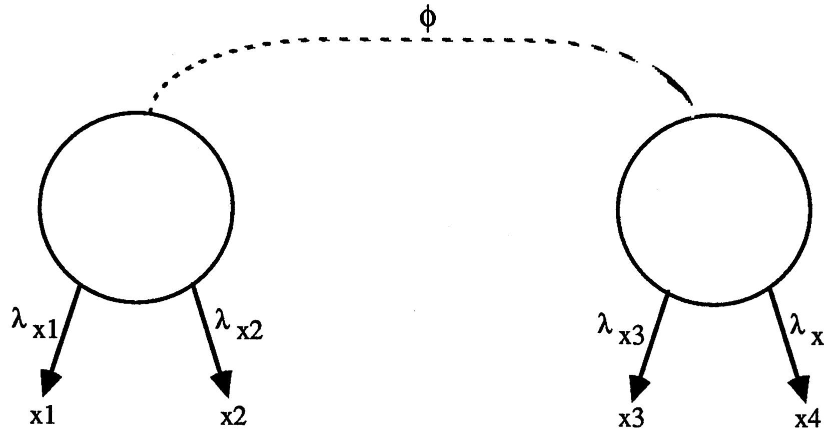
Thus, in order for $\underset{\sim}{S}_1 = \underset{\sim}{\Sigma}_1$, the elements in $\underset{\sim}{S}$ (the correlations) must satisfy the same constraint. That is,

$$\underset{\sim}{S}_1^* = \begin{bmatrix} R_{x1x3} & R_{x2x3} \\ R_{x1x4} & R_{x2x4} \end{bmatrix} \tag{12}$$

and $|\underset{\sim}{S}_1^*| = 0$. Thus, we have the vanishing tetrad:

FIGURE 1A

An Example for a Unidimensional Structure



EQUATION 13

$$\underset{\sim}{\Sigma}_2 = \begin{bmatrix} 1 & & & \\ \lambda_{x1}\lambda_{x2} & 1 & & \\ \lambda_{x1}\phi\lambda_{x4}+\lambda_{x1}\lambda_{x3} & \lambda_{x2}\phi\lambda_{x4}+\lambda_{x2}\lambda_{x3} & 1 & \\ \lambda_{x1}\phi\lambda_{x5} & \lambda_{x2}\phi\lambda_{x5} & \lambda_{x3}\phi\lambda_{x5}+\lambda_{x4}\lambda_{x5} & 1 \end{bmatrix} \qquad (13)$$

$$(R_{x1x3}R_{x2x4}) - (R_{x1x4}R_{x2x3}) = 0$$

Q.E.D.

Let us now alter the model in Figure 1A so that it no longer applies to the unidimensional case. This is illustrated in Figure 1B.

Given the same assumptions as in the model of Figure 1A, we now have: (EQUATION 13)

Proposition 2: The restriction for the two-dimensional two-construct/two-indicator model implied by equation 13 is identical to that for a corresponding unidimensional model (i.e., equations 1 or 9).

Proof: Consider the submatrix

$$\underset{\sim}{\Sigma}^*_2 = \begin{bmatrix} \lambda_{x1}\phi\lambda_{x4}+\lambda_{x1}\lambda_{x3} & \lambda_{x2}\phi\lambda_{x4}+\lambda_{x2}\lambda_{x3} \\ \lambda_{x1}\phi\lambda_{x5} & \lambda_{x2}\lambda_{x5} \end{bmatrix} \qquad (14)$$

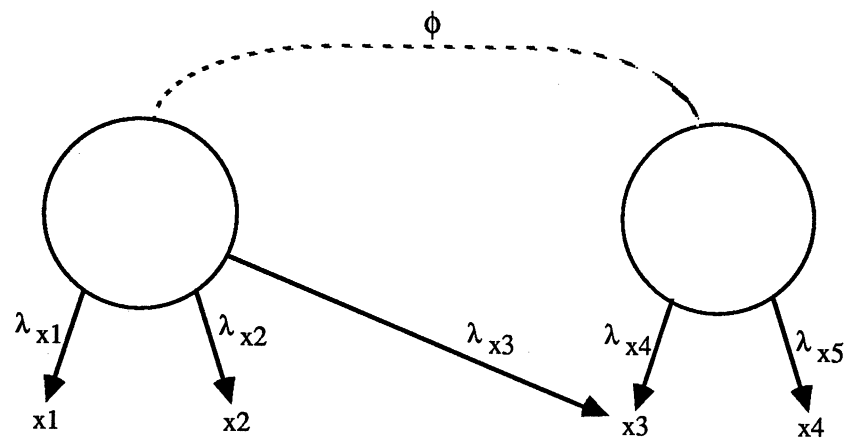
Despite the fact that we are now dealing with a two-dimensional model, it is easy to show that we still have $|\underset{\sim}{\Sigma}^*_2| = 0$. Since

$$(\lambda_{x1}\phi\lambda_{x4} + \lambda_{x1}\lambda_{x3})(\lambda_{x2}\phi\lambda_{x5}) = (\lambda_{x2}\phi\lambda_{x4} + \lambda_{x2}\lambda_{x3})(\lambda_{x1}\phi\lambda_{x5}) \qquad (15)$$

simplifies to

FIGURE 1B

An Example for a Two Dimensional Structure



$$\lambda_{x1}\lambda_{x2}\phi^2\lambda_{x4}\lambda_{x5} - \lambda_{x1}\lambda_{x2}\phi^2\lambda_{x4}\lambda_{x5} = 0$$

Consequently, we end up with exactly the same constraint as in the unidimensional case.

Q.E.D.

In other words, for this particular model, confirmatory factor analysis fails as a test for unidimensionality. Note that this is true even though some parameters of the model are not identified. It should also be pointed out that models with fewer than four indicators would obviously rely solely on tetrads involving cross-construct correlations. Anderson and Gerbing (1982) suggest that one must also examine tetrads within constructs (internal consistency in their terminology). However, using the same type of analysis as we have done here, it is equally simple (but very tedious due to the large number of tetrads) to show that joint application of internal and external consistency criteria (as defined by Anderson and Gerbing, 1982) also fail to detect multi-dimensionality.[1] For example, a model such as the one in Figure 1B with two added indicators for each construct (each loading on one construct only) would satisfy these criteria as mentioned by Kumar and Dillon (1987b) in their reply to Anderson, Gerbing and Hunter (1987) and earlier demonstrated in various textbooks (Kenny, 1979; Blalock, 1971).

There are, however, some tetrads in such an extended model that will not vanish. They may, however, easily be obscured in empirical analysis if the others do vanish.

[1]This is corrected in Anderson, Gerbing and Hunter (1987) where external consistency is extended to cover what Costner (1969) calls an additional consistency criterion and what Kenny (1979) refers to as consistency of epistemic correlations.

Conclusion

Unidimensionality is a concept that is not easily established empirically. It is clearly not enough to have diagonal error matrices in confirmatory factor analysis. First, there may be other factors (e.g., methods factors) that produce off-diagonal terms. Second, the number and type of overriding restrictions go beyond parameter identification in order for all relevant tetrads to be examined. Third, even if one overcomes the first two hurdles--i.e., rules out (or in) methods factors and sets up a model with enough overidentifying restrictions, the support (or rejection) of unidimensionality cannot be generalized beyond one's particular model specification. The addition or deletion of a variable or factor, or the specification of a restricted structural model (rather than the saturated confirmatory factor analysis model), may well alter error matrices in such a way that what was previously found to be unidimensional is now multidimensional and vice versa.

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Forecasting Consumer Acceptance of New Products for Multiple Market Segments Using Multiple Methods

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ABSTRACT

Tests of customer acceptance of a new medical-related product are reported. The potential target markets were sampled for the Ultrarest Couch, a consumer durable designed to relieve back pain. The three markets were physician patients, chiropractor patients, and middle-aged office workers. Five prices, two promotional messages, and five endorsement conditions were tested. Results: contrary to expectations, physician patients more readily accepted the new product; a strong segment-by-price interaction effect was found to influence customer acceptance.

As a theory, market segmentation is the grouping of potential customers into sets that are homogeneous in response to some elements of the marketing mix. As a strategy, it is the allocation of marketing resources, given a heterogeneous customer population. Thus the identification of segments, homogeneous in response, allows the refinement of marketing strategy (Lilien and Kotler 1983, p. 289).

The present paper is an application of consumer judgment modeling to measure responses to new products among several segments of potential customers. The reported application relates most to the theoretical work and empirical studies on market segmentation by Wind (1978) and his colleagues (Wind & Spitz 1976; Wind, Grashof & Goldhar 1978).

A key finding supported by several studies (cf. Page and Rosenbaum 1987; Wind, Grashof, & Goldhar 1978; Cattin and Wittink 1982; Scott & Keiser 1984; de Kluyver & Whitlark 1986; Woodside, Sanderson, & Brodie 1988) is that market segments (both consumer and industrial) are likely to exhibit different response sensitivities to new product-service designs. Consequently, successful planning and implementation of new product-service launches require fine-tuned matches of product-service bundles to targeted market niches.

Hypotheses and Experimental Design

The following central hypothesis (H_1) was tested: consumer acceptance for new product designs differ by market segments; that is, (H_{1a}) each market segment has a unique response function to a set of multi-attribute product alternatives and (H_{1b}) potential customers in one segment versus potential customers in other segments are more interested in buying the product category.

Several specific hypotheses were developed based on the insights related to three potential customer segments and the information needs of the managers directing the marketing strategy for the new product. The managers were concerned most with pricing, positioning strategy (relief versus prevention), and type of medical endorsement to use to promote the new product. The specific hypotheses are stated explicitly following descriptions of the product and potential markets.

The New Product

The product tested, "Ultrarest," is a new medical couch designed to provide relief from pain and discomfort for sufferers of disc and facet joint problems. The product was designed in 1985-87 by a licensed chiropractor practicing in Ashburton, New Zealand. The chiropractor and his wife also owned and operated a small, medical furniture manufacturing enterprise. The medical couch represented a major product line extension for the manufacturing enterprise. At the time of the study (June and July 1987), prototypes of the medical couch had been tested successfully and the designer had applied for a New Zealand patent; manufacturing of the product was about to start.

Market Segments

Management identified three, naturally occurring, market segments as potential customer targets for the new product: back-pain patients of medical doctors, patients of chiropractors, and middle-aged office workers experiencing chronic back-pain. Each of the three market segments posed unique opportunities and problems in marketing the new product: strategic decisions in pricing, distribution, and promoting Ultrarest depended on which of the three market segments was selected as the primary, potential customer target. Ultrarest's product manager wanted information on potential customers' levels of interest in receiving information and in buying the new product, as well as information on the potential customers' sensitivities to changes in price, positioning strategy, and medical endorsements on using the product. The product manager believed that chiropractor patients would be the most interested and middle-aged office workers would be the least interested market segment in buying the new product. Research evidence gathered independently of Ultrarest's product management was requested by the managers to support or refute the following speculations.

Based on having a continuing, active file of patients seeking prevention of back-pain by receiving periodic treatments, Ultrarest's designer believed that chiropractor patients were more likely to be affected by positioning the product as a method of preventing versus relieving back-pain. The opposite was hypothesized for patients of physicians; patients actively under the care of physicians for disc problems and back-pains were believed to be more sensitive to positioning Ultrarest as providing back-pain relief versus prevention. Middle-aged office workers, experiencing occasional back-pain but not actively seeking medical care, were hypothesized to be more influenced by the positioning Ultrarest as providing relief rather than preventing back-pain; management believed this market segment to be the least interested in buying Ultrarest because their back-pain did not require medical attention.

Ultrarest's management believed that physician patients versus the other two market segments would be less sensitive to price levels of the new product because of the continuing back-pain being experienced most often by physician patients. Also, the new product designer believed physician patients were more likely to have higher, household disposable incomes than chiropractor patients; no independent survey evidence was available in New Zealand to support this observation.

Information on potential customer sensitivities to product endorsements by three independent associations was desired. Having the new product endorsed by the New Zealand Chiropractors Association was believed by Ultrarest's management to have a positive influence on the product's acceptance, especially among chiropractor patients.

A product endorsement by the New Zealand Medical Association, the national association of physicians, was believed to have a positive influence on the product's acceptance, especially among physician patients; this endorsement condition was believed to be more influential than the chiropractor endorsement among office workers because Ultrarest's management believed medical doctors versus chiropractors had more prestige and a more positive image among the general population of adults in New Zealand.

An endorsement by the New Zealand Industrial Design Council was also tested. The Council's "DesignMark" for excellence in furniture design and quality was hypothesized to increase customer acceptance of the new product, especially among office workers. Ultrarest's management believed that the Council's endorsement would support the additional claim for the product as fitting "the domestic scene as a piece of furniture." Patients for back-pain relief and prevention versus non-patients were perceived to be less sensitive to a non-medical endorsement because of their immediate need for health care attention.

Specific Hypotheses and Models

Based on the discussed insights and information needs of Ultrarest's management, the following specific hypotheses were predicted to be supported by the research study: (H_2) positioning Ultrarest as preventing versus relieving back-pain would be more effective in increasing product acceptance among chiropractor patients; (H_3) positioning Ultrarest as providing relief versus preventing back-pain would be more effective in increasing product acceptance among medical patient physicians and middle-aged office workers; (H_4) physician patients' product acceptance is less sensitive to the price of the new product compared to chiropractor patients and middle-aged office workers; (H_5) physician patients are influenced more positively by a medical physician endorsement than a chiropractor or industrial design endorsement for the new product; (H_6) chiropractor patients are influenced more positively by a chiropractor endorsement than a physician endorsement for the new product; (H_7) middle-aged office workers versus patients of chiropractors and medical doctors are more influenced positively by the industrial design endorsement; and (H_8) the combination of a health care endorsement (physician or chiropractor) and industrial design endorsement will influence consumer judgments to a greater extent than using only one endorsement.

The general main effects model tested in the study included the three marketing variables:

$$Y'_i = a + b'_1 M - b'_2 P + b'_3 E \quad (1)$$

where Y'_i = is the predicted customer judgments (e.g., willingness-to-buy) for the dependent variables used in the study

M = positioning message
P = specific price level
E = endorsement
b'_i = weights of relative influence of the three marketing variables
a = a regression constant.

Market segment was also hypothesized to have a direct influence on customer judgments (H_{1b}). Ultrarest's product manager believed that chiropractor patients would be more likely to buy the new product than other potential customers:

$$Y'i = a + b' S \quad (2)$$

where S = market segment.

If dummy coding (Pedhazur 1982, Chs. 9-10) is used to test the second model (with S = 1 for chiropractor patients and S = 0 for all other potential customers), then b' > 0 would support the product manager's hypothesis. Alternatively, the average consumer judgment on willingness-to-buy should be highest for chiropractor patients versus other potential customers.

Several of the specific hypotheses are statements of interactions of marketing variables with market segments. For H4, physician patients are hypothesized to be less price sensitive than the other market segments. To confirm this hypothesis, with S = 1 for physician patients and S = 0 for all other potential customers, then the following model should be supported empirically:

$$Y'_i = a - b' (S \times P) \quad (3)$$

where (S X P) = the interaction of market segment and price.

Alternatively, the average decline in willingness-to-buy the new product caused by price increases for physician patients should be less than the average declines caused by price for other market segments.

For the analysis of the data ordinary least squares (OLS) estimations were employed. Research in consumer judgment modeling (Anderson 1981; Jain, Acito, Malhatro, and Mahajan 1979; Wittink and Cattin 1981; Scott and Keiser 1984) has shown that the level of the data (interval or ordinal) and the method of estimation (metric or non-metric) have little effect on predictive accuracy.

Experimental Design Used in the Study

An orthogonal fractional-factorial experimental design (Banks 1965) was used to estimate the impact of marketing variables (price, message, and endorsement) on consumer judgments of representative samples of the three market segments. Five levels of price, two message conditions, and five endorsement conditions were included in the experiment.

The experiment consisted of two experimental blocks (one block for each of the two messages) of five price levels by five endorsement conditions. A between-subjects design was used to measure the message effect; the subjects were assigned randomly to one of the two message blocks. A within-subjects design was used to measure price and endorsement effects; each subject was exposed to 5 of the 25 treatments per block. Each of 80 subjects was assigned randomly to one of five independent combinations (A, B, C, D, and E) per block. Thus, a subject was exposed once to each level of price and each level of endorsement in combination. The order of presentation of the five treatments was randomized for each subject.

For each subject five sets of measures of three dependent variables were recorded. A total of 400 observations were collected for each dependent variable: 5 observations by 80 subjects.

The subjects in the study were exposed to a limited number (five) treatment conditions to minimize fatigue and to parallel real-life evaluations of a few, not one, product models or brands (cf. Greenwald 1976). The subjects were requested to examine each of the products described by a written summary and shown visually; consumer judgments on three dependent variables were made for each exposure.

Price. Five retail price levels were used (NZ dollars): \$500, \$600, \$720, \$870, and \$1,000. (NZ \$1.00 = US \$0.62.) These price levels were selected based on management and research judgment; the product manager had expected the retail price for Ultrarest to be \$870, he judged the \$500 and \$1,000 prices to be immediately outside the range of prices that would provide marginal profits or market acceptance. The differences in prices represent about 20 percent increments; price changes believed likely to influence consumer judgments and permitting coverage of a broad range of price points.

Message Conditions. The two message conditions (relief versus prevention) were varied within the product descriptions and for the two health care endorsement conditions provided to the subjects participating in the study.

The following specific product descriptions are examples of those used in the experiment. Relief: "The Ultrarest Couch [C8] provides the user with welcome relief from chronic lower back pain." Prevention: "The Ultrarest Couch [G7] helps to prevent the user from experiencing chronic lower back pain."

Endorsement Conditions. Five product endorsement conditions were tested in the study: endorsements made by (1) the New Zealand Medical Association of Physicians, (2) the New Zealand Chiropractors Association, (3) the New Zealand Industrial Design Council, (1) and (3), and (2) and (3). The combination of endorsements for the two health care organizations (1 and 2) was unrealistic; consequently, this condition was not tested.

The following endorsements are examples of ones used in the experiment: "The Ultrarest Couch [G7] has been found to be effective in preventing chronic lower back pain and promoting good spinal health by the New Zealand Chiropractors Association;" "The Ultrarest Couch [B4] has been found to be effective in providing temporary relief to chronic back pain by the New Zealand Medical Association of Physicians;" "The Ultrarest Couch [C8] has been awarded the DesignMark for excellence in furniture design and quality by the New Zealand Industrial Design Council."

Dependent Measures. Green and Srinivasan (1978) and Scott and Keiser (1984) suggest that multiple methods be used to test hypotheses involving consumer judgments as a check on the robustness of the results. Both rating and discrete choice modeling techniques were used in the present study in response to this suggestion.

In the rating task each subject was requested to "please place a tick mark somewhere across the line below that would indicate your willingness to purchase The Ultrarest Couch [C8] based on the above description, price, and endorsement." A 35-point dashed line was used in the rating.

Two discrete choice tasks were used. The first was based on the procedure developed by Politz (reported by Banks 1965, p. 40). Each subject was requested to assume s/he had "\$2,000 to spend on two to three of the following products (you would keep any remaining funds not spent). Please tick the two or three products you would buy." Five products and services with prices were listed including the Ultrarest Couch. This choice task was used to learn the extent of purchase intention of the new product if the potential customers had unexpected disposable income available for durable purchases.

The second discrete choice task involved a behavioroid measure. Each subject was asked if s/he wanted "to receive additional information in the post about using the Ultrarest Couch [A5] as described above? Please tick one space below." A behavioroid measure comes close to requesting some meaningful commitment toward the product from the subject.

Subjects. The subjects in the study included 20 chiropractor patients, 8 medical doctor patients, and 52 middle-aged (ages ranged from 35 to 55) office workers. The chiropractor and physician patients in the study had received back treatments and/or prescriptions for back pain within 30 days prior to data collection; all patients were actively receiving chiropractic or medical care for back problems at the time of the study. Only office workers reporting experiencing periodic, chronic back pain were included in the study.

Procedure. Cooperation for the study was granted by a chiropractor doctor and a medical doctor located in the same neighborhood community in Christchurch, New Zealand. (Christchurch has a population of 500,000 and is located on the South Island, 80 kilometers north of Ashburton.) Patients visiting their doctors and waiting for their appointments were approached and requested to participate in the study. A total of three physician and one chiropractor patients approached refused to participate.

Office workers in four organizations participated in the study. The organizations' administrators were contacted via part-time, evening, graduate students who worked full-time at the organizations. Each organization employed more than 100 office workers at the building where data for the study were collected. Middle-aged office workers agreeing to participate in the study and reporting periodic, chronic back pains were interviewed individually. A total of four office workers meeting the required profile refused to participate.

For each treatment condition a photograph was shown of the Ultrarest Couch being used by a model above a written description of the product. The written description of the product included the positioning message and price combinations. One of the five endorsement conditions appeared below the product's description. The three dependent measures appeared at the bottom of the page.

Limitations. Even though care was taken to include subjects representative of three identified market segments, only very limited numbers of subjects were included in each sample. Unfortunately, the sample of physician patients was particularly small; five physicians were contacted but only one agreed to allow his patients to participate in the study. While the application of multiple methods increases the robustness of consistent significant findings, the validities of how well the models tested actually predict purchase behavior were not tested. Only visual and written descriptions of Ultrarest were provided to subjects.

Results

The first hypothesis was supported. Consumer acceptance of the Ultrarest Couch did differ among the three sample groups. The product manager's prediction of greater acceptance of the new product among chiropractor patients was not supported; greater acceptance was found among the MD patients versus subjects in the other two samples for all three dependent variables.

Both individual and grouped analysis (cf. Bass, Tigert, and Lonsdale 1968) were performed to test the proposed models. Both H_{1a} and H_{1b} were supported. A major finding in the analysis was that the main effects of price and sample group, and the interaction of these two variables, influenced acceptance of the Ultrarest Couch.

For the grouped data and dummy coding assigned to MD patients and the other subjects (1, 0 respectively), the main and interaction effects model of price and customer segment explained 91 percent of the variation in likelihood of purchase. (The mean purchase likelihoods for the five price levels by MD patients versus other subjects were used to estimate the grouped data model; regression analysis for grouped versus individual data has been recommended by Bass, et al. [1968] to achieve stable and relevant estimates of the systematic effects in market segment analysis.) Results for this analysis are shown in Table 1.

For the individual analysis on the same model the findings were significant but the model explained only 8 percent of the variation in likelihood of buying the Ultrarest Couch.

Promotional Message Results H_2 was not supported. The message main effect was not significant on influencing acceptance of the new product among chiropractor patients nor among office workers in the study.

H_3 was partially supported. Among the MD patient sample the back pain relief message increased acceptance of the Ultrarest Couch compared to the prevention message. This finding held for all three dependent variables. This pattern was not found for the other two subject samples. The average responses for the two message treatments among the MD patients appear in Table 2. The main and interaction effects of message and price are significant statistically ($p < .05$) for the discrete choice findings shown in Table 2.

Caution is needed in interpreting these results since the sample sizes for the two message treatments for the MD patient sample are very small (the number of observations across the five prices is 20, $n = 4$ subjects, for each message treatment).

Price and Customer Segment Results H_4 was not supported. MD patients were found to be affected more by the price treatments than the other two subject samples. The analyses of the two discrete dependent variables provided additional evidence supporting a main and interaction effects model of price and physician patients positively influencing acceptance of the Ultrarest Couch.

Endorsement Treatment Results The remaining hypotheses (H_5 through H_8) were not supported. No consistent and clear pattern of significant results was found for the five endorsement conditions influencing acceptance of the new product. The interaction effects of endorsements by segments were not significant statistically.

TABLE 1

Likelihood of Purchase Model for Segment and Price by Grouped Data

Variable	Coefficient	beta	t-value	p <
Constant	8.57			
Segment	15.79	3.33	6.39	.001
Price	0.003	0.22	1.25	.20
Interaction	-0.195	-3.21	-5.99	.001

R2 = .91, d.f. = 3/6, F = 19.88, p < .01

TABLE 2

Back-Pain Relief Versus Prevention Message

Results for Physician Patient Samples Dependent Variable Averages[a]

Dependent Variable	Message	Price				
		$500	$600	$720	$870	$1000
Likelihood of Purchase	Relief	19	13	12	9	11
	Prevention	15	16	10	12	4
Mean Proportions of Choice	Relief	100	100	50	50	50
	Prevention	100	75	50	25	0
Mean Proportions Willing to Receive Literature	Relief	75	75	75	75	75
	Prevention	75	50	50	25	0

[a]Decimals are removed.

Conclusions and Implications

The findings of the study support and illustrate a proposition relevant to market segmentation theory: potential customers grouped into segments by readily identified buying behavior variables, e.g., physician versus chiropractor patients, are likely to differ in their response sensitivities to marketing variables. Empirical tests of hypothesized consumer judgment models are likely to be helpful in selecting potential customer targets and in adjusting product designs and promotional messages.

Four decisions were made by the Ultrarest Couch product manager based on the results of the study. (1) Physician patients as well as chiropractor patients were selected as a target market for the new product; before the study, chiropractor patients only were planned as potential customers. (2) Since the average likelihood of purchasing the new product was lower than expected by the product manager, a retail rent with option to purchase was implemented. (3) The use of the DesignMark endorsement only was included in promotional literature on the Ultrarest Couch; the product manager decided not to attempt to gain endorsements from the two medical related associations. (4) The promotional message selected for the Ultrarest Couch was focused on back pain relief: "The Ultrarest Couch relieves your back-pain."

Research on acceptance of new products that incorporates consumer judgment modeling can be useful in revising marketing strategies even for small manufacturing enterprises. Some empirical model testing of tentative marketing decisions is recommended even if the study is limited by sample size and budget. The total expenditure for the Ultrarest Couch study was NZ $3,500.

The use of several methods of measuring customer acceptance of new products is recommended. Consistent results provided from testing customer acceptance of new products across several dependent variables represent an important step in replicating the findings and extending the implications.

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College Benefit Segmentation Analysis: Approach And Results

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ABSTRACT

Market segmentation is an important topic to higher education researchers and administrators. The authors explored the relative importance that prospective students attach to various benefits offered by a medium-sized private university with moderately selective admissions criteria. The purposes of the study were to test, and provide data to illustrate, the efficacy of one approach to college benefit segmentation analysis.

INTRODUCTION

In a paper presented at a recent ACR conference, Chapman (1986) noted that college selection may be viewed as a process consisting of a sequence of interrelated stages. The five stages in this process are as follows: (1) pre-search behavior; (2) search behavior; (3) application decision; (4) choice decision; and (5) matriculation decision.

Pre-search behavior begins when a prospective college student first begins to consider the possibility of someday going to college. Pre-search may begin when a child is in elementary school and may last for several years. Previous research on pre-search has focused primarily on the "go - no go" decision.

The search behavior stage is characterized by active information gathering about alternative colleges and/or universities. Search activities include writing for college catalogs, examining reference books, talking with friends, counselors, parents, and other potential information sources, visiting campuses, and/or engaging in a variety of other search activities. Since college selection clearly entails high involvement decision making, extensive search behavior is normally expected.

The search behavior stage ends and the application decision stage begins when the prospective student decides to apply to a specific set of colleges for admission. This group of institutions then becomes the prospective student's evoked set.

The choice decision stage is the time between when he or she begins to receive admission notification and when the final selection or matriculation decision is made. In the choice decision stage, the prospective college student is presumed to possess relatively complete information on all relevant college attributes regarding all colleges in the choice set. Some further information search may take place regarding determinant attributes, but this is expected to be limited.

The matriculation decision is the final step in the process. Sometimes it must be made with incomplete information about variables such as financial aid, housing options, or even admission decisions from some institutions in the evoked set. Since the decision is revokable with little or no penalty, the amount of anxiety involved in the decision may not be as great as is normally expected when consumers make high involvement decisions.

Purposes of the Study

The study reported here provides an empirical link between the choice decision and matriculation decision stages of Chapman's (1985) college search and choice behavior model. The purposes of the study were to test, and provide data to illustrate the efficacy of one approach to college benefit segmentation analysis.

BACKGROUND

Benefit Segmentation

In 1968, Haley stated that "The idea that all markets can be profitably segmented has now received almost as widespread acceptance as the marketing concept itself" (p. 30). Since that time, the concept and practice of market segmentation have slowly diffused into a number of application areas including higher education (Kotler and Andreasen 1987). For example, Goodnow (1980) found that adults attending the College of DuPage in Illinois fell into the following five benefit segments: (1) social improvement learners; (2) career learners; (3) leisure learners; (4) submissive learners; and (5) ambivalent learners. Based upon these findings, she recommended a separate marketing strategy for each benefit segment.

According to Haley (1968, p. 31), ". . . benefits sought by consumers determine their behavior much more accurately than do demographic characterisitics or volume of consumption." He further notes that though most people would like as many benefits as possible, the *relative importance* they attach to individual benefits can differ importantly, and can be used as an effective lever in segmenting markets.

Ideally, a benefit segmentation study would entail empirically identifying determinant, rather than simply salient, product-market attributes. As Engel, Blackwell and Miniard (1986,p. 96) note, "Sometimes a salient evaluative criterion does not influence the evaluation process. This occurs when the alternatives under consideration perform equally well (or poorly) on this criterion." Alpert (1971) discussed the value of alternative methods of identifying determinant variables and their implications for solving various marketing research problems.

College Choice

Numerous studies have been conducted to identify the factors that influence college selection decisions (e.g. Chapman 1979; Chapman and Staelin 1982; Hossler and Gallagher 1987; Houston 1979; Kellaris and Kellaris 1988; Krone, Gilly, Zeithaml and

Lamb 1981; Litten 1982; Manski and Wise 1983; Rodner and Miller 1975; Sternberg and Davis 1978; Stordahl 1970; and Tierney 1980). Most, though not all, of these studies employed cross-sectional and correlational analyses to examine various aspects of the school choice process including variables such as what attributes of a school influence the choice decision and what demographic and socioeconomic characteristics are linked to school choice behavior. A few researchers (e.g. Chapman 1986; Punj and Staelin 1978), have focused on how school choice can be explained as a process and whether models can be used to predict school choice behavior.

Chapman (1986) reported that

> "The disportionate emphasis that researchers have placed on studying the college choice phase (of the college search and choice behavior process) is no doubt due to the relatively low costs with which such research efforts may be conducted. A one-shot post-choice retrospective survey is typically employed in college choice studies" (p. 249).

His assessment is that search behavior cannot be accurately studied using retrospective methodologies. "The study of search behavior requires intervention during the search process" (Chapman 1986).

STUDY DESIGN

Data were obtained from a random sample of applicants for the freshman class entering a medium-sized private university with moderately selective admissions criteria. The population consisted of all admitted applicants to the freshman class of Fall 1986 (N = 2322). A random sample of 1600 accepted applicants was selected for potential respondents.

Mailing of the survey instrument began four months prior to matriculation. Thus, potential respondents received the questionnaire right after the traditional notification period for admission and financial aid. Most students were therefore still in the process of finalizing decisions; the choice decision stage in Chapman's model.

Each sample member received a mail questionnaire with enclosed postage paid return envelope, followed two days later by a reminder postcard. Questionnaires were numbered to allow a second follow-up mailing two weeks after the initial mailing for non-respondents. None of the mailed materials, including the return address, were traceable to any specific institution. Focus group interviews after matriculation confirmed that students did not link the questionnaire with a specific school.

Of the 1600 admitted applicants who were mailed surveys, forty-seven had bad addresses, leaving 1553 in the sample. From the 1553 potential respondents, 733 returned usable question- naires, yielding a response rate of forty-seven percent (47%).

Subjects were instructed to list their first three college choices in blank spaces provided and then to rate each school on the following 43 items which were derived from previous studies and focus group interviews held prior to the survey.

1. Size of school
2. Quality of college faculty
3. Attractiveness of campus

4. Distance from home
5. Student/faculty ratio
6. Location of campus

7. Campus visit
8. A specific department or major
9. Religious opportunities on campus

10. Quality of computer facilities
11. Friendliness
12. Admissions brochures, pamphlets, catalogues

13. Research orientation of faculty
14. Quality of student body
15. Accelerated programs (Advanced Placement, Honors)

16. General reputation
17. Quality of laboratories
18. Academically challenging

19. Fraternities and sororities
20. Quality of classroom facilities
21. Opportunity for personal contact with faculty

22. Variety of majors
23. Quality of library
24. Reputation of alumni

25. Strong graduate program
26. Availability of financial aid
27. Opportunity to attend cultural events

28. Cost of tuition, books, and fees
29. Living expenses
30. Athletic facilities (student recreation)

31. Good residence halls
32. Athletic events (inter-collegiate)
33. Information received at dinners or receptions

34. Religious affiliation of school
35. Where my friends are going
36. Private school preference

37. Parents' preference
38. Contacts with admission personnel
39. Undergraduate teaching emphasis of faculty

40. Social activities
41. Contacts with students
42. College information books (such as Peterson's)

43. Career opportunities after graduation

Subjects were instructed to rate each college on each item on a scale ranging from very negative influence (1), to neutral (3), to very positive influence (5).

At the end of the survey, subjects were asked to identify which college was their first choice. They were also asked to list in rank order the three most important items in their decision.

DATA ANALYSIS

Since the focus of the study was those students who were considering enrolling in the subject institution, the first step was to eliminate all questionnaires that did not list the subject school as a first, second, or third choice. One hundred fifty five surveys were excluded from further analysis.

The study was designed to examine the relative (rather than absolute) importance that respondents attach to individual college benefits. Respondents' answers to each of the 43 questions regarding the subject institution were standardized to create measures of relative importance for each attribute. In other words, relative importance was measured by adjusting for within-subject variance.

Each respondent rated 43 attributes on a scale of 1 to 5. The total number of points a person could allocate ranged from 43 (assigning an importance rating of 1 to each attribute) to 215 (assigning an importance rating of 5 to each attribute). The mean attribute rating could therefore range from 1 to 5.

The relative importance of attribute i for an individual was computed by (1) calculating his or her mean attribute rating on all 43 attributes; (2) subtracting the mean attribute rating from the rating of attribute i; and (3) dividing that number by the standard deviation of the person's responses to the 43 attributes. Expressed mathematically, the relative importance of attribute i is

$$(I_i - X) / (SQRT\ [(1/43)\ (SUM\ (I_i - X)^2)])$$

where:

I_i is the individual's rating of the importance of the attribute i;

X is the mean importance rating of the 43 attributes.

This approach is similar to the method recently used by Muller (1985) to determine relative importance.

The standardized importance ratings of the 578 respondents were factor analyzed to avoid any redundancies in the data and to prepare it for subsequent cluster analysis (Morrison 1967). Scores were computed for each factor by averaging the standardized ratings of the key attributes related to each factor (those that loaded + .4 or more). Ratings for items that loaded negatively were reverse coded before averaging. The factor analysis results are reported in Table 1.

Because of the difficulties involved in choosing an optimal cluster solution, the following procedure was used. First, the sample was split randomly in half and separate K-means cluster analyses were performed on each half with the five factor index scores as input. Because K-means cluster analysis is quite sensitive to outliers, an iterative process was used in the cluster analysis. The final cluster centers were saved from the first cluster analysis and used as the starting points for a second cluster analysis. The final cluster centers from the second analysis were saved as input for the third analysis, and so on. The cluster memberships from each stage of the above analysis were cross-tabulated with the cluster memberships from the previous stage until less than one percent of the cases changed from one cluster to another. This iterative process was used on each split-half of the data for the 2, 3, 4, 5, and 6 cluster solutions.

Cluster solutions 2 through 6 were examined to identify solutions that were similar for each half. Discriminant analysis also was performed on each cluster solution for each half. The resultant discriminant functions were applied to the other half of the data to determine which discriminant function was most accurate in duplicating cluster membership.

The split-half analysis showed the five cluster solution to be 96.07 percent accurate and the two cluster solution to be 97.86 percent accurate. The three, four and six cluster solutions were less accurate than the two and five cluster solutions. The split-half solutions for the two cluster solution were markedly different, but the clusters for the two split-halves of the five cluster solution were quite similar. Therefore, the five cluster solution was chosen for further analysis.

A "hit rate" was then computed for each cluster. That is, each cluster contains some respondents who subsequently enrolled in the subject institution and some who did not. The cases in each cluster were compared to enrollment data to identify which respondents enrolled at the subject institution. The number of enrolled students in each cluster was divided by the total number of respondents in that cluster to determine the hit rate. These results offer important insight regarding past and future student recruitment strategies.

RESULTS

After completing the cluster analyses, the halves of the five cluster solution were combined and another five solution cluster analysis was performed. Table 2 shows how the clusters compare in terms of the five factors and the relative importance attached to each factor.

Describing the Clusters

Cluster one contained 113 respondents (19.5%), who are primarily attracted to the university by specific programs. The religious affiliation of the university is also important. Academic excellence, financial considerations and a small school atmosphere are also considerations. In short, cluster one describes a segment of the college applicant market that considers everything except social activities when selecting a university.

Cluster two was the largest cluster with 141 respondents (24.3%). This cluster is attracted by

TABLE 1

Factor Analysis Results

Factor Label	Key Attributes	Loading
Academic excellence	Academically challenging	.46
	Strong graduate program	.42
	Student/faculty contact	-.42
	Quality of laboratories	.41
Financial considerations	Living expenses	-.61
	Tuition costs	-.58
	Campus visit	.43
Social activities	Financial aid	-.44
	Social activities	.41
	Fraternities & sororities	.38
Religious affiliation	Religious affiliation	-.52
	Religious opportunities	-.49
	Parents' preference	-.41
Specific programs	Athletic events	.41
	Specific major	.39
Small school atmosphere	Student/faculty ratio	-.47
	Size of school	-.45
	Information books	-.41

TABLE 2

Cluster Analysis Results

	Cluster Number				
Factor Label	1 n=113	2 n=141	3 n=107	4 n=132	5 n=85
Academic excellence	-.47*	1.16	- .82	- .10	.12
Financial considerations	.40	.16	.09	- .61	- .62
Social activities	.05	.20	.55	- .44	- .40
Religious affiliations	.59	.42	- .07	-1.02	.18
Specific programs	.75	-.14	-1.00	.33	- .02
Small school atmosphere	-.43	.50	- .04	.65	.45

TABLE 3

Proportion Of Cluster Members That Subsequently Enrolled At Subject Institution

	Cluster Membership 1	2	3	4	5
Did not enroll in subject university	65 (58%)	86 (61%)	61 (57%)	81 (61%)	53 (62%)
Enrolled in subject university	48 (42%)	55 (39%)	46 (43%)	51 (39%)	32 (38%)
Total	113	141	107	132	85

academic excellence. While some other considerations may have a minor impact on the college choice decision, this segment looks almost exclusively for an academically challenging university.

Cluster three contained 107 respondents (18.5%). This cluster focuses on specific academic programs and academic excellence. Social activities were the third most important factor for this group. Cluster four contained 132 respondents (22.8%) who focus primarily on religious affiliation. They may look for a university affiliated with their own church, or may look to avoid universities affiliated with certain other religious groups. This cluster also looks to a lesser extent at a small school and financial considerations.

The final cluster contained 85 respondents (14.7%) and rates financial considerations as most important. This is the smallest cluster of the five, and may consist of people who will attend the school which they can afford.

Cluster "Hit Rates"

For each cluster, the sample respondents were compared to enrollment data at the subject university. The hit rate in the cluster reflects the number of applicants in each cluster who subsequently enrolled at the subject university. Table 3 shows the hit rates in each cluster.

Overall, 232 (40%) of the 578 sample respondents chose to attend the subject university. The hit rates in each of the five clusters were all very close to 40%, indicating that the likelihood of attending the subject university did not vary among the clusters. This is not surprising since the subject university's current admissions effort includes information about all aspects of the university and is directed equally at all acceptable applicants. With a concentrated effort by the university toward a particular cluster, the hit rate would be expected to change.

It is important to note that, in the current study, it is possible to calculate the hit rates. In most segmentation studies conducted in marketing, segments are defined without any follow-up to determine the effectiveness of the marketing effort in each segment. The nature of this study provides a unique opportunity to monitor not only the hit rate in each segment, but also the academic progress of students in each segment as their academic careers progress.

The calculation of a hit rate is only possible for the subject university. While information regarding the relative importance of various attributes was collected for several universities (each subject rated three universities), access to the enrollment records of other schools was not possible. Therefore, all analyses in this study concern only the subject university.

IMPLICATIONS

The current study has important implications for university enrollment management. First, the methodology employed demonstrates a way of identifying benefit segments among prospective students. University admissions personnel probably have an intuitive understanding that prospective students differ widely in the specific benefits they wish to receive from a college education. This methodology clearly identifies what those segments are and how large they are.

Once a prospective applicant has been identified as a member of a particular segment (cluster), the admissions effort can be directed at the specific benefits sought by that segment. A more concentrated effort in a particular segment would yield a higher hit rate due to the more efficient admissions effort. Universities using this procedure can do a better job of attracting the type of students they wish to have enroll.

A second implication of this study concerns admissions policies. Now that different benefit segments of applicants can be identified, university administrators can decide whether some segments are more attractive than others. For example, some universities emphasize overall academic excellence, and others stress a specialization in certain programs like business or engineering. Still other universities may wish to be all things to all people. Universities wishing to promote academic excellence would concentrate their efforts on attracting segment two. Some larger universities may wish to appeal to segment number one. Many universities with a religious orientation may wish to attract segment number four.

The advantage to this procedure is that university officials can establish priorities among different benefit segments, now that they have the means to pursue those segments more efficiently than before. Universities can revise their recruiting strategies based on administrative priorities for certain segments. The effectiveness of this recruiting effort for each segment can be evaluated.

DIRECTIONS FOR FUTURE RESEARCH

There are several directions for future research. First, the academic progress of those who enrolled at the subject university within each segment can be monitored. Such things as retention, grade point average at various stages of their academic career, their majors, and whether they graduate can be used to ascertain which segments are the most attractive from the university's perspective. This information, used along with test scores and other traditional sources of admission information, is valuable in the long run in establishing recruiting priorities among the segments.

A second direction for future research is to compare analysis results from year to year to determine the stability of the segments. While some shifting among the segments can be expected over time, confidence in this procedure increases if the results of the analysis are replicated in the future. This gives university officials more confidence in their strategies to pursue certain segments.

A third possibility is to evaluate the effectiveness of recruiting strategies by monitoring the hit rates in the various segments in future years. As previously mentioned, recruiting strategies could be designed to attract applicants within particular segments. If this is done, it is necessary to follow through to see if these strategies actually do attract more of the desired applicants to campus.

A fourth possibility is to follow up with the applicants who do not enroll at the subject university. There may be several reasons why this occurred. For example, they could have selected a different university, they could have chosen not to attend any university, or they could have experienced financial problems which forced them to go elsewhere. Knowing why the subject university is losing accepted applicants is important in the enrollment management process.

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Concepts of Time: Some Implications for Consumer Research

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ABSTRACT

This paper reviews different concepts of time found in social science literature. It is distinguished among mechanical, natural and social time, and it is argued that future research on time and consumer behavior should give more attention to the concept of social time than has been done in previous research.

INTRODUCTION

There seems to be no doubt or disagreement that time is an important dimension of consumer behavior. Since the 1970s there has also been an increasing attention to this topic in consumer research. Several researchers in the field have pointed to the inter-disciplinary neglect of the fundamental relationship between time and consumer behavior and argued that the time dimension should be integrated more systematically and more meaningfully in theoretical and empirical studies of consumer behavior (Hawes, 1979; Jacoby, Szybillo and Kohn-Berning, 1976; Nicosia and Mayer, 1976; Nicosia and Witkowsky, 1975).

Most previous research on time and consumer behavior has been empirical, rather than conceptual or theoretical. Although the time dimension is included in various ways in several major theories and models of consumer behavior, it has been pointed out that the importance of time generally tends to be underestimated in existing consumer behavior theories and needs to be considered more thoroughly in future theorizing in this area (Hawes, 1979).

The empirical studies of time and consumer behavior have mainly been focused on use of time (e.g. Anderson, Karns and Venkatesan, 1988; Arndt and Grønmo, 1977; Golden, Umesh, Weeks and Anderson, 1988; Hawes, 1977; Hendrix, Kinnear and Taylor, 1978), and to some extent perceptions of time (Hornik, 1984). Typically, the studies have been based on quantitative approaches, utilizing survey data, with particular emphasis on various methods of measuring timing and duration of different activities (Juster, 1985; Robinson, 1985).

A common feature of the vast majority of previous studies of time and consumer behavior is that they are based on one particular *concept* of time. Not surprisingly, this is the time concept which has become predominant in the organization and coordination of social and economic life of modern industrialized countries. As this time concept is based on exact measurement by means of clocks and calendars, it is also very well suited for quantitative data collection and analysis. According to this concept, time is linear, and it can be treated as a continuous variable and analyzed by means of the most advanced multivariate and multi-dimensional statistical methods. Thus, time can be regarded either as a general dimension for comparing and interrelating different consumer activities, or as a resource which may itself be consumed or used. In general, the common analogy between time and money is based on this particular concept of time.

While this paper does not question the necessity and adequacy of consumer research based on this time concept, the paper argues that other concepts of time should also be considered in studies of consumer behavior. The purpose is to review different time concepts which have been discussed in social science literature, and to suggest some implications of such concepts for consumer research.

CONCEPTS OF TIME

A characteristic feature of time is that it is closely associated with change. The idea of time has been discusssed by a number of philosophers, including Aristotle, Condillac, Hume, Descartes, Kant, Spencer, and Bergson. All these philosophers agree that some kind of change is the origin of our idea of time (Fraisse, 1963). Different views are found among the philosophers as to what kinds of changes are most important for the notion of time. Changes may be continuous or discontinuous, and some changes are periodic, while others are not. However, all changes mean that different phenomena or phases of a process are related to each other. A change implies that some phenomena are succeeded by other phenomena, and the new phenomena last until the next change takes place. Thus, changes are concrete manifestations of both succession and duration, which are two fundamental aspects of the notion of time (Fraisse, 1963).

According to Durkheim (1954), those changes which are related to rhythms in society are especially important for our understanding of time. Pointing out that time is a basic category in our understanding of society, he argued that our interest should be focused on the general time which is constituted by the rhythms of the collective life in society, rather than the various rhythms of the lives of different individuals.

In most social science literature on time a distinction is made between two concepts of time. Typically, this conceptual dichotomy refers to time constituted by rhythms, changes or courses of events in society, on the one hand, and time defined by physical phenomena or mechanical instruments, on the other hand. Thus, Sorokin and Merton (1937) distinguish between social time and astronomical time. While this distinction is based on differences in the substance or content of the time-constituting changes, other distinctions may be based on the form of such changes. For example, Bräten (1981) contrasts the external running form of time characterized by the present contracted to a point, with an internal, arrestable time, characterized by the present expanded to a field.

For many purposes it might be adequate to distinguish among three concepts of time, rather than using a dichotomy. Referring to forms of changes, and using a geometrical analogy, anthropologists have distinguished among point time, based on on single events, circular time, constituted by cycles of repeated events, and linear time, defined by continuous movement (Johansen, 1984). Also for the purpose of the discussion in this paper, it seems reasonable to use an analytical distiction among three different concepts of time. This distinction, however, refers to differences in the content of the time-constituting changes, rather than differnt forms of these changes.

One of the three time concepts discussed here is the concept underlying most previous research on time and consumer behavior. This is what may be appropriately called *mechanical time*, since it is defined by means of clocks and calendars. The year is divided into time units of fixed lengths, such as months, weeks, days, hours, minutes and seconds. Mechanical time is linear, and it is to a large extent standardized as a common frame of reference for all nations of the world (Zerubavel, 1982). The earth is divided into different time zones, but the lengths of the time units do not vary with seasonal or geographical variations. Instead, they are measured accurately by means of precise mechanical or electronic instruments.

The second concept is *natural time*, which is determined by changes and rhythms in the nature. This time concept refers to such natural phenomena as the change between day and night, sunrise and sunset, and different seasons of year, as well as biological changes and cycles of the human body. Natural time is often cyclical, and it may differ, depending, for example, on time of the year and place of the earth. Thus, the length of the day changes from summer to winter, and this seasonal change increases when we move from the equator towards the poles.

The third time concept is *social time*, which is understood in relation to human and social activity. Social time refers to rhythms or changes involved in social processes. Thus, we may perceive or experience time with reference to our own action and interaction, or with reference to events in our social environment and in the society at large. This means that social time may be subject to substantial variations, depending not only on the organization of social processes in different societies, but also on the relation to and participation in these processes among different groups and individuals.

A similar distinction among three time concepts is suggested by Elchardus (1988). In his terms, time may be regarded as a (mathematical) concept, as a (natural) fact, or as a (social) temporality.

Mechanical time is abstract and identified in terms of changes or movements related to more or less mechanical processes within instruments for time measurement. Natural and social time, on the other hand, are concrete and can only be understood in relation to specific contexts of natural and social processes. However, the three concepts of time are not mutually exclusive or completely independent of each other. Rather, they should be regarded as complementary concepts.

Furthermore, as illustrated in Figure 1, certain relationships among the concepts should be noted. Thus, the definition of mechanical time is adapted to natural rhythms, which are also basic determinants of natural time, such as the movement of the earth on its own axis and around the sun. However, the relationships between the concept of social time and each of the other two time concepts are more important for the purpose of this paper. Natural forces as well as mechanical clocks may be important determinants of the social organization of human activity. Thus, social time may be influenced by both natural and mechanical time. But these influences are different from one society to another. In general, industrialization leads to a decrease in the importance of natural time and an increase in the importance of mechanical time. Social time in pre-industrial societies is characterized by task-orientation. In industrialized societies social time is more influenced by the use of mechanical time to measure, co-ordinate and synchronize labor (Anderson, 1961; Thompson, 1967; Tornes, 1983). Mumford (1934) maintains that the clock was even more important than the steam engine for the process of insdustrialization. Mechanical time is of particular importance for the co-ordination of communication processes (Zerubavel, 1982). It may thus be expected that social time will become even more influenced by mechanical time in the post-industrial information society. Mechanical time seems to become more and more important for the perception and measurement, not only of work, but of all human activity.

Regardless of the importance of natural and mechanical time, however, social time is important in all kinds of societies. What differs between types of societies, is not the importance of social time, but the extent to which social time is influenced by, and related to, natural or mechanical time. These variations depend on the degree to which social life is organized according to natural or mechanical time, respectively. Furthermore, it can be argued that, since social time is always closely related to human activities and social processes, studies of the temporal dimension of such activities and processes should be based on the concept of social time, either instead of or in addition to other time concepts. Thus, Elchardus (1988), in his discussion of the new role of time in sociological theory, proposes to focus on social temporality.

In studies of human activities and social processes, each of the three concepts of time suggested here may be used with reference to different levels of analysis. Thus, the analysis may be focused on micro level phenomena, taking place among individuals or households, or it may be focused on macro level phenomena, occuring in social institutions or in the society at large. Furthermore, each time concept may be applied with reference to different temporal horizons. Thus, we may distinguish between studies of short term processes and long term processes. Combining level of analysis and temporal horizon, we may distinguish among four major *time perspectives*, as shown in Figure 2. These perspectives refer to such typical short term processes as daily life events at the micro level and institutional rhythms at the macro level, and to such typical long

FIGURE 1

Relationships Among Different Time Concepts

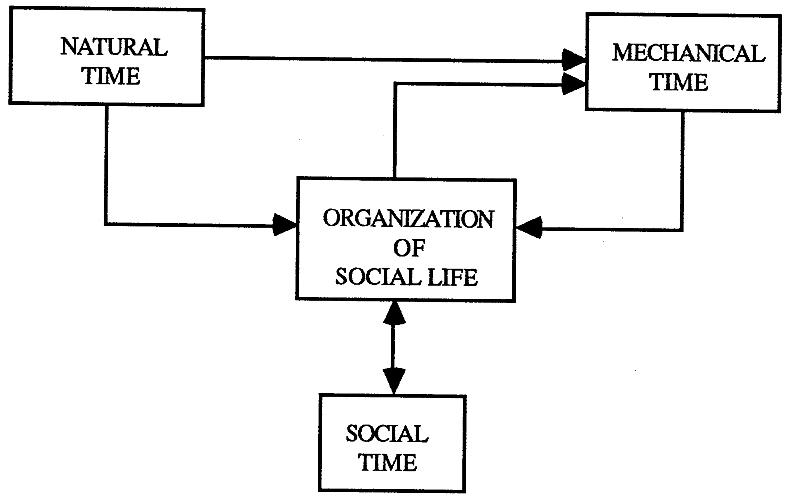

FIGURE 2

Different Time Perspectives

Level of Analysis	Temporal Horizon: Short	Long
Micro	DAILY LIFE EVENTS	LIFE CYCLE STAGES
Macro	INSTITUTIONAL RHYTHMS	HISTORICAL DEVELOPMENT

term processes as life cycle stages at the micro level and historical development at the macro level.

Similar to this classification of four different time perspectives, Luckmann (n.d.), in his analysis of personal identity as a structure of intersecting temporalities, distinguishes among four such temporalities. One of these is inner time, related to body-bound rhythms of individuals. The second temporality is intersubjective time, based on coordination and synchronization involved in social interaction. The third temporality refers to the life course of the individual and is called biographical time. Finally, time which transcends human life-time, is called historical time.

IMPLICATIONS FOR CONSUMER RESEARCH

The distinction among different concepts of time has a number of implications for consumer research. Three sets of such implications are emphasized here. First, in order to identify meaningful temporal dimensions of consumer behavior, it may be important to relate this behavior to natural and social time, in addition to mechanical time. Second, with reference to the particular importance, and neglect, of social time, special attention should be given to analyses of socio-temporal contexts of consumer behavior. Third, such studies of the social temporality of consumer behavior seems to require combinations of qualitative and quantitative approaches.

FIGURE 3

Examples of Consumer Behavior in Relation to Different Time Concepts and Different Time Perspectives

Time Perspective	Time Concept: MECHANICAL TIME	NATURAL TIME	SOCIAL TIME
DAILY LIFE EVENTS	Shopping from 5 p.m. until 7 p.m.	Shopping just before sunset	Shopping on the way home from work
LIFE CYCLE STAGES	Buying a new house at the age of 45	Buying a new house after the fertility age	Buying a new house when getting divorced
INSTITUTIONAL RHYTHMS	Use of public swimming pool starting at 8 in the morning	Use of public swimming pool starting at sunrise	Use of public swimming pool starting after breakfast
HISTORICAL DEVELOPMENT	Private consumption decreasing between 1940 and 1945	Private consumption decreasing after the earthquake	Private consumption decreasing during the world war

Each of the three sets of implications will be discussed in the following.

Relating Consumer Behavior to Different Time Concepts

As pointed out above, most previous research on temporal dimensions of consumer behavior has been focused on mechanical time. This may be explained, and to some extent even justified, by the fact that almost all consumer research has been carried out in modern, industrialized countries, where mechanical time is very important for the organization of social and economic life. However, since natural time, and, particularly, social time also are relevant time concepts in such societies, consumer behavior should be related to these two time concepts in addition to mechanical time. Moreover, relating consumer behavior to different time concepts will most likely lead to a better understanding of cross-cultural variations and changes over time in this behavior.

As an illustration of what is meant by relating consumer behavior to different time concepts, Figure 3 provides some examples of how typical consumer behavior phenomena can be described in relation to each of the three time concepts as well as to each of the four time perspectives. As to daily life events, the time dimension of an activity like shopping may refer to mechanical instruments, such as the clock, to natural phenomena, such as the sun, or to such social activities as commuting. As far as life cycle stages are concerned, the time dimension involved in buying a new house may be expressed in terms of the mechanical measurement of age, the natural development of fertility or the social process of divorce. With reference to institutional rhythms, the consumers' daily use of a public swimming pool may start at a time which is determined by the clock, by the sun, or by the breakfast meal. Finally, referring to historical development, a decrease in private consumption may be temporally identified by means of a calendar, an earthquake or a war.

The examples presented in Figure 3 are focused on the timing of consumer behavior phenomena, illustrating different ways of indicating when such phenomena take place. Similar examples could have been provided as to the duration af these phenomena, in order to demonstrate various ways of describing how long they last. Thus, the consumers' use of a public swimming pool may last from 8 a.m. until 7 p.m., from sunrise until sunset, or from breakfast until supper.

Analyzing Socio-Temporal Contexts of Consumer Behavior

Since the concept of social time is particularly important in studies of time involved in human activities and social processes, this time concept should be given special attention in consumer research. However, although this research definitely is focused on human activities and social processes, social time has obviously been neglected in previous studies regarding temporal dimensions of consumer behavior.

As emphasized by Staikov (1982), social time is formed by the temporal relations of social objects, reflecting the development of social phenomena and social processes. Social time cannot be isolated from these phenomena and processes and defined independently. On the contrary, the phenomena and processes may be regarded as the content of social time, and social time is defined in terms of this content. Thus, Staikov (1982, p. 7) regards social time as "... duration of a social phenomenon, action or fact as compared to the duration of another phenomenon or fact of social reality." Julkunen (1977) suggests a similar definition. According to her, social time is time as the condition and measure of social and individual activity. In other words, social time is perceived in terms of what it is used for or filled with, or in terms of what happens in the time or over time. Thus, time is not only used as a measure to examine what happens; time is also defined in terms of what happens.

Some suggestions regarding how to examine social time in connection with consumer behavior, may be presented with reference to short term micro level processes, which is one of the four time perspectives discussed above. In this perspective social time is related to events in the daily lives of individuals or households, which represent the most typical focus of consumer behavior studies.

Following the terminology used in time budget research, we may distinguish among three major aspects of a daily life event: Activity, interaction and location. Thus, for a given person an event is defined by what the person does, with whom he or she is together, and where he or she is. The event lasts as long as there is no change in any of its three aspects. If the person starts doing something else, changing social company or moving to another place, the event is replaced by a new event.

Although social time may be examined with reference to such courses of events in daily life, it is assumed that social time does not follow directly from the objective course of events, but is instead based on each individual's own subjective perception of time in relation to his or her specific events. Thus, social time is understood from the individual actor's point of view. It has been argued that perceptual time should be distinguished from conceptual time (Cleugh, 1937; Korey and Bogorya, 1981),. Understanding social time from the actor's point of view means that the perceptual nature of time is emphasized. Social time is closely related to the subjective dimension of everyday life (Hornik, 1984). The sense of time is developed through a process of subjective discussion or self-conscious reflection at the level of everyday experience. Depending on these reflections, social time may be perceived differently by different persons, even though they are involved in the same events. Thus, while some persons may perceive time primarily in terms of movement from one place to another, the time perception of other persons may be more related to changes in activity or interaction.

This emphasis on subjective perceptions implies that social time is regarded as the result of a reflective process. During this process time is not only perceived in terms of changes related to immediate events. The reflection also leads to consciousness of the relationship between this perceived time and larger contexts. Thus, the time dimension of everyday events may be understood in relation to various kinds of structures and systems within which the individual actor operates and the events take place. These larger contexts are often defined geographically, such as communities, or socially, such as groups or organizations. However, temporally defined contexts may also be important, in particular for reflections on time. As pointed out by Cullen, Godson and Major (1972), any event in the individual's day is part of a sequence of interdependent events. Similarly, the social background and life history of the individual actor, as well as the history of the actor's environment may be important contexts for conscious reflections on social time. Looking back in time has been emphasized as a characteristic feature of reflection on time (Korey and Bogorya, 1981).

This reflective process, in which time is perceived in terms of immediate events and understood in relation to larger contexts, defines the meaning of social time for the individual actor. In other words, time becomes meaningful only when its content is understood in relation to a larger context or connection. Thus, although social time is perceived by the individual consumer, people within the same cultural context and with the same historical background will typically share a common frame of reference for their time perception. This provides a basis for the development of a general social time within the particular societal context (Durkheim, 1954).

Based on this discussion, it is reasonable to argue that future consumer research should emphasize analyses of *the socio-temporal contexts of consumer behavior*. This means that consumer behavior should not only be related to clocks and calendars. It should also be temporally related to other activities, and to specific patterns of interaction and location. The social temporality of consumer behavior should be identified by specifying the particular preceding, succeeding or coinciding events, and by examining the consumer's own perceptions and reflections regarding these temporal relations between the consumer behavior and other events. In this way, both timing and duration can be identified. For example, a particular consumer activity may occur before, after, or simultaneously with another event, and the consumer activity may last shorter, longer, or as long as the other event.

The challenge is to develop more insight into how consumers themselves perceive and reflect on this temporal coordination of consumer behavior in relation to other events, including action, actors and arenas, within particular contexts. Such insight regarding socio-temporal contexts are especially important in connection with cross-cultural comparative studies of consumer behavior.

Combining Qualitative and Quantitative Approaches

It was pointed out above that most previous research on time and consumer behavior has been focused on use of time, primarily based on quantitative survey data regarding how people spend their time on different activities. Typically, such time budget surveys provide information on who does what during the day, for how long, how often, at what time, in what order, where, and with whom (Szalai, 1972).

Although the many strengths and advantages of this approach as a framework and method for analyzing patterns of human behavior has been well documented by a large number of very interesting and important studies carried out in many countries and for a variety of purposes, it has also been maintained that time budget data tend to be broad but shallow (Szalai, 1977). Reviewing the critical evaluations of time budget research, one might conclude that this research, while leading to rich data on use of time, provides more limited information on the *context* and *meaning* of the time use (Grønmo and Christensen, 1986).

These limitations are particularly important when it comes to studies of social time, which is closely related to both context and meaning of time use. Thus, for examinations of socio-temporal contexts of consumer behavior, it seems necessary to overcome such shortcomings of the time budget approach.

Several strategies for solution of these problems have been suggested in the literature. Some of these are focused on efforts to extend and improve the techniques involved in time budget research. Thus, Szalai (1977) suggests that ever more new dimensions have to be added to the time budget record, and that more complex indicators should be developed in order to capture more contextual aspects. It is also suggested that observational and analytical methods used in time budget research could be utilized for more psychological studies of individuals in their daily transactions (Szalai, 1972).

Another, more interesting set of strategies directs the attention towards combinations of time budget data and other data. Feldheim (1972) argues that the time budget technique can be much more useful if it is associated with other socio-psychological methods. Moreover, it has been suggested that time budget surveys could be combined with qualitative methods used in anthropological and sociological studies, including participant observation, case studies and historical studies (Arndt, Grønmo and Hawes, 1981). Similar views are expressed by Julkunen (1977). Cullen (1982) has developed what he calls an extended diary approach, which combines the time budget technique with more flexible interviews concerning the objective context as well as the subjective aspects of the time use. Similarly, a field research approach has been proposed as a systematic attempt to identify the meaning of time by relating time use to specific contexts and subjective reflections (Grønmo and Christensen, 1986).

Such attempts to develop more comprehensive designs and strategies for combining quantitative time budget studies with various qualitative approaches represent another major challenge for research on temporal dimensions of consumer behavior.

CONCLUSION

In this discussion of time concepts found in social science literature, it has been distinguished among mechanical, natural and social time. While previous research on time and consumer behavior has been focused on mechanical time, it has been argued here that future consumer research should give more attention to studies of social time.

Three sets of implications of this argument have been emphasized. First, temporal dimensions of consumer behavior should be specified, not only with reference to clocks and calendars, but in relation to all three time concepts. Second, studies of time and consumer behavior should be focused on the socio-temporal contexts of this behavior. Third, in order to examine such socio-temporal contexts, it is necessary to develop comprehensive designs for combining quantitative time budget studies with various qualitative approaches.

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The Five Faces of Eve: Women's Timestyle Typologies

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ABSTRACT

Through a national survey of women's time allocation among activities for a typical weekday, this exploratory research identified eleven women's *timestyle typologies* in the United States. Of the five most dominant timestyles, three characterized employed women, one typified the older empty nest woman, and another the nonemployed housewife. Particularly notable is the differentiation in the timestyle profiles among employed women.

INTRODUCTION AND PURPOSE

As the percentage of dual income families has increased dramatically in the United States, behavioral researchers have directed considerable attention to sex and gender role issues (cf., Qualls 1987, Miller and Garrison 1982, Bagozzi and Van Loo 1978). It is widely recognized that women often play multiple roles beyond, or instead of, the traditional "wife and mother" or joint decision-maker with their husband and/or family. Yet, consumer researchers are only beginning to explore the variety of roles that women play in our society beyond the "employed versus nonemployed," "parent versus non-parent" dichotomies.

This research looks at women's roles from the perspective of characteristic patterns of time allocation among activities. Specifically, a time diary approach is used to develop dominant timestyle profiles characterizing women in the United States. Thus, the purpose of the study described herein was to identify dominant women's timestyle profiles in order to better understand the behavioral manifestations of the various roles women perform in our society. There is a virtual vacuum of research specifically profiling women's time use in consumer behavior. This research makes a contribution by applying a timestyles methodology to the study of women's roles.

TIMESTYLES

Only relatively recently have the social sciences turned their attention to studying time allocation. Economists and social psychologists view time as a fixed, immutable and tangible resource (Hirschman 1987) existing in finite amounts that must be allocated among obligatory and discretionary activities. Thus, for the individual, time does not exist independent of the applications to which it is put. Indeed, the priority of personal time can only be interpreted from its allocation among alternative activities.

Recently, consumer behavior researchers have begun to investigate time, employing a number of perspectives: differences in time consumption between working and nonworking wives (Nickols and Fox 1983), the impact of a wife's employment on time-saving service expenditures (Bellante and Foster 1984), participation in leisure versus discretionary activities (Hawes 1977), conceptualization and model building (cf., Feldman and Hornik 1981), theoretical perspectives of time use and scarcity (Gross 1987, Hirschman 1987), complementarity and substitutability of activities (Umesh, Weeks and Golden 1988, Weeks, Umesh and Wong 1987, Holbrook and Lehmann 1981) and situational effects on time consumption (Hornik 1982), among others (cf., Jacoby, Szybillo and Berning 1976). Perhaps the most promising approach in consumer behavior, however, is the concept of *timestyles* initially proposed by Feldman and Hornik (1981). The term "timestyles" refers to "the allocation of time among various activities" (Feldman and Hornik 1981, p. 407). The way time is distributed provides a behavioral caricature of the individual, a kind of activity autograph, articulating and affirming the individual's personal priorities and constraints within various role contexts.

Timestyles has emerged as a potentially rich construct for consumer research because it establishes a direct conceptual, empirical and behavioral link between the individual's internal priorities and external constraints. While time usage has been regarded as an indicator of lifestyle (Lee and Ferber 1977), the most frequent operationalizations of lifestyle ignore moderating variables between cognitions and behavior. As Feldman and Hornik (1981) point out, "lifestyle" tends to focus on the acquisition of goods and services, but "timestyle" focuses on the consumption of time, which may be expressed in the consumption of goods and services. Thus, timestyles reflect the reconciliation of cognitions and the environment in behavior and is, therefore, of potentially greater usefulness to consumer behavior analysts, strategists and policy makers.

WOMEN'S ROLE FACTORS

In a nationwide study of Americans, Robinson (1977) found that role factors--sex, employment, marriage and parenthood--exerted more impact on individual time use than any other set of factors investigated (i.e., personal, environmental or resource). Employment can result in up to one-half of waking hours being allocated to job-related matters. Parenthood was the second most time-consuming role responsibility, followed by marriage, with both roles demanding more time from women than men.

The face of American society is being changed by alterations in women's employment which can be viewed as a constraint factor influencing time allocation (Hill and Juster 1985). In general, the ways people use their time are influenced by whether

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or not they work outside the home (Robinson 1977), as the time available for work at home and leisure depends to a large extent on the person's employment status (Gronau 1977). The proportion of women in the labor force has increased from 39.3 percent in 1965, to 46.4 percent in 1975 (Blau 1984), to over 50 percent today. Not surprisingly, employed and nonemployed women have been found to have significant differences in their time use (c.f., Gauger and Walker 1980; Jorgenson 1977; Nickols and Fox 1983). These results are consistent with Becker's (1965) theory of the allocation of time which suggests that families with an employed wife will be oriented toward spending less time in household production than families with a nonemployed wife.

The presence of children is another of Hill and Juster's (1985) constraint factors, as children influence the allocation of time for husbands and wives (Bloch 1973; Gronau 1977). Each new family member produces a disproportionate increase in the number of interpersonal relations, increasing the complexity of family life (Aldous 1978). These role changes are then reflected in how individuals spend their time (e.g., Kelley 1980; Russell 1974; Ryder 1973; Spanier and Lewis 1980).

RESEARCH PERSPECTIVE AND QUESTIONS

It is logical to expect differences in the activity profiles of employed versus nonemployed women, or women with and without children, as time weighs more heavily on women with multiple role responsibilities. Previous research has demonstrated significant differences and spawned theory on which to base hypothesis development. However, this study is conceptualized, not on the basis of demographic differences but, rather, focuses on timestyles: the behavioral manifestation of role differences in the allocation of time among activities. Thus, the following research questions are advanced:

1. What dominant timestyles exist for women in the United States culture?

2. Are there significant demographic differences associated with the dominant timestyles?

We expected that there would be several dominant and distinct timestyles for women in the United States which reflect the differing demands imposed on a woman's time by situational "choices" she has made. And, after identifying distinct timestyles, we expected that time allocation differences would be reflected in demographic differences. However, we also anticipated that the timestyles emerging would be far more rich and revealing than simple demographic differences, since as individuals we allocate time in idiosyncratic patterns of activities according to the manner in which our time demands, constraints, and opportunities are reconciled. And time demands, constraints and opportunities are largely determined by the roles we perform. For example, employed mothers may be represented by more than one timestyle, as may nonemployed homemakers at different stages in the family life cycle.

METHODOLOGY

A nationwide survey using a purchased mailing list produced 897 respondent reports on their and their housemate's (if any) participation in 23 activities by 24 one hour increments (6-7 a.m., 7-8 a.m., etc.) for a typical weekday. Respondents selected activities from a list provided which had been developed through a review of the previous time diary literature (cf., Robinson 1977) and pretests. For purposes of comprehensive role integration, the 23 activity categories were each intentionally developed to represent a "global activity," rather than separate individual tasks that might combine to form an activity. Respondents were asked to indicate the *dominant* activity (i.e., not all activities) in which they engaged for each one hour time period. Budget constraints prohibited the use of a follow-up contact; however, the response rate was 16 percent.

This study focuses on head-of-household self- and other-reported activities by and for women. While combining self- and other-reported data might be questioned on methodological grounds, the respondent was asked to report the *dominant* activity for each time period to preserve comparability in the scope of the data, and to minimize discrepancies in possible secondary activities undertaken in each one hour period. One hundred and twenty-two women responded for themselves.

Developing Timestyle Typologies

In order to develop women's timestyle typologies, only respondents providing complete data were submitted to analysis (n = 714). Using non-hierarchical clustering (FASCLUS) women were grouped on the basis of the amount of time spent in each of seven activity categories (developed by collapsing the initial 23) for every hour between 6 a.m. and midnight. The time when most all respondents were sleeping (midnight to 6 a.m.) was eliminated from analysis, increasing the sensitivity of timestyle analysis for the period bracketing the typical active hours of the day.

The seven activity categories used in the final analysis were:

1. *Sleep*

2. *Personal maintenance* (e.g., personal grooming, dressing, eating)

3. *Electronic leisure* (e.g., watch TV, listen to stereo or radio)

4. *Discretionary* (e.g., work on hobbies, visit, meetings, sports, travel, movies, read, etc.)

5. *Work at home on job-related tasks or study*

6. *Work at job or school*

7. *Home and family maintenance* (e.g., housekeeping, food preparation, child care)

While the 23 initial activity categories could be combined in a variety of ways, the above categories represent major activity groupings associated with discretionary and non-discretionary time, as well as providing an opportunity for the delineation of activities suggesting a variety of positional roles that women might occupy.

The dominant timestyles identified from the cluster analysis were submitted to discriminant analysis for major demographic variables collected subsequent to the respondents' reporting their and their housemate's activities.

RESULTS

Cluster results revealed that eleven clusters provided the "optimum" multiple criteria solution (pseudo F = 39.25; overall R^2 = .362; minimum centroid distance = 4.31). While eleven clusters may more adequately describe the range and richness of women's timestyles in the United States, space constraints prohibit a description of all eleven clusters. Moreover, the smallest clusters ranged from eight to forty women, which become sizable when projected to the general population, but problematic for statistical analysis of demographic contrasts. Therefore, this paper focuses on the five dominant women's timestyle typologies representing 85.6 percent (n = 611) of the sample providing complete data.

Women's Dominant Timestyle Typology Clusters

Table 1 displays the percentage of respondents engaged in the seven activity categories for each of the 18 one hour time periods examined. Initially, the most straightforward characterization of the timestyle clusters is to scrutinize the activity category that contains the highest percentage of respondents for each time period.

Three of the five dominant timestyle clusters reconcile domestic roles with *employment* outside their home: Clusters 1, 3 and 4. The vast majority of respondents in Cluster 1 awake prior to 6:00 a.m., and are on their way to work by 7:00 a.m. While the dominant activity between 8:00 a.m. and 5:00 p.m. is their job, by 4:00 p.m. the respondents in Cluster 1 begin to disseminate across other activities, notably discretionary and home maintenance activities. By 5:00 p.m. Cluster 1 is heavily involved in personal maintenance (eating and grooming), but by 6:00 p.m. this timestyle group is involved in electronic leisure or discretionary activities. Electronic leisure dominates time from 8:00 until 10:00 p.m. when most members of this cluster go to bed. Inspection of the discriminant results shown in Table 2 reveals that Cluster 1 is the youngest timestyle typology and has the largest number of people in their household. The combination of timestyle and demographic information earns this group the label "*Young Working Mothers*."

By contrast, a second employed timestyle typology, Cluster 3, is even more structured in their allocation of time to activities. Cluster 3 is also awake by 6:00 a.m., but they spend more time in personal maintenance and go to work one hour later than Cluster 1. Cluster 3 shows a more structured routine at work than does Cluster 1, breaking for lunch between noon and 1:00 p.m., and returning to work until 5:00 or 6:00 p.m. Cluster 3 eats dinner approximately one hour later than Cluster 1 (from 6:00 to 7:00 p.m.) and then follows a similar but delayed pattern of two hours of discretionary activities (probably visiting with friends or relatives). Cluster 3 timestyle members go to bed slightly later than Cluster 1, but the majority of Cluster 3 women are in bed by 11:00 p.m., as was the case with Cluster 1. Cluster 3 may appropriately be termed the "*Structured 8-5ers*."

The demographics of Cluster 3 indicate that they have the highest housemate education, household income and percent of income contributed to the household of any timestyle typology. They are prosperous and work-oriented, but within a structured on-the-job environment, rather than bringing their work home.

Timestyle cluster 4 is a hybrid between Clusters 1 and 3. Cluster 4 tends to sleep later than either Cluster 1 or 3 and spends only an hour in personal maintenance in the morning, like Cluster 1. Also like Cluster 1, Cluster 4 tends not to have a distinct lunch time, but exhibits a slightly longer work day than Cluster 1, more like Cluster 3. Cluster 4 distinguishes itself with its involvement in household maintenance between 6:00 and 7:00 p.m. Their activity pattern then converges more with Cluster 3 as Cluster 4 women engage in discretionary activities between 7:00 and 9:00 p.m. After two hours of electronic media, Cluster 4 women tend to go to bed later than the other employed groups (possibly explaining why they also get up later), with the majority in bed between 11:00 p.m. and midnight.

Cluster 4 women distinguish themselves demographically with the lowest housemate age and the least number of years with their housemate. While Cluster 4 is not the youngest, there is no significant difference between their average age and that of the youngest timestyle group, Cluster 1. Cluster 4 is termed "*Early Married and Employed*."

Timestyle Cluster 2 defines the "*Nonemployed Housewife*." The majority are up by 7:00 a.m. and engaged in personal maintenance until 9:00 a.m. From 9:00 a.m. until noon this group pursues household maintenance activities, eating from noon until 1:00 p.m. Their afternoon is dominated by discretionary activities, with personal maintenance activities absorbing attention between 5:00 and 7:00 p.m. Cluster 2 spends only one hour in discretionary activities in the evening, but spends three hours in electronic leisure before going to bed between 11:00 p.m. and midnight. As would be expected, Cluster 2 contributes the least amount of household income of any group.

The other nonemployed timestyle is Cluster 5 who, like Cluster 2, engages in three hours of

TABLE 1

Percent of Respondents Participating in Each Activity[a] by Time of Day for Timestyle Clusters[b]

Cluster 1 Activity Percentages

Time	1	2	3	4	5	6	7
6 to 7A	14.1	60.0	--	3.0	.7	17.0	5.2
7 to 8A	--	9.6	--	1.5	--	68.9	20.0
8 to 9A	--	3.0	--	1.5	4.4	9.6	21.5
9 to 10A	--	1.5	.7	3.7	5.2	72.6	16.3
10 to 11A	--	3.0	.7	8.9	7.4	69.6	10.4
11 to 12A	--	20.7	.7	7.4	5.95	9.3	5.9
12 to 1P	.7	28.1	.7	7.4	4.45	1.9	6.7
1 to 2P	--	5.9	2.2	9.6	7.46	6.7	8.1
2 to 3P	--	1.5	2.2	10.4	8.16	5.9	11.9
3 to 4P	.7	.7	6.7	17.8	5.95	9.3	8.9
4 to 5P	.7	9.6	5.9	22.2	8.13	4.8	18.5
5 to 6P	.7	60.0	4.4	18.5	3.7	5.9	6.7
6 to 7P	--	18.5	26.7	28.1	8.1	3.7	14.8
7 to 8P	1.5	5.2	36.3	43.7	4.4	2.2	6.7
8 to 9P	4.4	3.0	53.3	31.9	4.4	3.0	--
9 to 10P	19.3	2.2	42.2	30.4	3.7	2.2	--
10 to 11P	65.9	4.4	18.5	8.9	1.5	.7	--
11 to 12P	94.	1	1.5	3.0	1.5	--	--

[a] Activity Codes: 1 = Sleep; 2 = Personal maintenance;3 = Electronic leisure; 4 = Discretionary activities;5 = Work at home; 6 = Work at job; 7 = Home and family maintenance

[b] Cluster 1: n = 135; Cluster 2: n = 108; Cluster 3: n = 111; Cluster 4: n = 105; Cluster 5: n = 122
Table 1, Continued

Cluster 2 Activity Percentages

Time	1	2	3	4	5	6	7
6 to 7A	92.6	4.6	--	1.9	--	.9	--
7 to 8A	35.2	54.6	2.8	4.6	1.9	--	.9
8 to 9A	2.8	90.7	3.7	--	.9	.9	.9
9 to 10A	.9	6.5	3.7	11.1	2.8	21.3	53.7
10 to 11A	--	1.9	.9	16.7	3.7	18.5	58.3
11 to 12A	--	5.6	4.6	23.1	11.1	17.6	38.0
12 to 1P	--	77.8	2.8	9.3	1.9	5.6	2.8
1 to 2P	1.9	3.7	15.7	38.9	13.0	15.7	11.1
2 to 3P	1.9	1.9	14.8	46.3	8.3	17.6	9.3
3 to 4P	--	--	11.1	50.0	8.3	21.3	9.3
4 to 5P	.9	3.7	5.6	38.9	9.3	18.5	23.1
5 to 6P	--	31.5	10.2	20.4	11.1	11.1	15.7
6 to 7P	--	37.0	19.4	19.4	2.8	4.6	16.7
7 to 8P	--	12.0	29.6	41.7	7.4	2.8	6.5
8 to 9P	--	.9	49.1	43.5	2.8	2.8	.9
9 to 10P	1.9	1.9	57.4	33.3	1.9	1.9	1.9
10 to 11P	16.7	1.9	51.9	25.0	.9	1.9	1.9
11 to 12P	68.5	1.9	18.5	10.2	--	.9	--

TABLE 1, CONTINUED

Cluster 3 Activity Percentages

Time	1	2	3	4	5	6	7
6 to 7A	24.3	65.8	--	.9	.9	4.5	3.6
7 to 8A	.9	45.9	2.7	4.5	--	36.9	9.0
8 to 9A	--	4.5	--	1.8	--	75.5	18.0
9 to 10A	--	.9	--	4.5	.9	80.2	13.5
10 to 11A	--	--	--	2.7	--	81.1	16.2
11 to 12A	--	1.8	.9	1.8	--	81.1	14.4
12 to 1P	.9	86.5	--	1.8	--	10.8	--
1 to 2P	--	--	1.8	5.4	.9	81.1	10.8
2 to 3P	--	--	--	4.5	.9	81.1	13.5
3 to 4P	--	--	.9	4.5	2.7	77.5	14.4
4 to 5P	--	--	.9	4.5	2.7	68.5	23.4
5 to 6P	--	2.7	1.8	9.9	5.4	46.8	33.3
6 to 7P	--	77.5	6.3	8.1	1.8	3.6	2.7
7 to 8P	--	6.3	17.1	36.9	8.1	.9	30.6
8 to 9P	--	.9	34.2	40.5	7.2	2.7	14.4
9 to 10P	7.2	3.6	40.5	36.0	7.2	--	5.4
10 to 11P	41.4	4.5	30.6	18.0	3.6	--	1.8
11 to 12P	87.4	4.5	3.6	4.5	--	--	--

Cluster 4 Activity Percentages

Time	1	2	3	4	5	6	7
6 to 7A	61.0	37.1	--	1.0	1.0	--	--
7 to 8A	8.6	81.1	--	1.0	--	8.6	1.0
8 to 9A	1.0	12.4	--	--	2.9	71.4	12.4
9 to 10A	--	2.9	--	1.0	1.0	81.9	13.3
10 to 11A	--	1.9	--	2.9	1.0	1.9	12.4
11 to 12A	--	6.7	--	1.9	1.9	78.1	11.4
12 to 1P	--	17.1	--	1.9	1.9	67.4	11.4
1 to 2P	--	8.6	--	2.9	--	72.4	16.2
2 to 3P	--	--	1.9	4.8	--	77.1	16.2
3 to 4P	--	1.9	1.0	8.6	1.0	70.5	17.1
4 to 5P	--	1.0	1.0	13.3	2.9	57.1	24.8
5 to 6P	--	30.5	1.9	8.6	3.8	32.4	22.9
6 to 7P	--	23.8	7.6	20.0	4.8	12.4	31.4
7 to 8P	--	17.1	18.1	37.1	3.8	5.7	18.1
8 to 9P	--	5.7	34.3	41.0	5.7	3.8	9.5
9 to 10P	5.7	--	52.4	32.4	2.9	2.9	3.8
10 to 11P	36.2	1.9	38.1	18.1	1.0	1.9	2.9
11 to 12P	77.1	4.8	12.4	5.7	--	--	--

TABLE 1, CONTINUED

Cluster 5 Activity Percentages

Time	1	2	3	4	5	6	7
6 to 7A	43.4	49.2	--	4.9	1.6	--	.8
7 to 8A	5.7	74.6	2.5	7.4	.8	1.6	7.4
8 to 9A	--	5.7	.8	9.0	9.8	13.1	61.5
9 to 10A	--	4.1	1.6	18.0	9.0	9.8	57.4
10 to 11A	--	1.6	5.7	32.8	13.1	9.8	36.9
11 to 12A	--	18.9	9.8	31.1	13.9	10.7	15.6
12 to 1P	.8	68.9	5.7	17.2	3.3	.8	3.3
1 to 2P	3.3	.8	27.0	45.9	9.0	6.6	7.4
2 to 3P	2.5	--	22.1	52.5	8.2	5.7	9.0
3 to 4P	1.6	.8	15.6	60.7	12.3	5.7	3.3
4 to 5P	1.6	10.7	8.2	56.6	13.9	2.5	6.6
5 to 6P	.8	37.7	12.3	30.3	12.3	--	6.6
6 to 7P	.8	46.7	27.9	20.5	.8	--	3.3
7 to 8P	.8	6.6	50.0	35.2	2.5	.8	4.1
8 to 9P	1.6	1.6	53.3	35.2	1.6	2.5	4.1
9 to 10P	10.7	3.3	48.4	36.1	.8	.8	--
10 to 11P	56.6	3.3	25.4	13.9	.8	--	--
11 to 12P	91.0	--	6.6	2.5	--	--	--

TABLE 2

Results of Discriminant Analysis for Demographic Variables[a]

Variable	Univariate F-ratio	Significant Mean Results by Cluster 1	2	3	4	5
Marital status[d]	.76			not significant		
Respondent age[e]	8.40[b]	3.89	4.34	4.11	3.92	4.53
Housemate age[e]	10.05[b]	3.72	4.12	3.95	3.57	4.37
Number in house	5.01[b]	3.67	3.11	3.38	3.51	3.02
Respondent education[f]	1.74			not significant		
Housemate education[f]	2.50[c]	3.81	3.85	4.18	4.01	3.76
Household income[g]	4.80[b]	5.11	5.21	5.71	5.37	4.82
Percent of income contributed	4.56[b]	31.02	19.78	34.89	32.18	23.20
Years with housemate	12.05[b]	15.75	22.87	19.32	14.38	24.85

[a] Wilks' Lambda =.78, p<.01

[b] p<.01, d.f. = 4,485

[c] p<.05, d.f. = 4,485

[d] The vast majority of all women were married:Cluster 1 = 87%; Cluster 2 = 82%; Cluster 3 = 84%;Cluster 4 = 86%; Cluster 5 = 90%

[e] Age categories were: 1 = under 18; 2 = 18-24; 3 = 25-35;4 = 36-49; 5 = 50-64; 6 = 65 or over

[f] Education categories were: 1 = no formal; 2 = some grade or high school; 3 = high school graduate; 4 = some college or trade school; 5 = college graduate; 6 = graduate degree

[g] Income categories were: 1 = under $6,000; 2 = $6,000-9,999;3 = $10,000-14,999; 4 = $15,000-19,999; 5 = $20,000-

electronic leisure in the evening, more than any of the three employed timestyles. Cluster 5 gets up earlier than Cluster 2 (most rise between 7:00 and 8:00 a.m.), but engage in housework for a shorter period of time. Instead, Cluster 5 is involved in discretionary activities in the later morning. However, like their nonemployed counterparts, Cluster 5 is involved in discretionary activities until 5:00 p.m. Cluster 5 women are active in personal maintenance until 7:00 p.m., and then retire to electronic leisure for the next three hours. Unlike Cluster 2, Cluster 5 is not involved in discretionary activities in the evening. They prefer relaxing at home and go to bed earlier than Cluster 2.

As evidenced by their timestyle and demographic profile, Cluster 5 typifies the "*Nonemployed Empty Nest*" woman. She and her housemate are significantly older than any other group, have the smallest number of people living in the household, the lowest housemate education and household income, and have been with their housemate longer than any other group. For a typical weekday, these women evidence the most discretionary activity dominated timestyle during the day and the most sedentary timestyle in the evening.

CONCLUSIONS AND IMPLICATIONS

Women constitute an increasingly important, complex and fragmented market segment. On the basis of the results of a national survey, this study identified eleven timestyle clusters of women in the United States. While the conclusions that can be drawn are unique to the methodology used, this study has demonstrated how the diversity of women's roles can be captured by timestyle typologies.

One of the most striking conclusions of this research is that breaking women into employed versus nonemployed groups is likely to obscure potentially meaningful timestyle and lifestyle differences between employed women, differences which have potentially important strategic and public policy implications. This study identified three dominant groups of employed women, each possessing unique demographic characteristics and timestyle orientations. Research that employs a methodology that divides women on the basis of a demographic variable and then investigates behavioral differences may in fact mask the richness of behavioral differences among employed women.

Further research is needed to investigate attitudinal differences among the various groups of employed women. Their attitudinal orientation toward their job and home life may partially explain why they have reconciled these two areas with their chosen activity patterns as evidenced by their timestyles.

In addition, our study was restricted to timestyle typologies for women, representing 51 percent of the United States population. Looking at time allocation from a dyadic or household perspective, consumer researchers need to inspect timestyle convergence and divergence between spouses. A household unit reflects the reconciliation of at least two people's time demands and as a behavioral representation of that reconciliation, a comparison of spouse's timestyle profiles represents their individual and joint priorities. The convergence or divergence in husband-wife time allocation may also be a precondition or an artifact of other variables, such as marital satisfaction. This may also correlate with length of marriage. The "courtship-honeymoon" stage of spouse relationships may be reflected in convergence of timestyle profiles and in relatively high marital satisfaction. Conversely, in the "post-honeymoon phase" husband-wife activity profiles may diverge, as time may be increasingly divided among other roles.

These and other issues remain unexplored in the current analysis but suggest the potential richness of the timestyle construct for empirically examining the behavioral expression of lifestyle in our most scarce resource: time. Time is one possession all consumers share. Yet, we have only begun to realize that time use is a fruitful subject for decision analysis.

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What Time Means to Others: Expectations of Behavior Based on Time Use Information

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ABSTRACT

The use of time in making judgements of others was investigated in terms of sex-role related behavior, parental-role behavior, and fitness related behavior. Subjects in an experiment which presented descriptions of people in terms of how much time per week they spent on various activities, varied in terms of the individual's gender and time spent watching television. Results show that time spent in activities plays a role in how people are perceived by others. Implications of these findings include remaining gender role expectations, inferences about a competitive model of time use in addition to broader issues of making judgements about people from time spent in activities.

INTRODUCTION

The concept of time as an area of importance to consumer behavior is becoming evident to a number of researchers (e.g. Gross 1987, Hirschman 1987, Jacoby, Szybillo, and Berning 1976). Work has progressed in such areas as the allocation of time to activities (Wilson and Holman 1984), how consumers spend their time (de Grazia 1962, Robinson 1977), time and leisure (Hawes 1977) and the complementarity and substitutability of activities (Holbrook and Lehmann 1981). Within other social science fields, time remains an issue of enduring, while perhaps not mainstream, interest (cf. Becker 1965 (economics), Hall 1983 (anthropology), Robinson 1977 (social psychology), Zerubavel 1981 (sociology)). In psychology, time has been researched as a perceptual variable, (Fraisse 1984), as a process integral to relationships (Werner and Haggard 1985), as an individual difference (Bond and Feather 1988, Strack, Schwartz, and Gschneider 1985) as well as an important methodological variable (Kelly and McGrath 1988).

Time Budget Research

Much of the research dealing with time has centered around how people "spend" their time. How one spends his or her time has important ramifications not only in terms of of one's goals and activities, but in terms of how one is perceived by others. Some activities are seen by others as involuntary, others may be seen as under discretion. However, within those categories, what the individual does still matters to the observer. The type of work one does, for instance, is a critical variable in assessing people. Thus, the choices implicit in what individuals do with their time serve as indicators of what kind of person he/she is to others. The allocation of time to activities is emerging as an important variable in both applied and basic research.

A common approach in researching people's use of time is the time-budget or time-diary technique. Subjects are asked to write down what they do during the course of a day or week, and the resulting "diary" can be analyzed. The present study was inspired by an apparent paradox of the time-budget literature. Often in such studies, participants are asked questions about their values as well as how they spend their time. An intriguing result is that there is little correspondence between subjects' value of an activity and the time spent on that activity (cf. Robinson, 1988).

For example, most subjects claim they place little value on television watching, while reporting large amounts of time spent in front of the set. Conversely, parents report that they place a high value on talking with children, but spend precious few minutes during their day doing so. The question arises, therefore, what is meant by value. In economic terms, perhaps these activities are valued precisely because one spends so little time on them, a simple supply and demand function. However, in psychological terms, one would expect individuals to spend time doing activities they value, especially in discretionary time. If much of an individual's time can be spent watching television, it seems likely that this time could have been spent talking with children.

Methodological Concerns

One answer may be that an activity such as television watching can serve many functions simultaneously, such as eating, talking and being entertained. In this sense, television can be viewed as a complementary activity (Golden, Anderson, Umesh and Weeks 1988, Holbrook and Lehmann 1981). Hence, a methodological problem of the time-budget technique rears its head when attempting to interpret information about values from time use data. Which activity is deemed most important or central? And to whom? One method assumes that subject's evaluation of the time is important, and uses what is reported by the subject, other attempts have been made to include several or all activities mentioned by the respondent (Robinson 1977).

These concerns are related to the larger issue of how to infer meaning from time-budget information. Time enjoys a ratio measurement scale, but whether there is a linear correspondence to psychological meaning is not well mapped out. While this property is an aspect of time that makes its' use in research appealing, it also may be misleading. One person's two hours spent watching tv may mean something quite different from anothers. A means of investigating the social meaning of time is called for.

One method of establishing a social meaning for traits and behaviors is in the area of person perception. In this approach, subjects are presented with information about others (controlled by the experimenter) and are asked to make judgements and/or evaluations about them. This technique has been used in a variety of research areas from impression formation to interpersonal attraction (Schneider, Hastorf, and Ellsworth 1979).

Time as Reflecting Values

The rationale behind the present study is the assertion that time spent on activities has some relevance to one's values. Further, in a symbolic interactionist vein, these values should be shared and recognized by others. Thus a social-psychological meaning of time is proposed: How one spends his/her time will reflect values to others. This represents a step toward an understanding of what time use means in the eyes of others and a method of ascertaining such meaning. This line of reasoning has relevance to researchers in the area of time, consumer studies of time use, and in theorizing about the nature of time.

First, utilization of time use studies may lead to an indirect, non-obtrusive method for obtaining information about values. There is implicit relationship between time and values in much research in the area, however a clearer understanding of the relationship between the two concepts is needed. Second, as the allocation of time to activities gains importance in consumer choice, the role of other's perception of time use becomes an interest. Consumers spend a great deal of time with others and are motivated to behave in socially desirable ways. Analysis of the meanings attached to time use may prove useful in explaining time use behavior and time spent with others. Third, from a management perspective, an elaboration of the meaning of time to consumers would allow for marketing approaches that take into consideration the allocation of time and the social-psychological meanings that are associated with time decisions. As consumers move to making choices in terms of time and activities, this type of analysis should prove fruitful.

Based on previous research dealing with husbands' and wives' use of time (Golden et. al. 1988) three domains were selected for the present study: 1) time spent on childcare 2) time spent on housework and 3) physical fitness. From the literature of perceptions of sex differences (Wallston and O'Leary 1981) and previous time budget research into male and female time use (Golden et. al. 1988) several sex differences are expected. Females should be expected to spend more time doing housework, childcare, and value physical fitness less. Following from the hypothesis that time should have an impact on evaluation by other, those watching more television are predicted to be given less time on housework, childcare, and place less importance to physical fitness.

METHOD

A person perception paradigm was used to test whether time use information had an effect on several evaluative dimensions. Subjects were students at the University of California, Berkeley who participated as part of a laboratory course in social psychology. Each subject was asked to read a short vignette and respond to a number of questions about the person in the description. The following is an example of the stimulus, with the alternate condition in parentheses.

> "Bill W. works full time at the State of California Health Services. He is married and has two school age children. He spends about 5 (15) hours a week watching television and 5 hours a week exercising. He says that what he values doing most is talking with his children."

In this study, 40 female subjects responded to a short vignette about a male, and 40 males read about a female (name and pronouns changed accordingly). The person described in the two conditions was exactly the same except in the amount of time he or she spent watching television. Thus, a 2 by 2 (sex by television time) between-subjects experimental design was utilized. After reading the description of the person, the subjects responded to a series of questions that asked them to rate the person in terms of various behaviors and values. Within these questions were the dependent measures of time spent with children, time spent doing housework, and the importance of physical fitness. These were the variables of interest selected from the work of Robinson (1977, 1988) and Golden et. al. (1988). The subjects were asked to estimate how many hours a week the described person would spend doing housework, taking with the children, and how much they valued physical fitness.

RESULTS AND DISCUSSION

Separate analyses of variance were carried out for each of the dependent measures. Results can be partitioned into two general analyses, those looking at the effect of the time manipulation, and those looking at sex differences, as shown in the table. Means for housework and talking with children are in hours.

No difference was found for the time manipulation for housework, those described as watching 15 hours of television a week were seen as spending similar amounts of time on housework as those watching 5 hours a week for both males and females (overall mean for high tv = 13.2, overall mean for low tv = 14.7, $F = 2.12$ p = n.s.). As expected, the time condition affected subjects' estimations of how much time would be spent with children for both males (mean for high tv = 7.8, mean for low tv = 13.5, $F = 10.78$, $p < .01$) and females (mean for high tv = 10.2, mean for low tv = 17.4, $F = 22.51$, $p < .001$). A somewhat smaller effect is seen in the rating of importance of physical fitness on a scale of 1 (low) to 7 (high); those watching more tv are viewed as placing a lower value on physical fitness by males (mean for high tv = 3.7, mean for low tv = 4.9, $F = 5.77$, $p < .05$) and females (mean for high tv = 3.8, mean for low tv = 4.6, $F = 3.43$, $p < .05$).

The main effects for sex when averaged over time condition show that sex is still a powerful shaper of evaluations. Females working full-time were expected to spend more time than males in the same situation on housework in both time conditions (overall mean for females = 19.1, overall mean for males = 11.5, $F = 12.55$, $p < .001$). A similar pattern emerges for time spent with children, (overall mean for females = 13.6, overall mean for males = 10.0, $F = 8.02$ $p < .01$). No sex differences were found in the

TABLE

Analysis of Variance of estimated time on housework, talking with children, and importance of physical fitness

Main effects for time watching television manipulation	F	p
Males		
Time spent in housework	2.23	n.s.
Time spent with children	10.78	.01
Importance of physical fitness	5.77	.05
Females		
Time spent in housework	1.99	n.s.
Time spent with children	22.51	.001
Importance of physical fitness	3.43	.05
Main effects for sex		
High tv condition		
Time spent in housework	7.44	.01
Time spent with children	10.52	.01
Importance of physical fitness	1.86	n.s.
Low tv condition		
Time spent in housework	17.39	.001
Time spent with children	5.43	.05
Importance of physical fitness	1.21	n.s.

Note: Males evaluated females and vice versa.
N = 80 subjects.

importance of physical fitness variable (overall mean for females = 4.3, overall mean for males = 4.1 , F = 1.53 p = n.s.).

In general, the time manipulation did produce significantly different perceptions and estimations from the subjects. Subjects saw the person who was described as watching more television as spending less time with children, and placing a lower emphasis on physical fitness. These results serve to establish both the method of person perception studies utilizing time information and the hypothesis of the role of time plays in value evaluation. In this study, subjects were only presented with one time condition and sex, future research should look at the influence of within subjects designs in terms of time conditions and perhaps sex. The sex differences are not too surprising, but serve to ground the method by replicating some well documented sex differences (e.g. Spence and Helmreich 1978).

More interesting is the implication that if one spends time on one activity (which may not be highly socially desirable) then one is seen as spending less time on other matters. In this study, subjects read that a person valued "talking with his/her children" most and yet results show that the amount of television watched had a negative influence on this valued activity. This implies that subjects rightly understand the finite aspect of time, but also see time spent on one activity as somehow related to time spent on others. In addition, although the person in each condition exercised the same 5 hours a week, those who watched more tv were seen as valuing physical fitness less. It is this result that shows the influence to allocating time to activities in the minds of others. In other words, if the person really valued physical fitness, he or she would not be spending all that time in front of the tv set (the low tv condition was set at 5 hours, the average reported time in a pretest of similar college students).

What the subjects did makes sense in terms of the information given. They were told to answer the questions based on what little they read about hypothetical people. Outside the controls of the laboratory, people have far more information with which to judge. In addition, those being judged engage in strategic tactics of self-presentation by withholding some information about activities and embellishing accounts of positive behavior. However, a general picture of a person's time habits emerges to those close to him or her, and it is from this information combined with other sources that allows one to make judgements. This social-psychological component is important in terms of establishing the link between time and values. It is not only the mind of the consumer that forges that link, it also exists in the minds of the observers, or referent groups.

The relationship between time and values is not, however, clear-cut. Obviously time use information will be critical in determining socio-economic variables such as wealth and class. It is not difficult to conclude that a person who spends most of his days on a yacht is of a privileged household. However, because one spends a great deal of time standing in lines does not imply that waiting is a highly valued activity. It may be that time use in discretionary time is the most salient to others in making inferences about behavior and values. Thus, television watching, for most a discretionary activity, picked up the process by which judgements are made. What one does with leisure time provides a rich area of inquiry. Apparently, subtle psychological distinctions can be made with a small amount of time use information. It is this use of time by others that was the focus of this research.

CONCLUSIONS

The present study is an attempt to establish the role of time use information in perceptions about individuals. The person perception paradigm employed seems to be an effective and useful technique to gain information in the realm of time and behavior. The possible dependent variables are many, thus the role of theory or link to previous research is important. The issues of the relationship between time and values remain murky, but a step in the direction of understanding has been taken. Time offers a direct and precise variable to manipulate in the lab, while remaining rich in possible meanings to subjects. Future research should strive to identify the role time plays in gender identity, value formation, and consumption decisions.

Focusing on time use information of consumers represents a broad dimension of consumer behavior. Instead of limiting research to choice among products, this approach attempts to understand the context of consumer behavior in terms of a bundle of products associated with the choice of activities The context of choice represents another level of analysis for the researcher, and offers insights into the nature of decisions (Tetlock 1985) and consumption (Hibshoosh and Nicosia 1987). One key component of most decisions is time: the time necessary to make choices and the time allocated to the chosen activity. It is the allocation of time to chosen activities that should be a process of interest to researchers and management in the years to come.

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"These Are A Few of My Favorite Things" Toward an Explication of Attachment as a Consumer Behavior Construct

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ABSTRACT

It is no revelation that consumers possess objects to which they are strongly and weakly attached. However, what attachment is and where it comes from is incompletely understood. This paper presents an initial effort to formalize attachment as a consumer behavior construct. We combine insights from the self-development literature and recent studies about possession attachment to advance a working definition of attachment. The results of an exploratory study are presented. The findings support the proposed definition and dimensions -- integration, individuation, and temporal orientation -- of attachment.

INTRODUCTION

Most of us are familiar with Rodger's and Hammerstein's 1959 collaboration on *The Sound of Music*, in which the effervescent Maria proclaims to her von Trapp charges:

> Raindrops on roses and whiskers on kittens,
> Bright-copper kettles and warm woolen mittens;
> Brown paper packages tied up in strings,
> These are a few of my favorite things.

Maria was extolling the virtues of those simple yet ethereal associations that make life joyous, that give meaning to her existence far beyond the conventional boundaries. And each of us -- albeit in less poetic ways -- has his/her own set of favorite things. To an observer these may appear banausic, even venal; but we cling to them because they have great and deep meaning for us. We keep and care for certain *material* possessions in special ways, sometimes long after their instrumental value has passed. These "most cherished" possessions represent things which are important for one reason or another; things which we would be loath to give up; things which would be difficult to replace -- in short, *things to which we have become strongly attached.*

We surround ourselves with valued material possessions as a matter of our lives taking course. A sense of linkage to the concrete and observable world external to ourselves permits us to obtain a sense of stability and continuity in an otherwise less stable existence. Material objects can help us establish self-not self boundaries (e.g., Belk 1987; Prelinger 1959) and a sense of control over our environment (e.g., Vinsel, Brown, Altman, and Foss 1981).

As remembrances of valued other persons or events, certain material possessions help us look back upon past selves which we wish to cultivate, i.e., material possessions are used as symbols of what we are, what we have been, and what we are attempting to become. Possessions are used as symbols in a self-developmental process of becoming a unique identity while at the same time connecting with others and participating in one's culture through shared meaning. Csikszentmihalyi and Rochberg-Halton (1981) refer to such self-developmental processes as "self-cultivation".

There is little argument that attachments to material possessions reflect self-cultivation processes; i.e., agreement exists as to *why* we form attachments. In spite of the fact that attaching is a universal human process that is carried out through the entire life cycle, relatively little is understood about precisely what this thing we call attachment is. That attachment is a common human experience is clear. What is not well understood is what attachment is and where it comes from.

To explicate these questions it is useful to construe attachment as a person-material possession association; i.e., a property which reflects the self-cultivation tasks which certain material objects facilitate. We explore this notion herein by discussing pertinent insights from previous studies, by presenting a working definition of attachment (which suggests certain properties it might possess), and by considering the results of an exploratory study. We conclude with some implications for continued investigation of attachment as a consumer behavior construct worthy of further systematic exploration.

BACKGROUND

Several previous studies provide a base from which to draw ideas about attachment as a property of person-material object associations. As noted above, there is agreement that some of an individual's material possessions represent an extension of the self into the external material world. Belk (1987), for example, has demonstrated that individuals identify more or less with things, i.e., we feel more connected to certain items and less so to others. In studies where subjects have been asked to identify favorite or most cherished material possessions (e.g., Csikszentmihalyi and Rochberg-Halton 1981; Myers 1985; Olson 1985; Prentice 1987; Wallendorf and Arnould 1988), the assumption is made that such items are more a part of the self than items which are not listed by the subjects. Thus, it is reasonable to suggest that persons possess some items to which they are more attached and others to which they are less attached. An individual typically possesses both strong and weak attachments.

Attachment seems to reflect both social structure and individual processes. Within a culture, for example, certain material objects may be repeatedly identified as valued possessions. Wallendorf and Arnould (1988) demonstrated this in a cross-cultural study in which favorite possessions of

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Southwestern American subjects were compared to those of Nigerians. Social structure in the form of gender roles also appears to be influencing the cherished household possessions of the Chicago residents in the study reported by Csikszentmihalyi and Rochberg-Halton (1981). The authors observed that adult females expressed their gender role in household possessions far more than did male subjects.

Attachments also reflect developmental progression of the individual. A consistent theme across studies is that valued possessions are associated with two basic self-development tasks -- the differentiation of self from others and the integration of self with others, i.e., individuation and integration. Since valued objects reflect self-cultivation, it makes sense that the fundamental processes of individuation and integration would be reflected in attachments to material possessions. That this is so has been suggested by a number of favorite possession studies (e.g., Csikszentmihalyi and Rochberg-Halton 1981; Myers 1985; Olson 1985; Wallendorf and Arnould 1988).

Myers (1985) draws upon Erikson's theorizing about the autonomy needs of the adolescent which she felt were reflected in her subjects' retrospections about favorite possessions from that period in their lives. Olson's (1985) categorization scheme for classifying artifacts in the homes of couples suggests that the "relational" and/or "integrative" orientations of persons can be reflected in valued household possessions. The classification scheme suggests a person's desire to cultivate relationships or connections with others ("ancestral" and "fraternal" artifacts) as well as the remembrance of important events or stages ("historical" or "developmental" artifacts). Csikszentmihalyi and Rochberg-Halton (1981) directly identify differentiation and integration as a fundamental dialectic process which they observed to be reflected in valued household possessions. Therefore, there is substantial evidence that individuation and integration are reflected in certain possessions with which persons closely associate themselves, i.e., with objects of strong attachment.

Integration represents implementation of the "*social self*" (Csikszentmihalyi and Rochberg-Halton 1981). This relational side of an individual is the self which needs to be connected, joined, held, kept, associated, paired, and/or involved with others; also the self which fears being isolated, separated, remote or abandoned (Kegan 1982). This is the self that is reflected in strong attachments to things which remind an individual of a valued association with another in the past (e.g., letters from an old friend) or facilitate the anticipation of an important relationship planned for the future (e.g., an engagement ring).

Conversely, the individuating or "*idiotic*" self (Csikszentmihalyi and Rochberg-Halton 1981) is the self which desires to be differentiated, autonomous, separate, unique, self-contained, self-sufficient, self-determinant, knowledgeable of its own value, likes and dislikes, essentially in touch with the self-control and self-chosenness of its present and future; also the self which fears being completely taken over (Kegan 1982). This is the self which is reflected in strong attachments to things that remind an individual of past achievements (e.g., high school athletic trophies) or that facilitate working toward future accomplishments (e.g., leather brief case).

Persons are regularly negotiating both life tasks to some degree. The well adjusted adult has the ability to connect with or open the self up to others while at the same time maintaining self-containment and autonomy (e.g., Hogan, Jones and Cheek 1985; Kegan 1982; Vinsel, et al. 1981). The dialectic produces a constant psychic tension which results in motivation toward self-related goals (Kegan 1982).

Another theme across studies relates to the continuity establishing function of self-cultivation, i.e., the carrying of past selves into the present, the maintenance of present selves, or the anticipation of future selves. What we have labeled a temporal orientation is reflected in the study reported by Csikszentmihalyi and Rochberg-Halton. They suggest that older adult subjects tended to be looking back to a lifetime of experiences (e.g., their children growing up and family events). Olson found that younger married couples used valued possessions to help them establish a history that had not yet been formed and to anticipate their future together. He also suggests that attachment possessions of unmarried couples reflect less of a future orientation than the artifacts of married couples.

The self is literally changing from situation to situation. Thus, concrete objects help us make those transitions by permitting us to carry past selves into the present, to maintain present selves or to make the transition into the future. Thus, we expect that strong attachment, as a property of association to favorite possessions, will reflect these three dimensions of self-cultivation: individuation, integration and a temporal orientation.

WHAT IS ATTACHMENT?

We propose the following working definition of attachment. *Attachment is a multidimensional property of material object possession which represents the degree of linkage perceived by an individual between him/her self and a particular object.* This perceived linkage is reflected in the three orthogonal dimensions of individuation, integration, and temporal orientation. Attachment is not a property of either the individual or the object, per se, but rather represents an intersection or joining of the two.

Attachment has relative strength. An attachment to a specific object can be relatively strong or weak. Stronger attachments are associated with objects which are perceived as more a part of the extended self. These are the objects into which an individual is likely to invest a greater degree of psychic or emotional energy (Belk 1987).

Attachment is defined as perceived by the individual in question. The degree of attachment is reflected in thoughts, feelings and behaviors toward a *particular* object. Differences in these thoughts, feelings and behaviors should be evident between strong and weak attachments. We would expect, for example, that the person's thoughts about a strong attachment object would reflect its self-cultivation faculty while thoughts of a weak attachment object would more often reflect its utilitarian value. We might also hypothesize that the person would experience different feelings toward an object of strong attachment (e.g., happiness, sentimentality, pride) than an object of weak attachment (e.g., anger, frustration, or nothing at all).

Degree of attachment to a specific object can change over time (Myers 1985). Throughout a person's life, s/he will develop new attachments and dispose of old ones as the self develops. Increasing attachment strength may reflect a becoming self while decreasing strength may reflect detachment from an old, unwanted or unneeded, self.

Attachment is a multidimensional concept. It reflects the three fundamental dimensions: individuation, integration and temporal orientation. Together, these dimensions represent basic self-definitional, maintenance, and stability purposes.

Attachment formation is not deliberate. Although it is reasonable to assume that we seek to form attachments, in general individuals do not deliberately seek to form an attachment to a particular object. Rather, attachment arises from association with a consumption experience (defined broadly) which has meaning for the individuating or integrating self cultivation processes. Once it is formed, however, a strong attachment is something which a person seeks to maintain, at least for a time. This should be reflected in the person's manner of keeping and caring for the object and intention to keep the object for a long time or "forever".

Attachments serve self-presentational functions. Self- presentation, the reader will note, can refer to symbolic display to others *or* to the self in an intrapsychic process of self-reflection or self-enjoyment. Therefore, it is likely that strong attachments would be kept in a fashion such that the object can be displayed to others (e.g., an athletic trophy on the shelf) or to the self (e.g., photographs kept in a drawer for easy access when wanted).

Attachment is associated with an individual's valence toward the specific object to which s/he is strongly or weakly attached. We would expect that strong attachment would be associated with a sense of liking while weaker attachment would be associated with a sense of dislike or neutral feelings. It may be that weaker attachments reflect either objects which are strictly utilitarian (and thus not strongly liked or disliked) or objects which are associated with disliked old selves and consumption experiences (and thus negatively evaluated). Attachment is correlated with, but logically precedes attitude.

AN EXPLORATORY STUDY

Prior studies exploring person-object attachments have employed post hoc procedures to distill order from their data. The preceding conceptual development provides a foundation from which the following *a priori* hypotheses are derived.

Hypotheses

We proposed Individuation, Integration, and Temporal Orientation as three orthogonal dimensions of attachment. If these indeed are dimensions of attachment, then one would expect them to be evidenced more frequently for possessions with which individuals have strong attachment than for weak-attachment possessions. We propose Hypothesis 1:

H_1 The integration and individuation dimensions will be manifested more frequently, jointly or independently, for possessions with which individuals' have strong rather than weak attachment.

The proposed Temporal Orientation dimension of attachment suggests that objects to which individuals are strongly attached provide a linkage with the past, present, and/or anticipated future. We advance this hypothesis:

H_2 Evidence of maintaining a linkage with the past, the present, and/or future will be evidenced more frequently for possessions with which individuals have strong rather than weak attachment.

In our discussion of attachment properties we suggested that strong attachment possessions will be more positively valenced than weak attachment possessions. Thus, H_3:

H_3 Strong attachment possessions will be more positively valenced than weak attachment possessions.

We also suggest that the possession related emotions (e.g., joy, sadness) individuals experience for strong attachment possessions will differ from those emotions experienced for weak attachment possessions. Hypothesis 4 is advanced:

H_4 Individuals' possession related emotions for strong attachment possessions will differ from those experienced for weak attachment possessions.

How an individual behaves toward a possession should differ according to the strength of his/her attachment to the object. We advance the following hypotheses:

H_{5a} Strong attachment possessions are more frequently kept in a protected or safe place or are taken care of in order that they are not lost, stolen, or damaged in some way more frequently than weak attachment possessions.

H_{5b} Strong attachment possessions are more frequently purposefully kept where they can be seen by others than weak attachment possessions.

H_{5c} Strong attachment possessions are more frequently purposefully kept where the individual can see them or can get to them readily when s/he wants them than are weak attachment possessions.

H_{5d} Weak attachment possessions receive special caring or display less frequently than strong attachment possessions.

Finally, because receiving an object as a gift may serve to connect the recipient to the giver, we expect that strong attachment possessions are received as gifts more often. Thus:

H_6 Strong attachment possessions will have been received as a gift more often than weak attachment possessions.

Method

Our methodology differs from that of previous attachment studies in two significant ways. First, we employed a self-administered questionnaire. Prior studies have collected data through personal interviews. Second, as our interest is in attachment, per se, our subjects were asked to identify possessions with which they have strong attachment *and* possessions with which they have weak attachment. Prior studies have focused exclusively on "favorite" or "most cherished" possessions -- i.e., on strong attachment.

The ten-page questionnaire, which subjects were encouraged to complete at home, contained several tasks. Subjects first read general orienting instructions ("Think about the things you possess. Think about your favorite possessions -- the items you cherish the most -- and about your least favorite possessions -- the items you wouldn't mind parting with") and then indicated their gender. They were then asked to generate a list (length unspecified) of strong attachment possessions. Strong attachment was operationalized with this statement: "List the material objects you have which would be EXTREMELY HARD TO PART WITH, if for some reason you had to." They were given twenty blank lines and instructed to list only one item per line. Subjects then repeated the task listing "objects which you would find EXTREMELY EASY TO PART WITH" (i.e., low attachment possessions).

The third task was different. We asked subjects to refer back to their list of things which would be extremely hard to part with and to copy item #1 from that list on a line provided them. Subjects were then asked to indicate these six things: 1) *Why* would you find the item so hard to part with?; 2) How did you come to have the object? (self purchased; received it as a gift and if so, from whom; other); 3) How long have you possessed and how long do you intend to keep the object?; 4) Where do you keep the object and why?; 5) What feelings do you experience when thinking about the object?; and finally 6) How is the object related to who you are?

On the next five pages of the questionnaire, subjects were asked to respond to the same questions for five other objects -- the second and third possessions on their strong attachment list and the first three possessions on their weak attachment list. All together, they responded for each of six objects. Subjects then responded to five seven-point semantic differential scales for each of the six objects. The five bipolar adjectives scales were: good-bad, negative-positive, admirable-deplorable, unpleasant-pleasant, and worthless-valuable. The composite of these scales forms our valence measure. (Note: Lower values indicated more positive attitudes.)

Because the study is exploratory, with the emphasis on construct development, questionnaires were distributed to a convenience sample of 105 students at a Midwestern university. Ninety five usable questionnaires were obtained (63 females, 32 males).

Data Preparation

Two protocols were selected from each subject's questionnaire for analysis: the protocols for the first possession on the "hard to part with" and "easy to part with" lists. Two trained judges, naive to the study's purpose and hypotheses, coded each protocol as described in this section. (A third judge's coding efforts were discarded as he failed to follow directions.)

The judges were provided definitions of individuation and integration and instructed to code each protocol, based on its Gestalt, into one of four mutually exclusive categories: 1) integration evidenced; 2) individuation evidenced; 3) both integration and individuation evidenced; or 4) no evidence of either integration or individuation. Agreement between the two judges was 70.0% across the 189 decisions. Disagreements were settled through discussion with two of the authors.

The judges then coded each protocol into one of seven categories which reflected our proposed temporal orientation dimension. The seven mutually exclusive categories included:

1. *A Past/Has Been Self.* A past self which has been or is being let go; a self which is no longer needed, wanted, or desired; a part of a person's past which s/he wants to forget or be rid of.

2. *A Past/Present (Kept) Self.* A past self which is being held on to or maintained; a self being carried on into the present; a desirable or necessary self; a part of a person's past which s/he wants to keep; events or persons to be remembered.

3. *A Past/Present/Future Self.* A past self being held on to but also being explicitly carried on into the future; a past self being part of future aspirations or plans.

4. *A Present Self.* A current self; who I am now, what I am.

5. *A Present/Future Self.* A present self deliberately being carried into the future; what I intend to keep being; a self which is desirable which I do not wish to let go.

6. *A Future Self.* An aspired to self; a wanted self; a self I intend/plan/wish to be.

7. *None of the above.* Little or no reflection of past, present, or future selves; not related to the self.

Inter-judge agreement on this task was a disappointing 44.0%. Discussion with the judges revealed that the disagreement centered around a single problem in which one of the judges sometimes read beyond the information given by the respondent -- i.e., coding based upon a priori assumptions about the object rather than what the subject *expressly* stated about the object. Two of the authors resolved the discrepancies accordingly.

Finally, each protocol was coded according to the subject's response to the question about where the object was kept and why it was kept there. Four nonmutually exclusive categories were used:

1. Evidence that the object is kept in a safe place or protected in some way;

2. Evidence that the object is purposefully kept where others can see it;

3. Evidence that the object is purposefully kept where the subject can see it or can get to it easily when desired;

4. None of the above; little or no evidence of special caring or display.

Inter-coder agreement on this task was 78%.

Next, the five-item valence measure was subjected to preliminary scale analysis. Factor analysis supported the assumption of unidimensionality. However, the "worthless-valuable" scale was eliminated because of its non-significant factor loading. Coefficient alpha for the remaining four items was $\alpha = 0.95$. The remaining four items were summed to produce our possession valence measure.

The questionnaire item which asked subjects how they came to have the object provided three possible "yes-no" responses. These were coded as: 1) bought myself; 2) received as a gift; and 3) other. The "other" category was typically used for objects for which the question had no relevance such as photographs or found objects.

Finally, the emotions subjects reported experiencing when they thought about the possession were aggregated into a master list.

Results

With H_1 we proposed that evidence of our proposed individuation and integration dimensions would occur more frequently in strong attachment possession protocols than in weak attachment possession protocols. Both inspection of Table 1 and our significant chi-square test ($x^2_{(3)}$=143.12, p=0.000) indicate support for H_1. Post-hoc one-sample chi-square tests confirm that evidence of the individuation ($x^2_{(1)}$=25.0, p=0.000), integration ($x^2_{(1)}$=19.93, p=0.000), and the two in combination ($x^2_{(1)}$=22, p=0.000) occurs more frequently for strong than for weak attachment possessions. The finding of *both* individuation and integration within the same protocol provides support for their orthogonality. Finally, whereas 97.9% of the strong attachment possession protocols evidenced these proposed dimensions, 87.2% of the weak attachment possession protocols evidenced *neither* dimension. Thus, H_1 is supported -- we have evidence for our proposed integration and individuation dimensions of attachment.

Hypothesis H_2 predicted that strong attachment possession protocols would evidence our proposed temporal orientation dimension more frequently than the weak attachment protocols. An overall chi-square test for the independence of frequency of aspects of the temporal orientation dimension between strong and weak attachment protocols was conducted. As the data in Table 2 reveal, several cells had expected frequencies less than five. Thus, the chi-square test was conducted with categories 1,5,6, and 7 collapsed. The significant chi-square ($x^2_{(3)}$=117.65, p=0.000) supports H_2. Post hoc one-sample chi-square tests revealed that high attachment possessions more frequently evidenced linkage with the past/present ($x^2_{(1)}$=29.64, p=0.000), past/present/future ($x^2_{(1)}$=17.73, p=0.000), and present ($x^2_{(1)}$=12.02, p=0.000) than low attachment protocols. Finally, 77.4% of the weak attachment protocols reflected *no* evidence of our proposed temporal orientation dimension whereas only 5.2% of the strong attachment protocols reflected no evidence of this dimension. Thus, we have encouraging evidence for our proposed temporal orientation dimension.

Our third hypothesis proposed that strong attachment possessions would be more positively valenced than weak attachment possessions. The significant t-statistic for the difference between the valence of the strong ($\bar{X} = 5.0$, $s = 1.99$) and weak ($\bar{X} = 16.4$, $s = 5.87$) attachment possessions ($t = 17.51$, $p<0.001$; Note: t for unequal variances) strongly supports H_3.

To analyze the difference between subjects' feelings about strong and weak attachments we simply composed a list of all emotions listed by the subjects. Our hypothesis was that the strong attachment and weak attachment lists would not overlap. Indeed, examination of the abbreviated lists presented in Table 3 support this assumption. A total of 83 different emotions was reported by our subjects for strong attachment possessions. Sixty-five different emotions were reported, in total, for low attachment possessions. Only six emotions -- good, memories, sad, warmth, comfort, and past experiences -- appeared

TABLE 1
Incidence of Individuation and Integration in Protocols

Property	Strong Attachment	Weak Attachment
Integration	26.3%	0.0%
Individuation	48.4%	12.8%
Both	23.2%	0.0%
Neither	2.1%	87.2%
Total	100.0% (n=95)	100.0% (n=94)

TABLE 2
Temporal Orientation Incidence

Temporal Orientation	Strong Attachment	Weak Attachment
1. Past	0.0%	5.4%
2. Past/Present	43.2%	4.3%
3. Past/Present/Future	13.7%	0.0%
4. Present	36.8%	11.8%
5. Present/Future	1.0%	0.0%
6. Future	0.0%	1.1%
7. None	5.3%	77.4%
Total	100.0% (n=95)	100.0% (n=94)

on both the strong and weak possession attachment lists. Although we cannot offer a statistical test of this hypothesis, we submit that the small amount of overlap provides strong support for H_4.

The reader will also note that strong attachment feelings were generally positive with the exception of the "sadness" response. Clearly negative feeling reactions were associated with many of the weak attachments. About 35% of the sample reported they felt "nothing" about the weak attachment possession. A reading of the protocols revealed that these weak attachments tended to be items regarded by the subject as purely utilitarian in purpose. The balance of the "weak" attachment responses were clearly negative. Many represented a dislike of present circumstances (e.g., school books, or frustrating old car) or old selves that were no longer liked (e.g., disgust "that I ever liked the music on those old records").

The next series of hypotheses predicted how individuals behave toward possessions with which they have strong or weak attachment. The significant chi-square ($x^2_{(1)}$=7.36, p<0.01) supports H_{5a} -- strong attachment possessions are more frequently kept in a protected or safe place than are weak attachment possessions (see Table 4). Because of expected cell frequencies smaller than five, neither H_{5b} nor H_{5c} could be tested. We are unable statistically to support our claim in H_{5d} that weak attachment possessions receive special caring or display less frequently than strong attachment possessions ($x^2_{(1)}$=1.80, p<0.15), however the data are directionally consistent.

Finally, H_6, which predicts the greater incidence of strong attachment possessions as gifts, was tested in two steps. First, an overall chi-square test of difference between strong and weak attachments was conducted ($x^2_{(2)}$=27.8, p<0.000). Then, an individual test of difference between the number of strong and weak attachment possessions which had been received as gifts revealed support for H_6 ($x^2_{(1)}$=13.16, p=0.000). This finding is in accordance with previous findings about gift-giving.

IMPLICATIONS

The results of our exploratory study encourage us that attachment can be treated as a construct which is definable and measurable. We found that subjects' thoughts about strong attachment possessions, as opposed to weak attachment possessions, more frequently manifested the proposed dimensions of integration, individuation and temporal orientation. Strong attachment objects were associated with different (and more positive) emotions and were more likely to be specially cared for and/or displayed than weak attachment objects. Thus, we are encouraged to

TABLE 3
Feelings About Attachment Objects*

Strong Attachments

Feelings	Total	Frequency Male	Frequency Female
happiness, happy	27	6	21
love	20	3	17
memories	15	8	7
warm,warmth	8	2	6
pride,proud	8	2	6
security	7	0	7
sad,sadness	6	3	3
comfort	5	1	4
excitement	5	2	3
good feelings	5	2	3
joy	5	1	5
care,caring	4	0	4
fun	4	2	2
satisfied	4	2	2
accomplishment	3	1	2
mine,only mine	3	1	2
nostalgia	3	0	3
pleasure	3	0	3
appreciation	2	1	1
freedom	2	1	1
liking	2	0	2
peace	2	0	2
relaxation	2	2	0

Weak Attachments

Feelings	Total	Frequency Male	Frequency Female
nothing	34	12	22
boredom, monotony	10	1	9
frustration	5	2	3
work	5	3	2
negative,bad,yuk	4	1	3
disgust	4	1	3
wasted money, time	3	0	3
hassled	2	0	2
annoyance	2	1	1
stress,worry	2	1	1
impatience	2	0	2
dread,apprehension	2	0	2
guilt,remorse	2	0	2

*The feelings listed are in response to the question "What feelings do you experience when you think about the object?" Recorded in the table are those feeling responses which were listed by at least two subjects. Many subjects listed more than one word in response to the open-ended question.

TABLE 4
Keeping and Displaying of Possession

How Kept	Strong Attachment	Weak Attachment
1. Protected	21.1%	2.1%
2. Displayed to others	2.1%	5.4%
3. Displayed to self	5.3%	1.1%
4. None	65.3%	91.4%
5. Both 1 and 2	0.0%	0.0%
6. Both 1 and 3	1.0%	0.0%
7. Both 2 and 3	4.2%	0.0%
8. 1, 2, and 3	1.0%	0.0%
Total	100.0% (n=95)	100.0% (n=94)

pursue the idea of attachment as a consumer behavior construct.

The formalization of attachment as a consumer behavior construct is the first step toward the development of a measure of attachment. We recognize the potential disadvantages of attempting to quantify such a thing as attachment (e.g., a certain degree of information loss), however, we feel this is offset by the generalizable insights to be gained through exploration of the relationships between attachment and traditional consumer behavior constructs (e.g., attitude or involvement).

For example, we believe attachment is conceptually distinct from involvement on at least four accounts. First, attachment, as opposed to involvement, is directly associated with fundamental self-developmental processes that span the entire life cycle. Second, attachment's temporal element has no counterpart in involvement. Attachments often have to do with memories and previous self-definitional experiences as well as current or anticipated ones. Involvement concerns the present only. Third, attachment concerns the usage phase of consumption. Involvement is more relevant to acquisition activities. Finally, an individual's affect regarding an attachment object can range from very positive to very negative. Negative valence (a sense of avoidance) is associated with weak attachment objects associated with past undesired selves. Low involvement is not logically associated with negative valence.

There are other ways in which involvement and attachment might differ. However, our point here is that since involvement has been conceptualized and measured in a more traditional fashion (as in Zaichkowsky 1985), explication of attachment as a construct would permit theoretically interesting cross-construct comparisons.

We have also found support for the use of self-administered questionnaires in this context. These permit data collection with larger samples than are possible with the personal interview method used in prior explorations of valued possessions.

We have raised more questions about attachment than we have attempted to answer. Perhaps some day, if we are sufficiently lucky, we will have a comprehensive understanding of the role of attachment in consumption behavior.

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Hedonic Consumption: Music as a Product

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ABSTRACT

Hedonic consumption is a relatively new field of study in consumer research. It offers a complimenting paradigm to the one of traditional information processing, focusing on the "experiential" aspects of the consumption experience which are subjectively based, such as sensation seeking, emotional arousal and fantasizing. To date, most studies have focused on consumer traits that would predict hedonic consumption as opposed to product traits that might elicit hedonic consumption. The study of music is proposed as an avenue for researching what characteristics of the person and the product interact to prompt consumption of hedonic products. A model for studying music as a product is presented.

INTRODUCTION

Hedonic consumption is a relatively new field of study in consumer research that addresses the multisensory, fantasy and emotive aspects of product use (Hirschman and Holbrook 1982). It explores the consumption experience not as an information-processing event but via a phenomenological or "experiential view" defined as "a primarily subjective state of consciousness with a variety of symbolic meaning, hedonic responses and esthetic criteria" (Holbrook and Hirschman 1982, p. 132). Hedonic products include those which arouse the emotions, aesthetic products such as literature, visual arts, and drama. The current paper focuses on one particular hedonic product category: music.

Music is very much a part of our daily lives. *Billboard* reports that recorded music is the fastest growing segment in the communications industry with projected sales to reach $6.1 billion in 1991 (Lichtman 1987, Mehler 1987). There is also a strong secondary market which includes concerts and electronic equipment. Marketing studies have explored music's effects in advertising (e.g. Park and Young 1986), the role of music in classical conditioning experiments (Gorn 1982, Bierley, McSweeney and Vannieuwkerk 1985), and the effect of music as a background on purchase behavior (Milliman 1986, 1982, Smith and Curnow 1966). Yet, very little has been done in the way of consumer research to explore why people "consume" music. The treatment of music as a product has been relatively ignored. Music has a unique characteristic in that it is initially consumed, generally speaking, through the radio and/or television media before it is purchased. One usually hears the music through some media vehicle before buying it.[2] Consumption of music is also repetitive. One buys recorded music to be able to experience the music more than one time and to be in temporal control of the consumption. Psychologists and music educators are interested in studying the human reactions to music, the former group to understand aesthetic behavior (e.g., Berlyne 1971) and the latter group to influence it (Yingling 1962, Trolio 1976). Research in the psychology of music has three areas of interest, composition, performance, and listening, or music appreciation (Sloboda 1985). While each area has unique properties for research, the emphasis of this study focuses on the listener/consumer. A shortcoming in the music research literature is its almost total exclusion of popular music. Psychology of music studies commonly ignore examples of music other than "serious". (Konecni 1982). A few characteristics of popular music have been studied in this context (e.g., Russell 1986), but the field remains largely unexplored. Considering the amount of dollars and time spent on popular music, research which focuses on popular music can, no doubt, contribute to the advancement of understanding the phenomenon of music listening.

The purpose of this paper is to suggest research avenues for music as a product. Its objectives are to blend the marketing and music literature to define what characteristics of consumers and what characteristics of music interact to produce consumption/purchase and present a viable explanation of music preference and purchase behavior. First, the hedonic consumption literature is analyzed. Second, research in the psychology of music is presented, focusing on studies that might relate to music preference, to define what variables are involved in processing and responding to music. Lastly, a paradigm for studying music as a product is advanced, which will incorporate the variables and responses which may have the strongest influence on music preference and purchase behavior.

HEDONIC CONSUMPTION

Hirschman and Holbrook (1982) introduce hedonic consumption as an explanation for the consumer behaviors that deal with the multisensory, fantasy and emotive phases of product usage experience. The authors define four hedonic perpectives: mental constructs, product classes, product usage, and individual differences. The basic

[1]The author gratefully acknowledges the conceptual inspiration of Dick Mizerski, the analytic and editorial help of Dennis White, and the overall support of Marya Pucely in the writing of this paper.

[2]Some consumers may purchase a new release on the strength of their knowledge of the artist or composer without previous exposure. However, the author maintains that the consumer has expectations either based on projections from previous experience or on "review" recommendations similar to those given for new books and movies.

area of concern for all the perspectives is the role that the subjective, emotional part of man plays and to what extent it may dominate a consumption/purchase situation. These hedonic perspectives are meant to enhance, not replace, traditional consumer behavior theories. In a similar article, Holbrook and Hirschman (1982) compare an information processing model of consumer behavior, arguing that while much of consumer behavior can be explained by conventional research, it neglects an important segment of the consumption experience, namely, fantasies, feelings and fun (e.g., leisure activities, variety seeking, sensation seeking, hedonic response). One objective of hedonic consumption research is to monitor and predict emotional reactions and fantasy imagery during product usage. What is necessary also are measures which predict what reactions (responses) cause a person to purchase a particular hedonic product.

Hirschman (1983) identifies four types of hedonic behavior. Problem projection proposes that people engage in activities which confront them with unhappy realities in order to better cope with these situations. Role projection is those activities which permit individuals to self-project into a particular role or character. Fantasy fulfillment purchasing is the use of products to help construct fantasies and augment reality. Escapism is those activities which allow the individual to escape unpleasant realities or distract themselves from unpleasant events. The author analyzes these different types of behavior against the demographic predictors of age, education, occupational status and birth order and the sociophysical predictors of ethnicity, imagery, social isolation, novelty seeking, sensation seeking, adult information exposure and childhood stimulation exposure to ascertain the characteristics of persons who engaged in each type of behavior. In a similar study, Hirschman (1984) uses the aforementioned demographic and sociophysical predictors to identify the consumer who engages in experience seeking. Experience seeking is defined as an overall phenomenon that represents consumption as the generation of internal thoughts and/or sensations which constitute the content of the experience. Experience seeking is the weighted average of three constructs, cognition seeking - experience sought to stimulate thought processes, sensation seeking - experience sought to stimulate the senses, and novelty seeking - the desire to seek out novel stimuli. Both studies found descriptive background characteristics that help define these different consumer behavior profiles.

Some methodology testing has also occurred in the area of hedonic consumption. Havlena and Holbrook (1986) compare two typologies of emotion, Mehrabian and Russell's PAD dimensions and Plutchik's emotional categories. Using reliability, internal validity and external convergent validity as criteria, the authors' results favor the Mehrabian and Russell approach. Holbrook (1986) investigates aesthetic responses to design features in clothing using canonical correlations analysis. He uses the independent internal variables of visualizing/verbalizing tendency, intrinsic/extrinsic motivation, and romanticism/classicism and devises measurements of them. Results show that these variables do, in fact, influence aesthetic responses to clothes design. As Holbrook notes, a limitation in this study is the utilitarian nature of clothing interacting with the aesthetic dimension.

The research reviewed above has focused more on hedonic behaviors than on products. When a product was studied it had some non-hedonic or practical value. The study of music as a product would provide a more purely hedonic focus.

Reasons for listening to music

According to Sloboda (1985), "The reason that most of us take part in musical activity, be it composing, performing, or listening, is that music is capable of arousing in us deep and significant emotions," a position echoed by Havlena and Holbrook (1986). On the analytical side, Hantz (1984) argues that "music (or musical thinking) offers a more direct access to mental process than, say speech, since the manipulation of perception and recall is so central to it" (p. 246). Listening to music requires the discrimination and assimilation of melody, harmony, rhythm, tempo and instrumentation, to name a few of the elements of music, via a series of complex and as yet rather unexplainable processes (Sloboda 1985). Hirschman (1984) describes one type of consumer behavior as cognition seeking, where an individual seeks to discern cause and effect relationships. It follows that music can also provide cognitive stimulation.

Music listening is also influenced by social factors. Although there is no denying the possibility of some primitive responses to music, most of our responses to music are learned. At an early age we learn to discern the cultural characteristics of music. Minor mode and slow tempo may denote sadness in Western music; however, no such cultural meaning is placed on Eastern music. In other words, what sounds sad to a Westerner may not sound sad to an Easterner (Sloboda 1985). Social pressures, such as peer pressure among teenagers, may also help to decide what an individual will purchase. Music may be purchased as much for its social status as its own intrinsic value. A Yuppie may buy assorted classical works to impress his/her superiors. People use music to facilitate and/or supplement social situations. Going to a concert may be as much a social event (i.e., dressing in a tuxedo) as it is a musical event.

VARIABLES INVOLVED IN MUSIC LISTENING

Prince (1972) offered an extensive paradigm for research on music listening involving three general variable categories, listener characterisitics, affective and associative responses and perceptual and learning processes. Listener characteristics include personality, musical ability, and socially-educationally derived attitudes toward music. The listener's general state of attention may be influenced by these characteristics. Affective and associative responses include physical changes, feeling-tone responses, and visual images, all of which interact with each other. These responses are input for the perception of patterns and musical preference. Perceptual and learning processes encompass the entire gambit of information processing variables including memory storage and retrieval, concept development and insights. Music preference may also result from the cognitive understanding of the music.

Listener characteristics

In a review of the psychology literature, Berlyne (1971) addresses the different aspects of individual differences as they pertain to aesthetic behavior. Five principle traits are found to influence aesthetic appreciation: 1) tolerance of complex situations; 2) tolerance of ambiguity of feelings or perceptions; 3)breadth of attention and the accuracy with which details of objects or events are noted; 4) independence of judgment; and 5)a capacity to escape the everyday and take interest in the unusual aspects of things (i.e., stop and smell the roses along the way). The first three traits indicate a willingness to approach and explore novel situations and the fifth a propensity to experience phenomena. Hirschman (1980) describes the consumer construct of inherent novelty/seeking innovativeness which is the desire of the individual to seek out novel stimuli. Wheeler (1985), reviewing just the music literature, also found evidence to suggest that the manner in which people play and respond to music may provide information about their personalities. However, since different personality scales were used in the different studies, results were difficult to compare. In her study on the relationship of personal characterisitcs on mood and music enjoyment, Wheeler used the Personality Research Form (PRF), FormE, which encompasses 22 scales, and got some rather ambiguous results. Musical preference was defined as a person's liking of the music at a particular moment with no long-term commitment. Musical taste was defined as a long term commitment to musical style. The study found that taste predicted preference, in this case, liking jazz and classical music predicted liking the selection of music, which was Chopin's *Barcarolle*. Musical taste was divided into the seven style categories of rock, disco, country, classical, folk, jazz, and soul. Not one of the 22 scales appeared in all seven categories, therefore, it was concluded that no specific characteristics predicted taste across musical styles. This finding may be due to the narrowness of the PRF scales. No one PRF scale encompassed all five of the aformentioned traits. However the scales that do show up more frequently have elements of the five traits, therefore giving some credence to perhaps a "bundle" of traits that could predict purchase perference.

> Proposition 1: Personality traits that emphasize the individual's propensity to approach, explore and experience novel phenomena will be positively correlated to their music preferences and frequency of consumption.

The intensity or magnitude of an experienced emotion is an important aspect of any emotional response. Larsen and Diener (1987) present as as a stable individual characteristic, the notion of affect intensity, defined as the typical intensity with which individuals experience their emotions. Affect intensity is anchored on one end by people who experience their emotions mildly with little fluctuation and on the other end by people who experience their emotions strongly and who are emotionally reactive and variable. "Given the same level of emotional stimulation, individuals high on the affect intensity dimension will exhibit stronger emotional responses, regardless of the specific emotion provoked" (p. 2). Affect intensity differs from emotional variability in that affect intensity does not measure frequency of the experienced states, only the magnitude. The premise is that over time, people who experience intense positive affect will also experience intense negative affect. In reviewing the literature the authors find that individuals who score high on affect intensity tend to engage in day-to-day activities that are more emotion provoking than do low affect intensity. This characteristic could be a partial explanation for listening to music. Music is an activity that can provide emotional stimulus on a daily basis. It would logically follow that high affect intensity people would engage in more frequent consumption of music.

> Proposition 2: The higher a person's affect intensity, the more an individual will consume music.

A controversy within the music community concerns the role of music training in the appreciation and enjoyment of music. Ortmann (1927) proposes that training has a strong effect on reactions to music. The more training one has the more one enjoys music. Responses of the trained and untrained listener were found to be markedly different by Hargreaves (1982), with the trained listener focusing more on the objective aspects of music and the untrained listener on the subjective aspects of music. Focusing on the analytical detracts from the emotional, which is the more natural way to respond to music (Yingling 1962). Edmonston (1966), however, found that music training did not enhance or disrupt one's appreciation. This particular variable is of some interest as it pertains to different music styles and its role in influencing music preferences needs clarification.

> Proposition 3: Music training should not interfere with music preferences unless it blocks the individual's ability to experience the emotion of the music.

Responses to music

Psychologists and music educators have conducted numerous studies in the search to identify and categorize the listener responses to music. A review of representative studies (shown in Table 1) show a clear consensus that music evokes the broad categories of sensory, emotional, associative

TABLE 1
Categories of Responses

Study	*Responses*	*Definition*
Myers (1914)	Intra subjective	The sensory, emotional, or conative experience
	Associative	Images the music suggests
	Objective	Use or value considered as an object - analytical
	Character	Character personified as a subject - aesthetic appraisal
Ortmann (1927)	Sensorial	The raw sensory material, essentially physiological
	Perceptual	Based on tonal relationships,interpretation of the sensorial
	Imaginal	Representative, subjective
Gatewood (1927)	Physical	Pure sensations
	Associative/Imaginal	Visual representations/ memories
	Ideation	Objective, perception of music structure
	Emotional	Feelings the music evokes
Yingling (1962)	Associative	Non-musical representations
	Emotional	Feelings the music evokes
	Intellectual	Analytical
	Sensory	Awareness of the need to approach or withdraw from the music
Hargreaves (1982)	Categorical	Labelling of music style, e.g., classical, rock, etc.
	Objective/Analytical	Awareness of technical aspect of the music, e.g., tempo
	Objective/Global	Awareness of intrinsic qualities, e.g., religious
	Affective	Subjective feelings
	Associative	Extra-musical associations

(imaginal), and analytical (objective/cognitive) responses. Sensory includes the primal responses to music, the motions and attractions that are inspired by the music. Emotional represents the feelings one has such as joy, sadness, or rage. Associative depicts the images, memories or situations that the music evokes, which is outside of the actual musical content. Finally, analytical describes the objective, cause-effect, logical sorting of the music in which a person may engage.[3]

Affective responses

As stated earlier, emotion is one of the primary ingredients of music appreciation. Meyers (1956) contends that "Emotion or affect is aroused when a tendency to respond is arrested or inhibited" (p. 14). Pleasant emotions are those that are aroused and then resolved properly. Music is pleasing if it first arouses apprehension and then dispells it.

Payne (1961) takes emotion a step futher to the concept of aesthetic emotion, emotion that is involved in experience or contemplation of the arts. Aesthetic emotion is defined as a generalized mood, or a feeling of worthiness, inspiration or exultation. In her study she shows that: 1) Aesthetic emotion is more extensively experienced than everyday or specific emotion; 2) People sometimes do not participate in the emotion of the music, but only recognize it; and 3) Music possesses both an emotional and intellectual element.

> Proposition 4: The more pleasingly emotional the music, the greater preference for the music.

Another area correlated to that of emotion is the notion of the intensity or "experiential" aspect of music which corresponds to Prince's (1972) feeling-tone responses. Swanson (1978) defines "experiential" as a person being moved from within by purposes that are simply not his own, with participation being, in part, voluntary. Other terms for this phenomenon may be amount of participation or absorption. Numerous studies show this aspect of music. Myers (1914), calls this the intra-subjective response to music, where the subjects describe "Sometimes I lose myself in the music...I felt the effect of being carried away, partly emotional, partly strain and tenseness of body." However, Myers points out that the "surrender must be under voluntary control" or the subjects distrust the responses. Ortmann (1927) describes a sensorial response to music, which he explains as a psychological necessity. This sensorial response is the foundation for all "higher level" responses to music. Building from Myers and Ortmann, Yingling (1962) defines sensory as "Responses which evidence tension of posture, actual or incipient motion of the body or parts of it, or an awareness of a need for the listener to approach or withdraw from the source of the music or source of tension connoted in the music".

Zajonc and Markus (1982) state "A preference is a behavior tendency that exhibits itself not so much in what the individual thinks or says about the object, but how s/he acts toward it...The study of attitudes, aesthetics, decision-making and consumer preferences must take as its basic aim the prediction of what is taken, approached, bought and married" (p. 128). As Payne (1961) found, one may recognize but not participate in the emotion of the music. Sloboda (1985) confirms this notion of being aware of but not participating in the emotion of the music. A key to music preference may be the music's ability to draw in the consumer, its experiential power.

> Proposition 5: The more absorbing or "experiential" the music, the greater the preference for the music.

Perceptual and learning processes

It is not in the scope of this paper to do an exhaustive review of the cognitive literature. For a very up-to-date presentation of the field the reader is advised to consult Sloboda's *The Musical Mind - The Cognitive Study of Music*. In his book, Sloboda points out that cognitive theories have done well at explaining the "how" of music listening; however, they have not done all that well at explaining the "why". Mathematical formulas developed under information theory can be used to measure information but cannot be used to measure affect (Trolio 1976).

MODEL FOR STUDYING MUSIC PREFERENCE AND PURCHASE BEHAVIOR

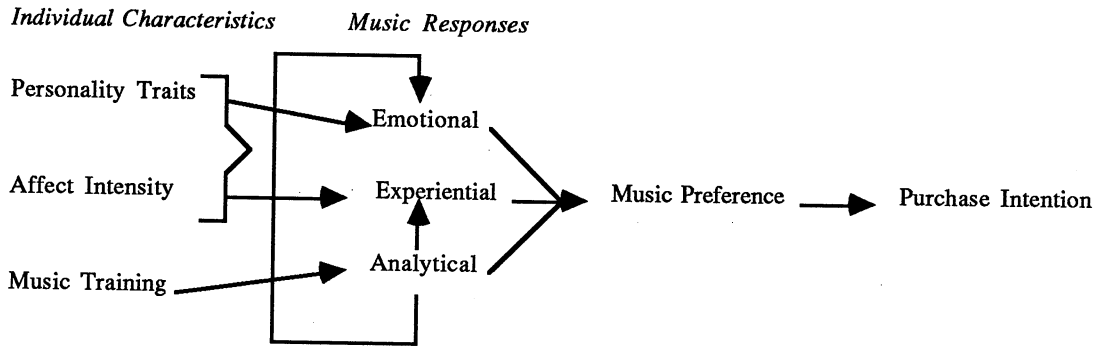
From the research mentioned above it is apparent that certain variables may be strong predictors of music preference and purchase behavior, as illustrated in Figure 1. The individual's propensity to approach, explore and experience phenomena and affect intensity dimension will positively impact the emotional and experiential responses. Musical training should correlate positively to analytical music responses. Of these responses, it appears that the emotional and experiential responses would have a positive impact on music preference while a strong analytical response might have a negative effect on music preference and purchase if it dampens the other responses. Music preference will have a positive relationship toward purchase behavior.

Managerial implications

The ability to predict music preference would be a help to the music business. Hurley (1986) reports that picking new musical groups to promote is at best a combination of experience, intuition and luck, with failures as prevalent as successes. At this point, cognitive research does little to explain creativity and taste. People who are picking winners are going with

[3]Note that Prince's paradigm encompasses the four musical responses. The interaction of the affective and associative responses can be likened to the sensory, emotional and associative responses. Perceptual and learning processes, especially those of concept development and insight strongly suggest the analytical response.

FIGURE 1



their gut feelings. As one editor put it, "I just hope that if I can't put a book down, there are thousands of other people who can't either" (p. 24). It does not take an heroic leap of imagination to see that her hedonic, or experiential view is what draws her most to a book. More to the point she believes that is what will sell the book to the public.

CONCLUSIONS

Hedonic consumption is a significant part of our daily lives, exemplified by our consumption of music. Thanks to the phonograph, radio and television, music is now easily accessible and impacting our lives in this century more than any other century before (Konecni 1982). To date, consumer researchers have not empirically tested these hedonic products. Considering the growth of the record industry, it is important to understand and predict the elements of a hedonic product that impel the consumer to purchase the product. Music as a product provides consumer researchers with a viable, researchable product whose basic psychology is well studied. Explaining the consumption of popular music will also fill a gap now prevalent in the music research literature. A study of the experiential aspects of music will benefit both consumer research and music research.

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Pre-Christmas Toy Guides: A Cross Sectional Research Study

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Helping adults to be 'better' parents by providing them with toy guides is very commendable. Yet, parents hold conflicting attitudes towards the usefulness of these guides. This paper presents the results of a cross-sectional research study related to this unusual subject in child consumers research. As hypothesized, socio-demographic profiles and cultural differences have a significant impact on readership and attitudes. Surprisingly, listenership patterns regarding these guides are mass oriented and the influence of higher education on attitudes is negative although positive on readership.

INTRODUCTION

The roles of parent-children interaction and family communication in consumer socialization of children and adolescents have received a considerable amount of attention (Ward, Wackman and Wartella 1977; Burr and Burr 1977; Atkin 1978; Moschis and Churchill 1978; Moschis 1985; to name only a few), but little has been written or said about the interest, receptivity and attitudes of parents towards educational materials designed to help them better educate or guide their children as current and future consumers.

Under this specific perspective, the purpose of this paper is to study the attitudes of parents towards certain toy guides published each year, prior to the Christmas season, and to undertake an objective evaluation of their usefulness.

RESEARCH CONTEXT

The research study was conducted in Ottawa, Canada, which is an excellent location for experimental research because of the bilingual and cosmopolitan profile of the population.

Three toy reports are published annually and they are heavily supported in the region through newspapers, radio and television advertising.

Accordingly, our objectives were (1) to measure awareness and usage levels of toy guides within the population under study, (2) to analyze and explain attitudes towards these guides, (3) to delineate a profile of readers and non-readers, and (4) to develop a final diagnostic on toy guides actual and potential usefulness.

HYPOTHESES

H1: There is a very substantial decrease from awareness of toy guides to actual readership.

Previous research shows that parental influence on their offspring has a greater likelihood of being higher at the information-seeking stage than at the product-evaluation stage (Moschis and Moore 1979a, 1983), for higher risk products, but it tends to be lower for specialty goods. In addition, parental influence is inversely related to age (Moschis et al. 1977; Moschis and Moore 1979b). Consequently, we may expect this influence to be high for toys, favouring a need for information tools such as toy guides.

Interestingly, previous studies either directly or indirectly related to protectionist magazines suggest that toy guides may only reach a limited, although sizeable, segment of 'socially conscious' consumers (c. 15 percent), be they called consumerists, consumer activists, or otherwise (Hustad and Pessemier 1973; Bourgeois and Barnes 1979; Englewood, Anderson and Becker 1980).

Taking everything into account, and considering the substantial advertising pressure deployed every year for these guides during the pre-Christmas period, we hypothesized that there is a high level of awareness in toy guides but a lack of genuine interest among parents. In other words, we expected a considerable decrease from awareness (over 75%) to actual readership (under 25%).

H2: A specific socio-demographic profile of toy guide readers can be defined, which differs significantly from the overall profile of the population under study.

Here again, parental influence has been found to be affected by the child's socio-demographic characteristics (Moschis 1985) and to vary among families of different socio-economic backgrounds (Hess 1970; Ward and Wackman 1973). Indeed, the influence of parents tends to be higher in the upper classes (Moschis and Moore 1979a).

Consequently, and in reference with comparable studies in related areas of consumerism published in Canada (Bourgeois and Barnes 1979; Belley, Hamel and Masse 1980), we anticipated that parents who consult toy guides and take their recommendations into consideration have a very different basic socio-demographic profile, comparable to the profile observed for parents actively involved in the education of their children as consumers. Moreover, these parents are not expected to have had as much exposure to broadcast media compared to the so-called average consumer.

H3: Awareness, usage and attitudes components will differ significantly among English and French Canadians.

Many cross-cultural studies in consumer behavior have suggested that parents from different cultures and sub-cultures hold very different attitudes towards their families, their children, and other dimensions related to their education (Plummer 1977, Moschis and al. 1983, Moschis and Moore 1984). This is particularly true for research conducted on general cultural differences between English and French Canadians (Mallen 1973; Chébat and Hénault 1974).

In a more descriptive context, official statistics in Canada reveal significant differences in toy expenditures and other child-oriented products and services between provinces, as well as between French and English Canadians (Statistics Canada 1982).

METHOD

Sample

The basic unit of analysis was defined as Canadians having children aged 10 or younger. A total of 614 respondents were interviewed by telephone, using a stratified sampling procedure whereby we equally divided the sample between English and French Canadians. The response rate among eligible respondents was high (81%), which may either be due to high interest in the subject or simply because consumers were responsive to the academic nature of the research, which was clearly specified during the interview. The study was conducted just after Christmas to limit the amount of memory erosion among respondents. Sampling error was calculated to be 1.8% at a 95% confidence level.

Questionnaire Design

The questionnaire was of a maximum twelve minute duration and, when translated, terminology validity was controlled by using the back-procedure. Both language versions were pre-tested among a sample of 60 French and English respondents.

Data Structure and Analysis

The dependent variable was an attitudinal measure (on a five-point Likert scale) comprised of 14 statements, sub-divided into the three basic components relating to attitudes: the cognitive (7), affective (2) and conative (3). The statements were developed through personal interviews during a pre-study and accurately reflect the parents' point of view. The actual statement formulations are presented in Table 4. The reliability of the attitudinal measurement was assessed using the Cronbach alpha coefficient, which reached a very acceptable level of .80 for the 14 statements, without rejecting any of them.

General and specific awareness, usage patterns, information sources, spontaneous reasons for refusing to buy a toy and the classical set of socio-demographic variables were also obtained during the course of the interview.

RESULTS

Awareness and Usage Levels

On the total sample, 79.8% claimed that they are aware of toy guides. Cross-tabulating general awareness by classification variables, and looking at Chi-square and related Phi and Cramér's V coefficients, awareness tends to be higher among women, increases significantly with age, number of children, levels of education and income. General awareness is also slightly better among French Canadians than their counterparts.

Among parents aware of toy guides, 17.1% did not recall, even after aiding, the name of at least one toy guide. Recall was lower among men, younger parents, and those with lower levels of education. Finally, only 50% of these parents were able to identify the guide(s) they had actually consulted. This overall low level of specific retention was, nevertheless, relatively better among 30 to 35 year olds, parents with two children, and consumers with lower levels of education.

In examining behaviors directly or indirectly related to toy guides, usage levels are quite low (Table 1). Usage rates appear to be positively related to level of education and household income, and vary somewhat between the two language communities. Cross-tabulations of alternative usage behaviors show that 89% of respondents having their own copy and 90% of those subscribing to a consumer magazine do not consult a toy guide in a public library. Among consumer magazine subscribers, 58% claim that they have their own copy. In fact, one of the guides is inserted into a pre-Christmas edition of 'Protect Yourself' magazine. Consequently, even by combining the multiple behaviors directly or indirectly related to toy guides, the overall approximation of readership does not exceed 25%.

Finally, the profile of a potential toy guide user may be described as follows: predominantly older, higher educated, French Canadian, with a higher family income.

These preliminary results partially confirm our hypotheses; first, there is a substantial decrease from awareness to actual readership, which is defined as buying a copy, consulting it in a library or subscribing to a consumer protection magazine; second, a toy guide user profile exists; third, there are some cultural differences between the English and French communities.

However, the apparent lack of interest in toy guides contradicts the high involvement demonstrated by respondents during the interview. This contention is supported by the fact that (1) 73.2% spontaneously cite at least one good reason for refusing to buy a toy, and (2) their main concern relates to the danger a toy may represent i.e. safety concerns (Table 2). There are no major variations between the subgroups, excepting that those with higher education and families with more children are not as concerned about danger, perhaps because they are more confident in their own judgment.

Logically, and as specified in the development of Hypothesis One, high levels of perceived risk in toy usage should mean that toy guides have wide readership, yet we have found that readership is relatively low. This observed contradiction suggests that toy guides available on the market may not be properly adapted to the needs of the targeted population.

Sources of Information

Sources of information for toy guides relate predominantly to mass media (with exception of radio, which is relatively unimportant in this case), and interpersonal discussions (Table 3).

Some sources of information appear to be more appropriate for certain types of consumers. For example, newspapers or magazines are more likely to reach older well-educated parents and those with higher

TABLE 1

Behavior Directly Or Indirectly Related To Toy Guides

	VALID PCT*	AGE	GENDER	LANG.	HOUS. INCO.	EDUC.	NUMBER CHILD.
Buy own copy	25.9	.125(c)	ns	ns	.17(b)	.21(a)	ns
Consult in a public library	8.3	ns	ns	.14(b)	ns	.10(d)	ns
Subscribe to consumer protection magazine	20.0	.15(c)	ns	.09(c)	.20(a)	.205(a)	ns

* Among those who claimed awareness of toy guides
Legend: Phi for 2x2 tables, Cramér's V for larger tables
Chi-square significance:

(a): $p<.0001$ (c): $p<.05$
(b): $p<.001$ (d): $p<.15$

TABLE 2

Spontaneous Reasons For Refusing To Buy A Toy
(Multiple Responses)

DANGER (Small pieces, child can choke or swallow, safety, sharp edges, dangerous, harmful, toxic...)	356	29.4%
QUALITY (Not durable, cheaply made, poorly constructed...)	226	18.7%
ADEQUACY (Does not hold child's interest, lack of versatility, not suitable for age group/development, too advanced...)	194	16.0%
EXPENSIVE (Costs too much, poor value for the money)	152	12.6%
VIOLENT (War toys, toys encouraging violence or aggressiveness...)	146	12.1%
OTHERS	186	11.2%
TOTAL	1,210	100.0%

TABLE 3

Sources Of Information Concerning Toy Guides: A Descriptive Analysis

	VALID PCT.	AGE	GENDER	LANG.	HOUS. INCO.	EDUC.	NUMBER CHILD.
NEWSPAPERS OR MAGAZINES	56.4	.14(a)	ns	ns	.12(b)	.11(b)	ns
TELEVISION	62.7	ns	ns	ns	ns	ns	ns
RADIO	27.3	ns	ns	ns	.10(c)	ns	ns
FRIENDS, FAMILY MEMBERS, OTHER ACQUAINTANCES	46.5	ns	.17(a)	.13(a)	ns	.14(a)	ns
CONSUMER ASSOCIATION	2.5	ns	ns	ns	ns	ns	ns

Legend: Phi for 2x2 tables, Cramer's V for larger tables
Chi-square significance: (a): $p<.01$ (b): $p<.05$ (c): $p<.10$

incomes. Radio is much more efficient in reaching parents with lower incomes, while French Canadian women and more educated people in general rely more on acquaintances to obtain information on toy guides.

Referring to findings from previous empirical studies, these results are consistent and conform with general knowledge regarding differences between social and cultural communities in Canada. Nevertheless, these listenership results do not correspond to the consumerist segment, but rather to the more average consumers market.

General Attitudes

The first descriptive analysis of attitudes towards toy guides, among parents aware of their existence, reveals a very controversial profile with many extremes and very high standard deviations within responses (Table 4). At the cognitive level, the quality and clarity of information presented in toy guides are highly regarded; although honesty and confidence are rated above average, the guides are judged to be somewhat incomplete, quite useless, containing inaccurate toy evaluations and poorly presented results.

The two affective statements reflect these controversial beliefs. Stated interest in these guides and pleasure in consulting them are only slightly above average and seem to generate a substantial amount of variance within the responses.

Finally, the conative dimension is split between the actual personal influence these guides have within the decision process, which is very low, and their "raison d'étre" per se, which is more fully ratified. The basic profile can be summarized as 'what is good for others may not be as appropriate for me!'

In summary, the contradictory reactions to toy guides generate successive reactions along the hierarchy of effects, which results in a lack of personal interest and usage, although their existence is not questioned.

By conducting a cross-sectional analysis of attitudinal scores through a one-way analysis of variance with F ratios, it is clear that, in order of relative importance, mother tongue, level of education and, to a somewhat lesser extent, gender significantly affect attitudes at all levels (Table 4).

In comparison to English Canadians, members of the French community clearly hold more positive perceptions in terms of usefulness, honesty and accuracy of toy guides. However, members of both communities are as critical of the quality and completeness of the information. Although francophone respondents use the guides less often, they express more interest, are more likely to suggest extending the reports to all types of children's products, and advocate more systematic usage by parents.

More highly educated respondents tend to be more critical of the quality, completeness, utility, honesty, and accuracy of the information provided. Consequently, they express less interest, are not as likely to think that all children's products should be evaluated in consumer guides and that all parents should consult them. Moreover, they are not as willing to recommend them. In this context, toy guides do not fulfill their specific needs and appear to

TABLE 4
Attitudes Towards Toy Guides: A Cross-Sectional Analysis
(One Way Analysis of Variance/F Ratio)

	MEAN	STD. DEV.	GENDER	MOTHER TONGUE	AGE	*(continued next page)*
Toy guides give us a lot of good information	4.22(+)	.86	Women** 11.52(a)	English 7.60(b)	ns	
Most guides are really incomplete	3.48(-)	1.11	ns	English 5.87(c)	ns	
They are really easy to understand	4.08(+)	1.97	Women** 4.33(c)	ns	ns	
Toy guides are useless	4.49(-)	1.07	ns	French 8.83(b)	ns	
Guides are a guarantee of honesty	3.26(+)	1.20	Women 9.80(b)	31.45(a)	Younger 4.98(b)	
Evaluations are not accurate at all	3.81(-)	1.16	ns	French 11.36(a)	ns	
I have total confidence in them	3.36(+)	1.00	Women 4.04(c)	ns	ns	
Results are very poorly presented	3.83(-)	1.07	ns	ns	ns	
I really like consulting them	3.41(+)	1.27	Women 17.45(a)	French 21.00(a)	ns	
I am not at all interested in them	3.97(-)	1.28	Women ns	ns	ns	
Toy guides have a lot of influence in my toy purchases	2.87(+)	1.34	Women 9.29(b)	French 12.15(a)	ns	
I rarely, if ever use them	2.98(-)	1.54	Men 2.95(d)	English 4.70(c)	ns	
I think that all children's products should be included in these guides	4.38(+)	1.02	Women 10.02(b)	French 3.14(d)	Younger 9.87(a)	
I would never recommend these guides to others	4.40(-)	1.07	ns	ns	ns	
All parents should consult such a guide before buying a toy	3.67(+)	1.23	ns	French 41.91(a)	Younger 3.15(c)	

* On a five point scale, going from 1 'Completely disagree' to 5 'Completely agree'

TABLE 4 (Continued)

	EDUCATION LEVEL	NUMBER CHILDREN	HOUSEHOLD INCOME
Toy guides give us a lot of good information	Less ed. 3.30(c)	ns	ns
Most guides are really incomplete	Less ed. 4.33(b)	ns	ns
They are really easy to understand	ns	ns	Low inc. 2.60(d)
Toy guides are useless	Less ed. 2.70(d)	ns	Low inc. 3.93(c)
Guides are a guarantee of honesty	Less/High 4.08(c)	ns	3.29(c)
Evaluations are not accurate at all	Less ed. 5.19(b)	ns	ns
I have total confidence in them	ns	ns	ns
Results are very poorly presented	ns	ns	ns
I really like consulting them	ns	ns	Low inc. 4.87(b)
I am not at all interested in them	Less ed. 3.86(c)	Many 3.99(c)	ns
Toy guides have a lot of influence in my toy purchases	ns	Only 1 2.77(d)	ns
I rarely, if ever use them	ns	ns	ns
I think that all children's products should be included in these guides	Less ed. 9.42(a)	ns	ns
I would never recommend these guides to others	Less ed. 2.75(d)	Only 1 4.63(b)	Low inc. 5.33(c)
All parents should consult such a guide before buying a toy	Less ed. 5.32(b)	ns	ns

** Labels designate subgroups which are relatively *more positive*

Legend: (a): $p<.001$ (c): $p<.05$
(b): $p<.01$ (d): $p<.10$

TABLE 5

Principal Component Analysis On Cognitive Statements Only
(Varimax Rotation)

	FACTOR 1	FACTOR 2
Total confidence	.79	
Guarantee of honesty	.75	
Easy to understand	.62	
Good information	.57	
Accurate evaluations		.70
Well presented		.66
Very useful		.66
Really complete		.59
Percentage of variance	30.2	17.2
Designation	"TRUSTABILITY"	"ACCURATENESS"

be much more well accepted by those with lesser education (no college degree).

Finally, women are much more positive than men on many of the attitudinal components (quality of information, easy to understand, honesty). As a result, they feel more confident, are more likely to consult them, acknowledge the guide's influence on their buying decisions and use them more systematically. This overall positive attitude induces women to be in favour of systematic inclusion of all children's products in these guides, which corresponds to the usual sex role of women for these types of products.

Age of respondent and number of children have very specific effects: older people are much more critical of the honesty of the guides and, consequently, tend to advocate more limited usage and reject an extension to all children's products, which is consistent with results of previous research on parental influence (Moschis 1985). Influence and willingness to recommend these guides also decrease among parents having larger families, which may be a result of 'experience' rather than disillusionment.

At this stage of the analysis, our results partially confirm our second and third hypotheses. French Canadians and women are among the more systematically positive, older people and/or parents with more children are critical of specific points and more highly educated people demonstrate above average analytical evaluations.

Overall, it appears that honesty, completeness and accuracy play a significant role in the development of general attitudes and usage.

Attitude-To-Behavior Link

To better understand the relationship between attitudes and behavior, we performed a principal component analysis among cognitive statements only, which enabled us after a varimax rotation to extract two key components. The first component relates to 'trustability' of toy guides and the second component to their 'accurateness', explaining 30.2% and 17.2% of the variance, respectively (Table 5).

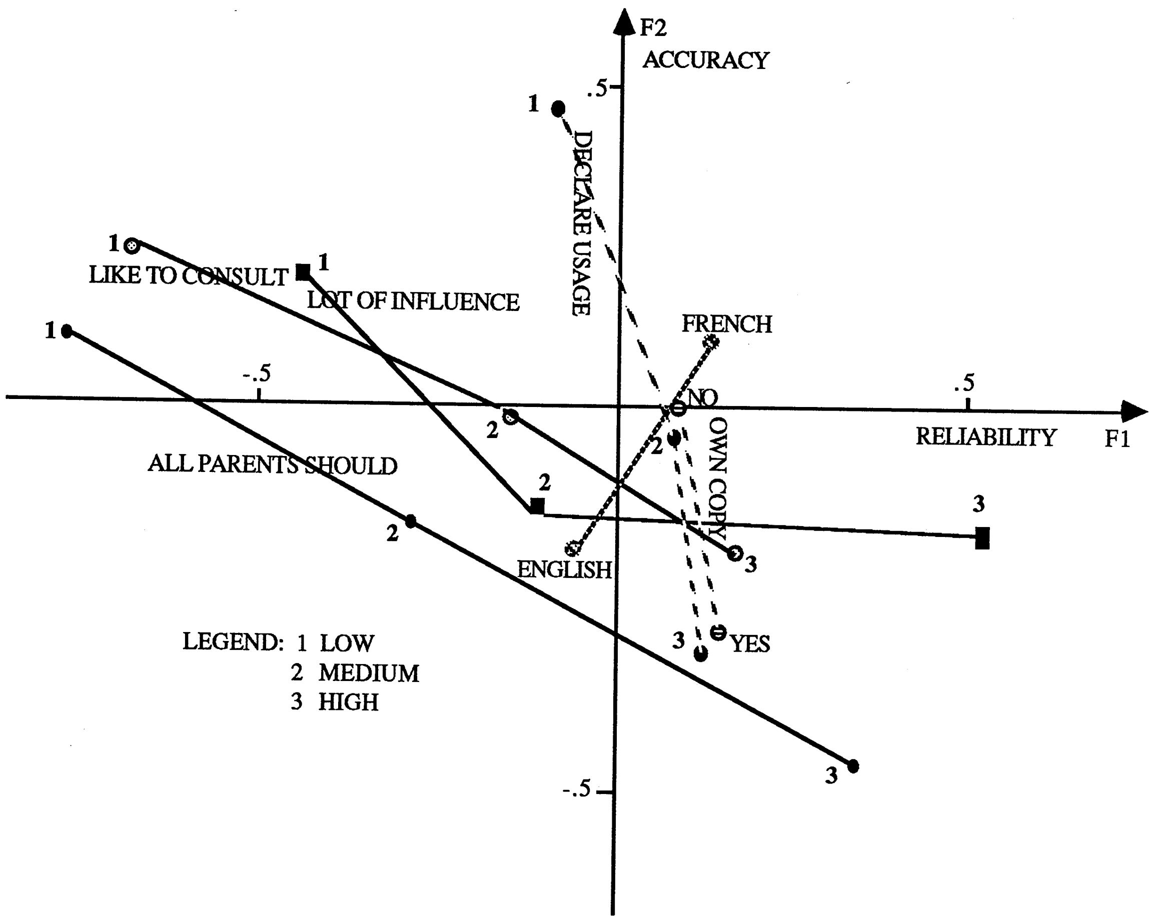
By saving the factor scores in an active file using the regression method and proceeding to a one-way analysis of variance among potential explanatory variables, such as mother tongue, gender, having/not having their own copy, declared usage, level of influence, 'like to consult' and recommendation to other parents, we gained more insight into the attitude-to-behavior relationship (Figure 1).

Affective reaction ('like to consult'), declared influence and the normative role these guides should play among parents, are strongly and positively related to the trustability component. Nevertheless, it is symptomatic to note that the more positive respondents feel about trustability, the more they tend criticize the accurateness. This is particularly true for the normative role and may be explained by the fact that people who think that these guides are essential for parents, develop very high expectations concerning the content and, as such, the accuracy of the information does not meet their standards.

This major trend in attitudinal reactions is the same for 'possession status' and frequency of usage. Those who possess their own copy and/or more frequent users are much more critical of the accuracy of information provided by toy guides. Even women who are systematically positive follow the same trend, which may explain their tendency to limit frequency of usage. Only French Canadians are globally positive on both components, but they still react more favorably on perceived reliability than on accuracy.

Generally speaking, and in summary, trustability appears to be a motor factor and the lack

FIGURE 1
Plots of Factor Scores:
Variances for Attitudinal, Usage and Basic Descriptive Variables



of information accuracy seems to play an inhibitor role.

DISCUSSION

Research Conclusions

In conclusion, our working hypotheses were generally supported by the data. There is a substantial decrease from awareness, to interest, to usage (less than 25%) which indicates a very reductive funnelling process along the classical stages of the hierarchy of effects. Readership is linked to a specific profile which is consistent with the one generally described in previous research studies conducted in the complementary areas of consumer socialization of children and consumerist segment profiles. In our case, the toy guides studied appear to reach many higher educated people and those with higher incomes. Nevertheless, these people demonstrate much more negative attitudes which may be due, in part, to the fact that the information content of these guides does not respond effectively to their expectations. Moreover, even if as stated by Moschis (1979) the purposive training of children is more likely to be present in upper class than in lower social class families, parents with higher education may feel more confident and independent to provide such training, and perhaps are more critical. Finally, and in reference to our third hypothesis, the fact that French Canadians are more positive towards toy guides is consistent with results obtained in other studies related to children and toys, and supports the notion of cultural differences.

A possible limitation of our research is that situational factors may have exacerbated the substantial decrease in the awareness-to-usage rates.

Clearly, toy guides with superior content design should perform better, which leads us to believe that this type of study should be replicated elsewhere before further generalizations can be made.

Future research might also include other pertinent explanatory variables such as family consumption patterns (McLeod and Chaffee 1972), sex of the child and type of risk perceived. Perhaps, a more 'reciprocal' view of family decision making would reveal some interesting findings in this area (Ekstrom, Tansuhaj and Foxman 1987), as well as generate clues as to the roots of parental concern that mediate attitudes and reactions (Grossbart and Crosby 1984; Carlson and Grossbart 1988).

Managerial Implications

Within our sample universe, demand for toy guides appears to be very real and potentially high. However, current offerings do not fulfill consumer expectations, which generates controversial reactions and rejection.

An in-depth review of information policy and presentation of the information in toy guides would undoubtly help to improve this situation.

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An Examination Of Shopping Scripts

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ABSTRACT

The need to consider the variable nature of scripts is discussed and several characteristics of shopping scripts are examined. Different shopping scripts are identified as a function of contextual cues. Shopping script variability is revealed by examining the distinction between the common and unique, and between the core and peripheral actions which might be represented in any given shopping script. It is recommended that, in addition to examining differences in script development, future research should consider the variable nature of consumer scripts associated with the differences existing between various consumer behavior contexts.

INTRODUCTION

The purpose of this study is to examine several recent developments regarding cognitive scripts and to expand the discussion of this concept in the consumer research domain. While many consumer researchers have been interested in this concept there has been little recognition given to the variability of scripts. We must begin to examine a wider variety of scripts and to examine the nature of the contexts and actions associated with specific consumer scripts. The study reported here promotes an expanded consideration and a more detailed analysis of shopping scripts.

THEORETICAL BACKGROUND

In general, scripts are viewed as cognitive structures containing information about the nature of various events and activities (Abelson 1981). The marketing literature contains script-based insights into the nature of personal selling (Anglin, Stoltman and Gentry 1988; Leigh and Rethans 1984; Rittenberg and Mittelstaedt 1985; Schurr 1986; Schurr and Calder 1986), advertising effects (Puto 1985), and several other varieties of behavior (Bozinoff 1982; Smith and Houston 1985; Whitney and John 1983).

In the marketing and consumer behavior literature, scripts are primarily viewed as having a strong procedural/sequential structure and content that is shared by many (most) consumers. However, a different perspective has begun to emerge in the psychological literature where an effort has been made to broaden and refine the script concept by investigating the common and unique properties of many different types of scripts. Activities which have been examined include check cashing, vacationing, gift giving, buying a car, and grocery shopping which has been examined several times (Reiser 1986; Galambos 1986; Galambos and Rips 1982; Bower Black and Turner 1979). Interest in script variability has grown as the flexible and adaptive use of scripts has become accepted (see Galambos 1986; Markus and Zajonc 1985; Showers and Cantor 1985). A research focus on script variability must involve an examination of the variety of scripts which exist and their shared and distinctive properties.

This study involves the examination of various types of shopping scripts. To our knowledge, the Whitney and John (1983) study is the only one which has examined this type of script in the marketing literature. The investigation of shopping scripts should yield interesting insights into patronage behavior because of the role scripts play in attributional processes (Read 1987), their influence on memory (Schank 1982), and because of the behavioral guidance they provide (Abelson 1981). Furthermore, because shopping behavior seems to reflect a high degree of learning, a certain degree of behavioral consistency, and a degree of communality regarding the various actions, goals, participants, props, and preconditions involved, it would appear to be an ideal candidate for script research (Abelson 1981).

Our emphasis in examining shopping scripts has been to identify the nature of script variability expected. Smith and Houston (1986) have noted that variability can arise from different levels of the script development (i.e., individual differences). An alternative (complementary) approach would be to study script variability as a function of contextual cues. Galambos (1986) has recently reported that individuals are able to make faster (and more accurate) discriminations regarding script content when contextual cues are provided, and even the sequential aspect of a script is now thought to be contextually determined (cf. Read 1987; Schank 1982). Most importantly, it has been noted that different scripts can be identified as a function of context. For example, the generic restaurant script is replaced by the "fine dining" or "fast-food" restaurant script when the appropriate contextual cues are provided (see Galambos, Abelson and Black 1986). Similarly, shopping scripts will vary in important ways when different goals, preconditions and actions are considered. The present study focused on two varieties of shopping script. The grocery shopping script was examined partially because normative data are available and also because there are several different types of grocery shopping. We also attempted to reveal the existence of a department store shopping script. The same script development criteria are likely to be satisfied, and this type of script provides a logical point of comparison. Furthermore, different types of department store shopping are also likely to exist.

We examined the variable nature of these scripts as a function of the various entry conditions or action rules that may be used (see Abelson 1981; Galambos, Abelson and Black 1986). Specifically, we examined the impact of various task characteristics involved in shopping (see Punj and Stewart 1983). Shopping tasks can differ along (at least) two important dimensions: *type*, e.g. major and fill-in

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shopping trips (Kollat and Willet 1967), and *purpose*, e.g., personal vs. gift purchase (Ryans 1977). These distinctions were examined with respect to grocery and department store scripts, respectively.

Each type of shopping trip is expected to have a somewhat unique shopping script associated with it because of the different goals, actions, props, and participants involved. It must be recognized that shopping scripts may also contain common elements, and that these elements may constitute a more generic and necessarily abstract "shopping script." However, while general abstractions may exist, script sub-types or variants are also contextually defined, less abstract, and will possess certain unique properties (Abelson 1981; Schank 1982). The distinction between various levels of abstraction and between common and unique properties of conceptually related scripts is important to note because past research has typically involved more abstract structures. However, because of the role of context, it appears that scripts are used in their more specific form for the purposes of interpretation or behavioral guidance (Abelson 1981; Galambos Abelson and Black 1986; Schank 1982). Thus, it seems reasonable to shift the research focus to more specific and contextually richer levels of abstraction. The present study involves comparisons on two more specific levels of abstraction, and both the department store and the goal-specific conceptualizations are new to the literature.

Several approaches are available for examining the content (and the structure) of contextually differentiated consumer scripts. The direct examination of the properties of a script is now somewhat common and is typified by the work of Galambos (1986; see also the discussion by Smith and Houston 1986). When following the direct approach, the content of a script is isolated by examining three specific properties: the *frequency* of event/action occurrence in a given context, the *importance* of an action in carrying out the script, and the *standardness* of various actions, i.e., the degree to which an action is carried out in the same manner from enactment to enactment (cf. Galambos 1986; Mandler and Murphy 1983). A critical step involves the development of a pool of generalizable, specific, and irrelevant script actions/elements. The development of this pool has important conceptual implications as noted above. Since limited work has been done with respect to shopping scripts, this study was necessarily exploratory and descriptive in orientation.

METHOD

Sample: As a means of obtaining extra credit, one hundred and sixty students enrolled in several upper-level business classes agreed to participate in this study. Approximately 58-percent of the sample were females. Given the exploratory nature of this study the use of this "convenience" sample was deemed adequate. However, the adequacy of this sample should also be judged in light of the fact that these students reported having a considerable amount of experience shopping in the various types of stores and contexts which were examined.

Measurement Instrument: The nature of shopping scripts was examined in a direct fashion using a questionnaire. A pool of script actions/items was developed to represent the distinction between: (1) general or common activities related to shopping; (2) activities which differ as a function of store type (e.g., unique to grocery store shopping); (3) actions unique to specific store types and tasks (within store-type script differences); and, (4) irrelevant actions (i.e., items which are not associated with shopping activity and which served as a validity check). To develop this pool of items two steps were taken.

First, we examined the existing literature and identified actions common to several forms of shopping as well as those somewhat unique to grocery shopping. These are noted in capital letters in the tables which summarize our findings. Second, using free-elicitation techniques involving several types of probes (i.e., store types, shopping area types, and task variations) with a separate sample of subjects, these distinctions were verified and actions unique to department store shopping and to various shopping tasks were identified. The approximate wording of the items which were used is also revealed in the tables. The irrelevant items were identified using normative data reported by Galambos (1986) and Leigh and Rethans (1984). In all, thirty-eight items were used.

A set of general instructions included the manipulation of the context cue used to instantiate the specific shopping script. While there are various methods of instantiating a script, Reiser (1986), Galambos (1986), and Schank (1982) have all recommended the use of scene descriptions, script headers, or descriptions of general activities. Following these recommendations, four contextual/situational cues were used: a shopping trip to the grocery store was defined as being either a major or minor/fill-in trip, while a shopping trip to the department store was defined as either being for a gift or personal clothing. Our primary interest was to examine the degree to which various actions/items were uniquely associated with these four types of situations. Subjects were randomly assigned to one of these four contexts/situations and responded to three measures which pertained to the same specific context.

We used an adaptation of Galambos' (1986) technique to provide subjects with a response frame which reminded them of the task and store contexts and provided a convenient way to obtain the information desired. Galambos has reported greater success with the following type of frame: "When you are in the process of __*<TASK>*__ *how often* do you...__*<ACTION>*__". The use of this type of frame requires a top-down recognition process and the <TASK> represents a contextual cue. While the <TASK> portion of the frame was varied to reflect each of the four contexts it remained the same across the three measures which were obtained. Each of these measures was obtained on a separate page with the response frame centered on the top of the page and the <ACTION> portion of the frame presented in list form down the side of the page. The wording of the response frame varied to reflect the measures being taken, i.e., *how often* was replaced by language appropriate to the three measures.

Whether an action belonged to a given script was partially determined on the basis of its distinctiveness and this was measured in terms of the frequency with which an action occurs in a given context. A 7-pt. scale was used with the endpoints labeled 1 = "never" and 7 = "always". Each item's centrality to a given script was assessed in terms of the importance of the action to completing the stated task. Importance was measured on a 7-pt. scale with the endpoints labeled 1 = "extremely unimportant" and 7= "extremely important". The content of various scripts is determined by the extent to which these measures indicate that certain actions belong more clearly to a specific script when compared across store types as well as within store type by task.

The flexible nature of a script was examined by measuring the extent to which each action is performed in the same way from one occurrence of a particular type of shopping trip to the next (e.g., from major grocery shopping trip to major grocery shopping trip). For each action this was measured using a 7-pt. scale with the endpoints labeled 1 = "across trips - very different" and 7= "across trips - very similar". These three measures were completed in the same sequence by all subjects (i.e., frequency followed by importance followed by similarity). A different randomized ordering of the 38 items was used for each measure with all subjects receiving the same ordering of items.

RESULTS

Space limitations preclude a detailed discussion of the results of our analyses. Tables 1-3 have been constructed to provide the reader with maximum information. Discussion of findings will focus on patterns of relationships among the script elements in an effort to uncover both general shopping scripts and scripts associated with specific store types or shopping tasks. As a result, the irrelevant items will not be examined in depth. We merely note that they were neither perceived as occurring with sufficient frequency nor rated sufficiently important to consider them facets of general shopping behavior.

Tables 1-3 present the means and standard deviations of the frequency, importance, and flexibility ratings for the remaining 33 items. Analysis of variance procedures were initially used to examine differences across grocery shopping and department store situations. As expected, there were several actions (e.g. price and non-price comparisons, talking to companions, watching the cashier ring up the sale, etc.) that were common to both grocery and department store shopping scripts (see frequency ratings in Table 1). While several of these items were contained in previous reports of grocery shopping scripts, it is more appropriate to view these items as *common* shopping activities, applicable to a variety of shopping situations and stores. Thus they probably represent elements of a general shopping script.

On the other hand, many of the items previously identified as elements of the grocery script (e.g., getting a cart, consulting a list, walking up and down aisles, putting items in the cart, and check-out line activities), differed significantly ($p<.05$) when comparing grocery and department store shopping activity frequency data. Also, several actions were significantly more likely to be associated with department store shopping (e.g., browsing, looking at items, looking at merchandise for future needs, finding matching accessories, examining window and product displays for various purposes, finding salespeople, and returning items). Thus, this technique allowed the replication of the grocery shopping script which has been derived using traditional script elicitation methods, and allowed us to isolate the department store script. Traditional free elicitation methods could have produced a similar list of items, but not with the relative ease of this method.

Examination of the importance ratings (Table 2) reveals additional meaningful differences between the two scripts. For example, importance ratings for the action "enter store" were significantly different ($p=.007$), with this action regarded as more central to the grocery shopping script. With respect to department store shopping, the items identified by higher frequency ratings (i.e., browsing, looking at items and displays, etc.) also receive significantly higher importance ratings. Department store shopping apparently involves more examination of the store product offerings, window displays, and merchandise displays. If the subject is shopping for clothing or gifts, an examination of store window displays may allow him/her to determine that a particular store does not have the desired item. Thus, entering the store may indeed be less important for this type of shopping experience.

A further advantage of this approach to examining scripts is that it provides for a meaningful interpretation of scripted actions. Analysis of the similarity with which activities are performed from shopping trip to shopping trip (Table 3) indicates that grocery scripts are significantly less variable than department store scripts. In fact, the only actions which were significantly standardized in department store scripts were: looking at items, comparing items on a non-price basis, and finding matching accessories. This undoubtedly reflects the routinization and frequency of grocery shopping.

This method of script elicitation also enables the examination of the effect of different shopping goals on the nature of scripts with respect to a particular shopping situation. For example, actions such as "get cart" and "walk up and down aisles" are more likely to be associated with major grocery shopping scripts (i.e., exhibit higher means on both frequency and importance ratings) as compared to minor/fill-in trips. Similarly for department store shopping situations, clothes shopping is more likely than gift shopping to involve the actions "find salespeople" and "examine special displays for sales on needed items". These comparisons provide insights into the flexibility and variability of consumer scripts. That is, these data reflect how a basic grocery shopping script (department store

TABLE 1

Action/Event Means for *Frequency* Broken Down By Store and Task

Action/Event Items	Script Type						
	Grocery			*Department*			
	Major	Minor	G+	Clothes	Gift	D+	Total
Look at window displays	3.4	3.4	3.4	4.2	3.8a	4.0b	3.7
ENTER STORE	6.5	6.5	6.5	6.0	6.1	6.1b	6.3
GET CART	5.7	4.6a	5.2	2.5	2.5	2.5b	3.8
Consult shopping list	4.5	3.6a	4.0	2.9	3.3	3.1b	3.5
Look at store directory	1.8	1.8	1.9	2.1	2.3	2.2	2.0
Go to appropriate dept.	6.1	5.9	6.0	6.1	6.0	6.0	6.0
Walk up and down the aisles	6.3	5.4a	5.8	5.1	5.0	5.0b	5.0
Browse	4.3	4.1	4.2	5.5	5.4	5.4b	4.8
Find salespeople	3.5	2.7a	3.1	3.8	4.1	4.0b	3.6
Avoid salespeople	3.4	4.1a	3.8	3.9	3.8	3.8	3.8
Examine sales-needed items	5.0	4.0a	4.5	5.7	4.6a	5.1b	4.8
Examine sales-not needed	5.0	3.9a	4.4	4.9	4.4	4.6	4.5
Look at/ Inspect items	5.5	5.0a	5.2	5.9	5.8	5.8b	5.5
COMPARE ITEMS ON PRICE	5.9	5.4a	5.6	5.9	5.6	5.7	5.7
Compare on non-price basis	5.3	5.0	5.1	5.1	5.1	5.1	5.1
Select item(s) for purchase	6.3	6.1	6.2	4.8	4.8	4.8b	5.5
PUT ITEM(S) IN CART	6.0	5.0a	5.5	2.6	2.9	2.7b	4.1
Find/select items-other areas	4.6	4.0a	4.3	4.4	4.3	4.3	4.3
Look at displays for ideas	4.8	3.7a	4.2	4.3	4.3	4.3	4.3
Look - future purchase needs	4.4	4.0	4.2	5.3	4.8a	5.1b	4.6
Find matching accessories	3.6	3.3	3.4	4.7	4.3	4.5b	4.0
Return previous purchase	2.3	2.3	2.3	3.0	3.0	3.0b	2.7
Talk with shopping companions	5.7	5.0a	5.3	5.4	5.1	5.2	5.3
GO TO CHECKOUT AREA	6.7	6.6	6.7	5.7	6.0	5.8b	6.3
Select fastest line	6.4	6.6	6.5	6.3	6.1	6.2	6.4
WAIT IN LINE	5.2	4.9	5.1	4.5	4.6	4.6b	4.8
UNLOAD THE CART	4.7	4.4	4.6	2.6	2.7	2.6b	3.6
WATCH CASHIER RING UP SALE	5.8	5.8	5.8	5.3	5.3	5.3	5.6
Give coupons to cashier	4.2	3.5a	3.9	3.2	3.0	3.1b	3.5
Consider payment options	3.1	3.1	3.1	3.6	3.7	3.6	3.3
PAY FOR ITEMS	6.7	6.8	6.8	6.2	6.3	6.3	6.5
Personally bag items	4.7	4.8	4.7	2.3	2.5	2.4b	3.6
LEAVE STORE	5.0	4.9	4.9	4.6	4.8	4.7	4.8

a = significant ($p<.05$) difference between means comparing within store type category (e.g., major vs. minor grocery).

b = significant ($p<.05$) difference between grocery and department store scripts; G+ = grocery overall, D+ = department store overall.

TABLE 2

Action/Event Means for *Importance* Broken Down By Store and Task

Action/Event Items	*Grocery* Major	Minor	G+	*Department* Clothes	Gift	D+	Total
			Script Type				
Look at window displays	3.3	3.2	3.3	4.3	3.8a	4.0b	3.6
ENTER STORE	6.5	6.4	6.5	5.7	6.2a	5.9b	6.2
GET CART	5.6	4.9a	5.3	2.4	2.3	2.3b	3.8
Consult shopping list	4.9	4.3	4.6	3.1	3.3	3.2b	3.8
Look at store directory	1.9	1.7	1.8	2.1	2.1	2.1	2.0
Go to appropriate dept.	5.5	5.5	5.7	5.7	5.4	5.5	5.6
Walk up and down the aisles	5.5	4.8a	5.1	4.4	4.3	4.3b	4.7
Browse	4.4	3.7	4.0	5.4	5.1	5.2b	4.6
Find salespeople	3.4	2.7a	3.0	3.5	3.7	3.6b	3.3
Avoid salespeople	3.2	3.6	3.4	3.7	3.3	3.5	3.4
Examine sales-needed items	5.4	4.8a	5.1	5.2	4.8	5.0	5.0
Examine sales-not needed	3.9	3.2a	3.5	3.9	3.6	3.7	3.6
Look at/ Inspect items	5.8	5.5	5.6	6.1	6.1	6.1b	5.8
COMPARE ITEMS ON PRICE	6.1	6.0	6.0	6.1	5.9	6.0	6.0
Compare on non-price basis	5.2	4.6a	4.9	5.1	5.0	5.0	5.0
Select item(s) for purchase	6.3	6.2	6.3	5.4	5.7	5.6b	5.9
PUT ITEM(S) IN CART	5.5	4.9a	5.2	2.9	3.0	2.9b	4.1
Find/select items-other areas	4.6	4.0a	4.3	4.4	4.4	4.4	4.4
Look at displays for ideas	4.9	4.0a	4.4	4.6	4.3	4.5	4.4
Look - future purchase needs	4.0	3.5a	3.8	4.8	4.4a	4.6b	4.2
Find matching accessories	3.5	3.4	3.4	4.7	4.4	4.5b	4.0
Return previous purchase	2.9	2.2a	2.5	4.0	3.3a	3.6b	3.1
Talk with shopping companions	5.0	4.3a	4.7	4.9	4.7	4.8	4.7
GO TO CHECKOUT AREA	6.2	6.2	6.2	5.1	5.5	5.3b	5.7
Select fastest line	6.0	6.5a	6.2	5.7	5.7	5.7b	6.0
WAIT IN LINE	4.1	4.0	4.0	4.1	3.6a	3.8	3.9
UNLOAD THE CART	4.5	4.2	4.3	2.2	3.1a	2.7b	3.5
WATCH CASHIER RING UP SALE	5.3	5.0	5.2	5.3	5.1	5.2	5.2
Give coupons to cashier	4.8	3.8a	4.3	3.6	3.8	3.7b	4.0
Consider payment options	3.3	2.9	3.1	3.8	3.9	3.8b	3.5
PAY FOR ITEMS	6.4	6.4	6.4	5.7	6.3a	6.0b	6.2
Personally bag items	3.7	3.4	3.5	1.9	2.3	2.1b	2.8
LEAVE STORE	6.4	6.0	6.2	5.5	5.6	5.5b	5.9

a = significant ($p<.05$) difference between means comparing within store type category (e.g., major vs. minor grocery).

b = significant ($p<.05$) difference between grocery and department store scripts; G+ = grocery overall, D+ = department store overall.

TABLE 3

Action/Event Means for *Similarity* Broken Down By Store and Task

Action/Event Items	Script Type						
	Grocery			*Department*			
	Major	Minor	G+	Clothes	Gift	D+	Total
Look at window displays	5.2	4.8a	5.0	4.9	4.8	4.8	4.9
ENTER STORE	6.5	6.3	6.4	6.0	5.6	5.8b	6.1
GET CART	5.7	5.5	5.6	4.1	3.4	3.7b	4.6
Consult shopping list	5.2	4.8	5.0	4.0	4.7a	4.3b	4.7
Look at store directory	4.0	4.4	4.2	3.4	3.5	3.5b	3.8
Go to appropriate dept.	5.5	5.5	5.5	5.7	5.4	5.5	5.5
Walk up and down the aisles	6.0	5.2a	5.6	5.0	4.6	4.8b	5.2
Browse	5.3	4.8a	5.0	5.6	5.0a	5.3	5.1
Find salespeople	4.2	3.9	4.1	4.1	4.1	4.1	4.1
Avoid salespeople	4.6	4.2	4.4	4.2	4.0	4.1	4.2
Examine sales-needed items	5.5	5.3	5.4	5.4	5.2	5.3	5.4
Examine sales-not needed	4.7	4.2a	4.4	4.3	4.5	4.4	4.4
Look at/ Inspect items	5.7	5.1a	5.4	6.0	5.8	5.9b	5.6
COMPARE ITEMS ON PRICE	5.9	5.8	5.8	6.2	6.1	6.1	6.0
Compare on non-price basis	4.9	4.7	4.8	5.3	5.3	5.3b	5.1
Select item(s) for purchase	5.9	5.9	5.9	5.4	5.2	5.3b	5.6
PUT ITEM(S) IN CART	6.3	5.8a	6.0	4.5	3.8a	4.2b	5.1
Find/select items-other areas	4.8	4.4	4.6	4.6	4.3	4.4	4.5
Look at displays for ideas	5.0	4.8	4.9	5.1	4.9	5.0	5.0
Look - future purchase needs	4.9	4.4	4.7	4.8	5.1	5.0	4.8
Find matching accessories	4.3	3.9	4.1	4.4	4.9a	4.6b	4.4
Return previous purchase	3.3	3.9a	3.6	4.0	3.7	3.8	3.7
Talk with shopping companions	5.4	5.1	5.2	5.0	5.5	5.2	5.2
GO TO CHECKOUT AREA	6.6	6.2	6.4	5.7	6.0	5.8b	6.1
Select fastest line	6.3	6.6	6.5	6.1	5.7	5.9b	6.2
WAIT IN LINE	5.4	5.3	5.3	4.5	4.3	4.4b	4.9
UNLOAD THE CART	5.7	5.7	5.7	4.5	4.0a	4.2b	4.9
WATCH CASHIER RING UP SALE	5.7	5.7	5.7	5.6	5.8	5.7	5.7
Give coupons to cashier	4.8	4.8	4.8	4.6	4.3	4.5	4.6
Consider payment options	5.1	4.8	4.9	4.5	4.8	4.6	4.8
PAY FOR ITEMS	6.7	6.5	6.6	6.1	6.0	6.0b	6.3
Personally bag items	5.1	4.8	4.9	4.5	4.2	4.3	4.6
LEAVE STORE	6.2	6.1	6.2	5.6	5.5	5.5b	5.9

a = significant ($p<.05$) difference between means comparing within store type category (e.g., major vs. minor grocery).

b = significant ($p<.05$) difference between grocery and department store scripts; G+ = grocery overall, D+ = department store overall.

script, or other shopping scripts) can change as shopping tasks/goals change.

DISCUSSION

In the present study, we both confirmed and expanded on the existence of grocery and department store shopping scripts. The need to recognize the variable and flexible nature of scripts was demonstrated since it was found that some actions are common to several different forms of shopping, yet, many differences arose as a function of store type and task. Since this study is limited in several ways, including potential problems generalizing from a college student sample and the use of a lengthy paper and pencil test, additional research will be needed to establish the reliability of these relationships. We note, however, the nature of our findings compares favorably to those obtained by Galambos (1986) using microcomputer technology. The computerized approach should be considered because it provides greater experimental control -- different randomized lists of items can be presented across subjects and across contexts -- and because one can measure reaction time.

Methodologically the present study differs from past research in two ways. First, we did not examine the procedural/sequential aspect of scripts. This feature, once thought to be the most defining characteristic of a script, has been called into question (cf. Galambos 1986; Mandler and Murphy 1983; Reiser 1986), with Abelson (1981) drawing a distinction between strong and weak scripts, the latter having a rather loose procedural quality. Shopping scripts exhibit one feature which has caused some difficulty in this regard: certain portions of the script can be enacted repeatedly (e.g., the selection, inspection, choice, and accumulation of products). Thus, such actions often have no fixed location in the sequence. Additionally, the ordering of the actions comprising a shopping trip can occasionally be arbitrary or dependent on situational factors, such as the layout of a particular store/store-type, crowding conditions, forgetfulness, etc. We should add that the general approach used here has been used to examine the sequential aspects of scripts (cf. Galambos 1986; Reiser 1986).

The fact that we did not elicit and code free elicitations represents a second departure from past research. With this approach we avoided many of the problems associated with elicitation, e.g., verbalization difficulties. Furthermore, we believe elicitation methods require more complete information regarding the existence and nature of various scripts.

Those interested in applying traditional methods should take note of the important role that context played in this study. While we used contextual cues to facilitate access to the scripts, many contextual elements were contained within the scripts. Shopping scripts are contextually rich when examined at a more specific level of abstraction. By continuing to operate at this level we may gain new insights into various patronage phenomena, such as store choice, in-store activity, and postpurchase satisfaction. The flexible and adaptive use of a shopping script repertoire probably underlies the way in which shoppers respond to various deviations (significant and otherwise) from the expectations represented in the script (see Abelson 1981; Showers and Cantor 1985).

By way of a summary, we feel it is important to re-emphasize our belief that an attempt to investigate the nature of consumer scripts by moving to a higher level of abstraction is counterproductive. While past research appears to have followed this path, it seems highly unlikely that the scripts which have been revealed would offer a consumer much in the way of interpretive and behavioral guidance. The willingness to move to these less informative and less interesting levels of abstraction has occurred both as a consequence of our collective failure to think in terms of variability and contextual differences, and because the orientation has been to find "stereotypes" which are widely, even universally, shared. In light of the contextual differentiation of scripts, their adaptive use, and differences in script development, it would seem that the more productive path to follow will involve the investigation of the unique -- as opposed to the normative or shared -- aspects of scripts.

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Modeling New Car Customer-Salesperson Interaction for a Knowledge-Based System

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ABSTRACT

A model portraying a new car customer-salesperson interaction, derived from in-depth interviews with nine experienced salespeople, is presented. The model implies two parallel hierarchical structures: one for information processing, the other for the product. The present study follows the methodology of "knowledge engineering" in that model building is seen as an iterative process based on input from experts used to create and modify an expert system. The model is compared to selected studies of customer - salesperson interactions. It is suggested that testing the expert system constitutes a test of the model itself.

INTRODUCTION

Our immediate goal is to develop a conceptual model of a dialogue between a consumer and a salesperson in new automobile purchase situations. That model serves as the basis of a computer system that helps consumers select carlines, models, and optional features. We refer to this system as ESPRI (Expert System for Product Recommendation and Information). It should be able to execute some of the functions currently performed by salespeople, viz. matching an individual's needs and preferences to product options, accessing useful databases like technical specifications and availability of the chosen car, and offering audio/video information via new interactive technologies like videodiscs.

The present paper describes the derivation of a conceptual model that provides the frame on which ESPRI is being built. We compare this model to selected studies of consumer-salesperson interactions, and discuss how testing ESPRI constitutes a test of the model itself.

METHOD

Interviews with nine salespeople were conducted in four Pontiac car dealerships located in the Detroit metropolitan area. The sales manager of each dealership was asked to choose two salespeople to be interviewed. One was among the very best and the other average in terms of annual sales, though both had to have at least two years experience. (The sales manager of one dealership was also interviewed because of his expertise in training new salespeople). Salespeople were asked to describe in detail how they interact with customers, especially in terms of the dialogue that they maintain. In addition, they were asked to answer the following questions.

(1) What do customers know about the cars they are interested in at the outset of the interaction?

(2) What kind of product information do customers typically seek and what information do they usually not ask for?

(3) What information do salespeople request from customers?

(4) What information do salespeople voluntarily supply to customers?

(5) Under what conditions do salespeople recommend a specific automobile, and how is this recommendation communicated?

(6) Are different strategies used for different customers? If so, what are the different types of customers and how are they identified?

Each interview lasted from 45 to 60 minutes and was sound- recorded and transcribed for analysis. Responses were tabulated for each of the questions listed above, separately for superior and average salespeople.

The transcripts were analyzed informally with the goal of extracting a model of the customer-salesperson interaction that reflected a consensus of the nine interviews as discussed in more detail below. We achieved this first by pruning details, sticking instead to the main flow of the dialogue which turned out to be surprisingly uniform across both superior and average salespeople. This first pass at a model was then shown to four of the original salespeople (at two randomly chosen dealerships). The model was used to simulate two typical customer consultations with ESPRI, and the salespeople were prompted for their reactions. While reacting positively to ESPRI's general approach, salespeople made specific suggestions for changes. Thus, the model presented in the following section was built in the spirit of "knowledge engineering," (see e.g., Harmon and King, 1985), in that model building is seen as an iterative process based on input from experts used to create and modify a computer software system.

A MODEL OF THE CUSTOMER-SALESPERSON INTERACTION

Detailed interview analyses suggest that superior and average salespeople share a common view of the major components of what they do or should do in interacting with customers. (Variation in their sales performance is probably due to motivational and personality factors, i.e., the ability to execute a plan rather than having a plan, topics not addressed in this paper).

Analyses indicate that salespeople have a sequence of goals that can be grouped into seven stages:

I. Identify the customer's preferences by a few major screening attributes (e.g., bodystyle and car size).

II. Provide basic product information for the preferred cars and help customers request information and evaluate alternatives on self-selected major features.

III. Identify customer objective needs in terms of expected car use.

IV. Reconcile preferences and needs.

V. Let the customer make an informed choice among carlines.

VI. Evaluation and selection of a model: provide information, identify preferences, recommend, and let the customer select one model (of the chosen carline).

VII. Minor options: provide information, identify preferences and needs, recommend, and let the customer select options for the chosen car model.

This model of the customer-salesperson dialogue implies two parallel hierarchical structures: one for information processing, the other for the product. Information processing starts with elimination of alternatives based on a few major aspects. It continues with customer evaluation of the remaining alternatives, and ends with a product choice. The hierarchical product structure for automobiles is Carline-Model-Options. The two structures are nested such that information processing occurs separately for carline, model, and options choices.

Figure 1 describes the conceptual model in flowchart form. It recognizes that the salesperson and the customer might return to a previous stage. These possibilities are denoted by dotted lines. Each of the seven stages is discussed next.

I. Identify Customer's Major Preferences

According to the interviewed salespeople, the first mentioned major preference attribute is bodystyle: station wagon, four-door, two-door, hatchback, sports, or convertible. Customers typically have strong feelings about their preferred bodystyle. Some customers will consider only a station wagon, while others want a sports car and would never consider a station wagon.

The second most often mentioned major attribute is carline name or car size. Customers are of two types: those who express preferences by naming one or two specific carlines, and those who specify their preferred car size or sizes. Customers are typically unfamiliar with the size terminology like compact, small, midsize, etc., and they use their own size terms which vary from one customer to another. Therefore salespeople present one or two cars, so as to match each customer's description. In addition, salespeople say that customers frequently consider two cars with the same bodystyle that differ only one level in size (e,g,, midsize and fullsize, or midsize and compact). They evaluate both more thoroughly and eventually select one. Customer preferences for bodystyle and carline (size) help the salesperson screen out all cars but one or two.

Price is typically not mentioned in Stage I either by customers nor by salespeople. The main exception is those cases where customers come to the dealership for the specific purpose of finding out the price of a specific car or for negotiating a price.

II. Provide Information

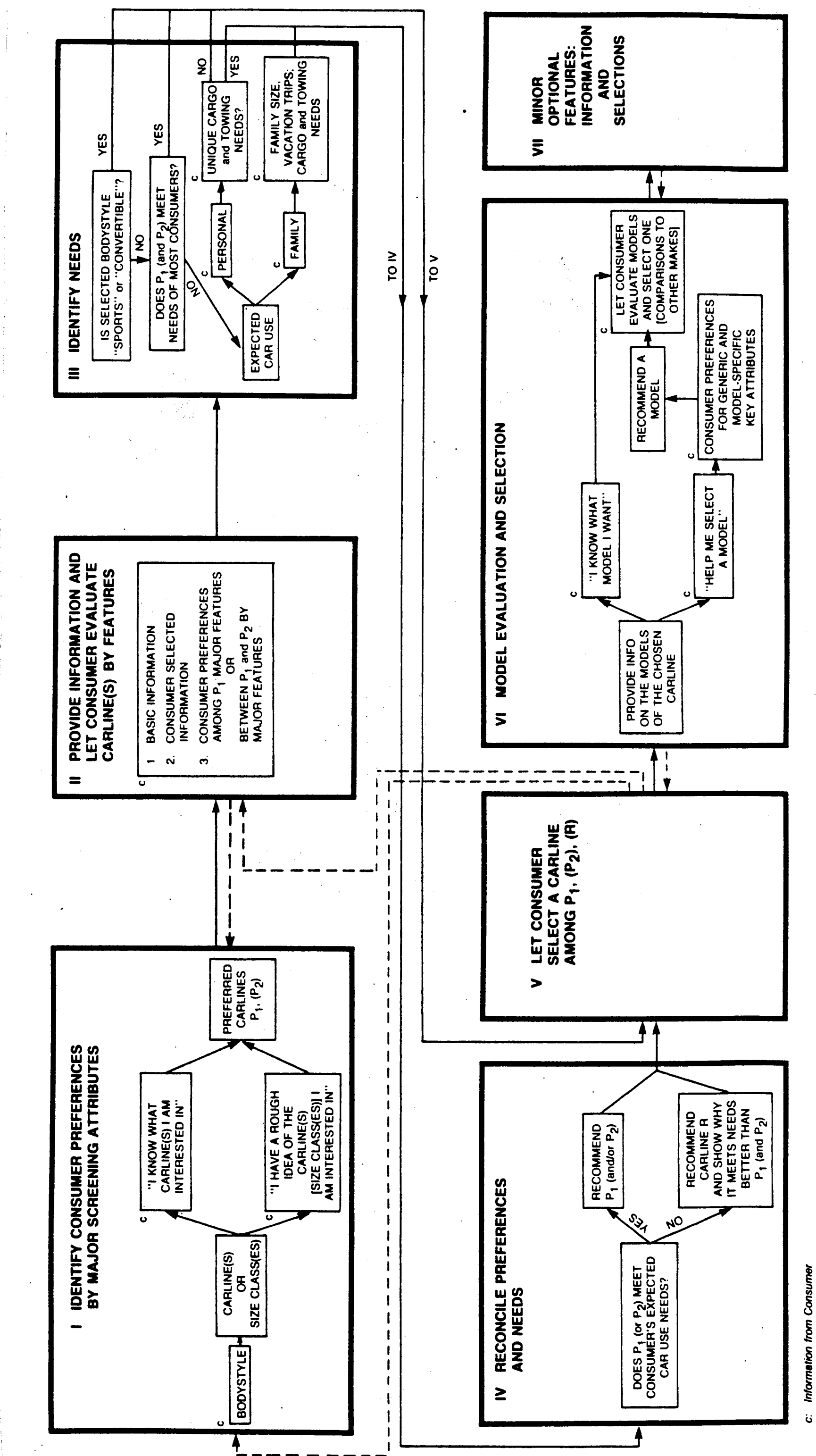
In this stage customers take the initiative in the dialogue, requesting information about car characteristics of special interest. Although there is wide variation among customers in the product information requested, according to our salespeople/experts the most frequently requested visual/verbal information is for: (1) exterior styling; (2) interior features, especially front seat design and instrument panel; (3) trunk size; (4) gas tank capacity; (5) the power-train, including front/rear wheel drive, manual/automatic transmission, and engine characteristics; (6) fuel economy; (7) exterior and interior colors; (8) new car price and trade-in value; and (9) comparisons with similar cars available from other car manufacturers.

Customers generally do not ask about car dimensions and do not raise questions about safety (e.g., brake types). Questions from customers about reliability, service, warranty, and maintenance costs usually occur after customers have made a tentative decision on the carline they wish to purchase (Stage V).

As indicated in Figure 1, salespeople provide information in two steps. First, they provide basic information addressed to all customers for one or two carlines. This information is an overview of the unique characteristics of the carline(s) with emphasis on visual cues of the exterior, interior, and under the hood, and other basic information, such as price. In the second step, salespeople adapt their presentation to specific customer information questions. For example, some customers are interested mainly in performance, while other are interested in exterior styling and/or economy aspects. Finally, customers react to the information provided by expressing their preferences among major options (e.g., standard engine vs. optional engine) or, if two carlines are considered, for one or the other based on exterior styling, price, roominess, etc. This process typically ends with an overall customer evaluation of and preference among alternatives with some guidance from the salesperson. Salespeople emphasize that they let the customer make their own "trade-offs" among alternatives.

FIGURE 1

The Core Model of ESPRI



In light of new information, the salesperson and/or the customer may move back to Stage I for consideration of a different carline.

III. Identify Customer Objective Product Needs

In this stage the salesperson makes the key decision about whether to identify needs. The salesperson will not identify needs in two cases. First, "sports" and "convertible" cars are typically bought for their unique sporty image rather than for functional utility. Second, certain cars, typically large and midsize cars, satisfy the needs of most drivers and/or families. If a customer's size preference is for small cars (say, smaller than midsize), the salesperson will proceed to identify the customer's specific needs. Customers who buy small cars may be later dissatisfied if the car does not accommodate family needs, especially if the car is used for vacation trips.

The salesperson prompts the customer for information on expected car use. If the intent is for family use, then he prompts for information on family size, expected long trips, and cargo carrying needs. The underlying rationale is that longer trips and larger families indicate the need for a larger car. Salespeople emphasize that the recommendation should not be based solely on family size since for a given family size, the longer the trip, the more cargo capacity and passenger space are needed to provide adequate comfort. Salespeople also point to the importance of identifying needs because customers often are not aware of the full product line.

IV. Reconcile Preferences and Needs

Once the salesperson establishes the customer's needs, the salesperson's role is to judge whether the preferred car(s) (P_1, and, possibly, P_2) meet those needs. If the gap is too large (the maximum tolerable gap size may vary among salespeople), the salesperson will explain why the recommended car (R) may better meet the customer's needs than P_1 (and P_2).

Salespeople say that they will not recommend a car that is "far apart" from what the customer wants; they strike a balance betweeen preferences and needs.

V. Let Customer Select a Carline (Make an Informed Choice)

The previous stages in the model are dynamically interrelated in a process where the customer, using product information, might evaluate alternatives and eventually make a choice. The goal of the salesperson at this stage is to encourage the customer to make an informed choice. The previous stages have built up to this point.

VI. Model Evaluation and Selection: Provide Information, Identify Preferences, Recommend, and Let Customer Select One Model

Once the customer has focused on one carline, the customer - salesperson dialogue proceeds to the selection of a model (e.g., LE, STE). This may happen very early in the dialogue if the customer knows from the outset what car he/she wants. According to salespeople, less than 10% of customers are familiar with the various models available in a given carline. Therefore, an important role for the salesperson is to assist in model selection.

First, the salesperson provides information on what is unique for each model in the chosen carline, including price. Although this model-specific information may be redundant with Stage II, the emphasis now is on comparisons between car models. If the customer cannot make up his/her mind on a preferred model, the strategy used by salespeople is to identify the customer's "generic" preferences that may determine which model to recommend. Generic preferences refer to general attributes, such as luxury, roominess, and sportiness. Knowing customer's generic preferences helps the salesperson to recommend a model.

In addition, some specific features/options are available only in some models but not in others. For example, a carline may not offer bucket seats with a console or two-tone paint in all models. Prompting the customers to express their preferences helps the salesperson to recommend a model or two, thereby letting the customer make an informed choice. Salespeople emphasize that at this stage, as in Stage IV, model recommendation is not based on the price range customers consider but on preferences for certain generic or specific features.

In response to the customer's request, the salesperson presents comparative information in relation to models of other manufacturers that are believed to compete with the model in question. It is more difficult to present comparative information in Stage II because of wide variation in price and features availability among models of a given carline.

VII. Minor Optional Features: Provide Information, Identify Preferences and Needs, Recommend, and Let Customers Select

Unlike the choice of a model, which is typically driven by preferences, the choice of options may be driven by both preferences and needs. Salespeople develop certain heuristics for option recommendations and information. While some options are always recommended (e.g., tinted glass, a light in the trunk), other options are recommended only to certain persons (e.g., tilt wheel for heavy, tall, or short people; security features to women). Salespeople also emphasize the importance of explaining/showing the benefits of optional features to the customer.

The recommendation of an optional engine is typically determined by price and other factors like the customer's preference for power (e.g., 0-60 mph acceleration), the perceived importance of fuel efficiency, and the expected annual mileage. The latter two factors are interrelated because for many customers the higher the annual mileage, the more important fuel efficiency becomes.

COMPARISONS TO OTHER STUDIES OF THE CUSTOMER-SALESPERSON INTERACTION

In this section we briefly compare our model of the customer-salesperson interaction to the findings of two other studies. One examined the role of salespeople in the purchase of major appliances, including automobiles. The other investigated salesperson effectiveness.

The Role of the Salesperson

Wilkie and Dickson (1985) and Dickson (1986) report the results of an extensive study of customer shopping for major appliances and for automobiles. They conclude that salespeople often become the dominant source of influence in a customer decision. As seen in Figure 2, once the customer enters the store, the role of the salesperson is dominant in two significant functions: to assist customers in "Purchase Respecification," and in "Identification of Best Alternative."

Although Wilkie and Dickson's model is general and goes beyond the salesperson-customer interaction, while our model encompasses only the dealership dialogue, the two models assign the salesperson similar roles. The role of the salesperson in "purchase respecification" is elaborated in our model by a sequence of tasks: identifying preferences, providing information, identifying needs, and reconciling preferences and needs.

With respect to the "Identification of Best Alternative," the first four stages in our model prepare the ground for the major customer decision of carline selection in Stage V. The salesperson encourages the customer to go back and revise the information search (Stage II), consider salesperson's recommendation (Stage IV), and eventually in light of new information, change major preferences (Stage I), to converge towards the "Best Alternative." In addition, because of our product hierarchy, the identification of best alternative is spread out also over stages VI and VII.

The implication of Wilkie and Dickson's cost/benefit analysis (by the customer) for "further search" (see Figure 2) is that the salesperson should have the capability of making instant comparisons with products of other makes (end of Stage VI in our model). In this way the customer benefit of in-store search might be larger and the benefit of external search (e.g., identify other makes or stores) would become smaller, in comparison to the implied cost.

Sales Effectiveness

A study by Weitz et al. (1986) centers on the ability of salespeople to adapt effectively to the demands of the sales situation. Adaptivity is considered crucial because it indicates the degree to which salespeople are able to take advantage of the unique communication elements associated with personal selling (i.e., messages should be adapted to the specific customers). Using a categorical model of memory developed by Rosch and her colleagues (e.g., Rosch and Mervis, 1975), Weitz et al. propose that the effectiveness of adaptive selling increases with:

(1) number of sales situation categories available in the salesperson's long-term memory;

(2) degree to which salespeople have a hierarchically organized knowledge structure;

(3) degree to which salespeople classify sales situations in terms of underlying characteristics, such as the effect of different sales approaches; and

(4) level of procedural knowledge (in contrast to factual knowledge).

Our salesperson-customer interaction model is consistent, in general terms, with the above four propositions on adaptive selling. However, the principle of adaptivity does not match in any detailed way the sequential dialogue that we propose. Specific hypotheses would have to be derived for the automobile dealership setting. Alternatively, the various propositions of Weitz et al. about the salespeople's knowledge structures could be tested. It would be interesting to test both ESPRI and individual salespeople for their capacity to adapt to different customers. We discuss the issue of model testing in the following section.

DISCUSSION

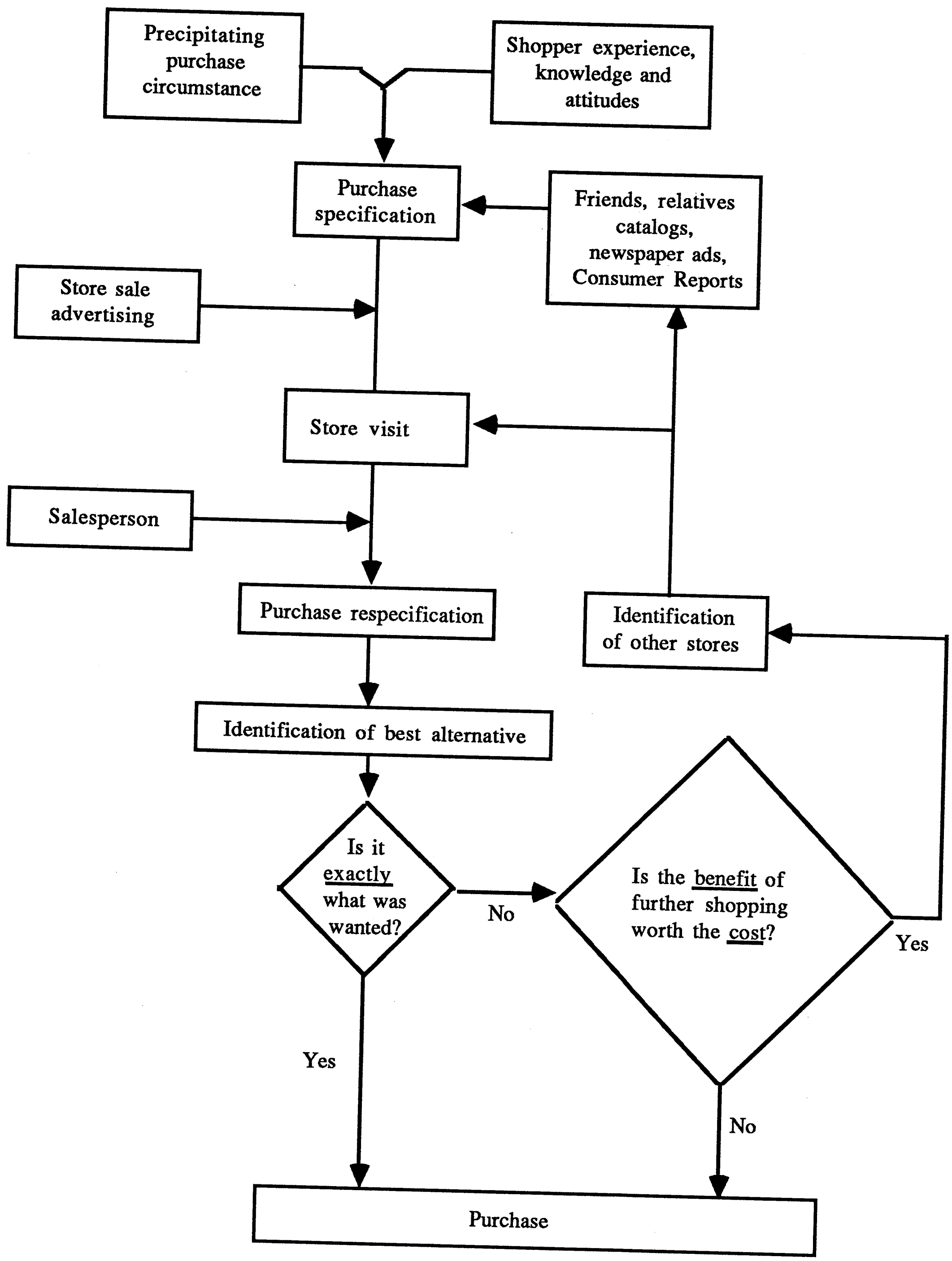
Recent knowledge engineering literature points to the importance of modeling a process (be it medical, engineering, social, or psychological) in the development of an expert system (e.g., Clancey and Rothenberg, 1987, p. 159). Until recently, the accent in expert system development was on modeling one expert rather than modeling the process of interest. In the present study we modeled the customer-salesperson dialogue, by integrating the expertise of a group of salespeople. We separated a core customer-salesperson interaction from the idiosyncratic approaches that individual salespeople have developed over time. The resulting model is currently being used as the basis of ESPRI, an expert system for aiding car buyers (and, possibly, salespeople).

Once ESPRI is sufficiently completed, the challenge is testing, diagnosis and revision. That is, an ESPRI that genuinely reflects the potential of knowledge-based systems technology will emerge only through an iterative process. The system should be tested on (preferably) real car buyers in dealer showrooms. The point where customers cease using the system, why they quit, what information they requested that the system was unable to provide, and so on, can be identified. This feedback should enable a diagnosis of system weaknesses and point the way to revision.

The testing of the model that is the focus of this paper is implicit in the testing of ESPRI. That is, ESPRI may fail because the content or order of our seven stages is wrong -- or wrong for some customers -- or for non-model reasons such as lack of user friendliness, slowness of responding, etc. The main

FIGURE 2

A Dynamic-Adaptive Model of Shopping Behavior
(Wilkie & Dickson, 1985)



point is that the model is part of a larger system and will be tested within tests of that system. Although such testing may require a significant research effort, it is also complete and rigorous. From it a validated model of the customer - salesperson interaction and an effective ESPRI should emerge.

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The Impact of Source Reputation on Inferences About Unadvertised Attributes

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ABSTRACT

This study examines the impact that the reputation of a manufacturer or retailer has on the inferences and evaluations a consumer will make about a partially described product in an ad. It is hypothesized that such inferences about missing attribute information may be influenced by the attributions consumers make in determining why such information was omitted in the first place. Experimental results support this attribution-inference link, showing it to be strongest when the omitted or nondisclosed attribute covaries highly with existing attribute information about the product.

INTRODUCTION

Imagine an audio enthusiast who is very concerned about the sound quality of the next video cassette recorder (VCR) she will buy. When an advertisement for a particular VCR fails to mention anything about the machine's sound quality, what assumption or inference will she make? In what ways will this assumption or inference be contingent on the reputation of the store selling the VCR or on the reputation of the manufacturer making it?

Inferences about important attributes (such as sound quality) that have been omitted from an advertisement or package label can significantly impact an individual's evaluation and choice of a product (Ford and Smith 1987). To a large degree, consumers make inferences based upon their knowledge of a product category (Meyer 1981) and based upon their knowledge of the specific attributes under consideration (Huber and McCann 1982). In this paper, it is argued that inferences can also be based upon the reputation of whoever manufactures or sells the product. Specifically, the following two questions will be addressed: 1) Given that inferences can occur, by what process does a source's (i.e., manufacturer's or retailer's) reputation influence the inferences made about an omitted product attribute? 2) Under what circumstances will a source's reputation have the most favorable impact on such inferences and evaluations?

Antecedents of Inferences: Motivation and Ability

Consumers do not always consider omitted or unavailable attribute information in their decisions. Such omitted information will obviously not stimulate inference-making unless it is salient to a consumer (Huber and McCann 1982). In some cases, a particular attribute could be salient because of its personal relevance or importance to the individual (e.g., sound quality is very important to an audiophile). In other cases, an attribute can be cued to salience through an ad or product label for a competing product, thereby stimulating cross-brand examination.

Provided that such omitted attribute information is salient, Simmons (1988) suggests that inferences will be made 1) if an individual has the experience and ability to make them, and 2) if doing so might enable him or her to make a better decision. In general, it appears that if an individual has the *ability* and the *motivation* to make such inferences about missing, salient attribute information -- or "target traits" -- he or she will do so. These preconditions indicate that such inference-making occurs in situations of high involvement. When consumers are less involved with a choice, they tend to simply lower their general evaluation of a product in lieu of making any inferences about omitted information (Simmons 1988).

This research focuses on what happens in those instances when consumers are highly involved with inference-making. When such is the case, two types of information are hypothesized to have an impact on inferences: product-related information and source-related information.

Product-Related and Source-Related Cues

Much of the past research on inference-making has addressed the ways in which inferences about target traits are influenced by the other attributes the product possesses (Johnson and Levin 1985) or by how these inferences are affected by the consumer's general expectations for the product and product category (Meyer 1981). Such *product-related cues* can be seen as information that is inherent or related to the particular product or product category under consideration. For instance, if a person were concerned about the durability of an automobile he was shopping for, he might consider product category cues, such as the general durability of all automobiles, or he might also seek out product-specific cues, such as a particular automobile's warranty, service record, or other related features.

In contrast, *source-related cues* -- such as an automobile's manufacturer -- are external to the tangible, "nuts and bolts" of a product, but they are also thought to influence a consumer's inference about a particular target trait under consideration. A non-credible source, for instance, can legitimately encourage consumers to discount whatever information is presented in an advertisement (Sternthal, Phillips, and Dholakia 1978). In an analogous way, a credible or attractive source might be able to either directly discourage such discounting or to overcompensate for it with "halo effects" (Hovland and Weiss 1952). Additionally a source might also have an *indirect* impact on inferences depending upon what attributions a consumer makes as to *why* a source may have omitted certain target trait information. Such attributions about why this target trait is missing are thought to be clearly related to a consumer's perceived reputation of the source. Though there are many dimensions to a source's "reputation," one particular aspect of it -- the source's *customer orientation* -- will be examined in this study.

Customer Orientation

A business's customer orientation represents the degree to which a business is committed to providing customer satisfaction and establishing mutually beneficial, long-term relationships with its customers (Kotler 1980). In the case of a product manufacturer, a positive customer orientation would be evident in a manufacturer who is sincerely committed to satisfying customers and is not preoccupied with simply "selling at all costs.". A customer orientation of a manufacturer could be related to the perception of the honesty and sincerity they display through their advertisements, or by the degree to which they appear willing to accommodate the interests of their customers (Bagozzi 1985).

In the case of retail stores, customer orientation is related to the store's reputation, which is composed of the "attitude" and "knowledge" of the sales force and the store's policy regarding honesty and fairness in dealing with returns and exchange (Berry 1969). A customer's perception of these factors is likely to be based upon a store's history, its "word-of-mouth" reputation, and through any stereotypes related to the particular type of store it is (Dunn and Bradstreet, 1970).

CONCEPTUAL DEVELOPMENT

Source Attributions and Missing Information

Product information that appears in an advertisement may be a biased representation of the product since the advertiser allows consumers to see only that information which it wants them to see. When nothing is mentioned about an attribute -- or "target trait" -- that is important to a particular consumer (such as "sound quality"), he or she can either make favorable inferences about the target trait, unfavorable inferences, or no inferences. The question remains, when a consumer is highly involved in an evaluation and inferences are made, what determines whether those inferences will be favorable or unfavorable?

Research dealing with attribution theory -- specifically correspondence theory (Jones and Davis 1965) -- provides some insight: If a consumer can think of an unfavorable reason why a certain target trait has been omitted from a product's advertisement, his or her attitude toward that product may become less favorable. In essence, inferences about target traits (and the subsequent evaluation of the product) can be influenced by a consumer's thoughts and attributions as to *why* the source omitted such information.

There are two types of attributions a consumer could make in this situation: Internal attributions and external attributions (Kelley 1973). *Internal attributions* are made when a consumer believes that the target trait had been omitted because of an "internal disposition" of the source, such as dishonesty or manipulativeness (Settle and Golden 1974). Such attributions are evident in statements such as "they didn't want to draw attention to its weaknesses" and "they didn't want to encourage comparison with other products." In general, internal attributions are likely to encourage a consumer to "assume the worse" about the target trait and to discount the advertised product (Calder and Burnkrant 1977). In effect, internal attributions reflect unfavorable attributions.

External attributions, on the other hand, attribute the omission of the target trait to non-motivational reasons. These attributions are not based on a distrustful view of the source but are charitably attributed to external constraints (e.g., "there wasn't enough room for the information") or to external assumptions (e.g., "they assumed we could guess it," or "it was more important to include other information"). Since such external attributions encourage a consumer to conclude that such an omission was "out of the source's control," these attributions should be favorable ones. Under conditions of external attribution, omission of such target traits will be seen less as manipulative than as necessary.

Besides being influenced by the perceived motivations (or the customer orientation) of the source, these attributions are also affected by the values of other attributes which are included in the advertisement. If these attributes are perceived as unimportant or trivial, external attributions (regarding limited space, for instance) cannot reasonably be made. Assuming such attributes are not perceived as unimportant or trivial,

> Hypothesis 1: A source with a positive customer orientation will elicit more favorable (and fewer unfavorable) attributions about why a target trait has been omitted from an ad than will a source with a negative customer orientation.

Source Attributions and Product Evaluation

When consumers make favorable or unfavorable attributions about a source's motivation in having omitted target trait information, these attributions could potentially bias or influence a consumer's overall evaluation of the product. Though people tend to discount or devalue nearly any alternative with omitted attribute information (Yates, Jagacinski and Farber 1978), a significant part of this discounting can be directly traced to the inferences a person makes about such omitted information (Levin, Johnson, and Farone, 1984). For this reason, if unfavorable attributions are made about why a target trait is missing, these attributions can lead to unfavorable inferences about the target trait, and such inferences could manifest themselves in an unfavorable evaluation of a product. Such a process should be magnified even further when a consumer believes the omitted information was *intentionally* omitted to enhance persuasiveness. Thus,

> Hypothesis 2: Favorable (unfavorable) attributions as to why a target trait was omitted from an advertisement will be related to a favorable (unfavorable) evaluation of that product.

Source Reputation and Product Evaluation

The logical extension of the previous hypotheses (customer orientation affects attributions which then affect evaluations) is that the customer orientation of a source should influence evaluations about a partially described product. Indeed, a robust finding across much of the source credibility literature indicates that a person's attitude toward a source can be transferred or "referred" to a position the source might advocate (Hovland and Weiss 1952). In an analogous manner, when a consumer has strong perceptions of the customer orientation of a manufacturer or retailer, these perceptions could potentially bias a consumer's evaluation of the products advertised by that manufacturer or retailer. Therefore,

> Hypothesis 3: A source with a positive customer orientation will be elicit more favorable evaluations of a partially described product than a source with a negative customer orientation.

When Source-Related Cues Meet Product-Related Cues

The preceding discussion of inferences has focused on source-related cues. Much of what is known about the inferencing process, however, deals instead with product-related cues. This body of research has shown that a person's inferences about a particular target trait are positively affected when the trait covaries with positive existing attributes (Johnson and Levin 1985; Ford and Smith 1987). For instance, people may infer quality from price, durability from weight, or cleaning ability from "sudsiness" because of their perceived ecological covariation.

Though these findings have been strong, these studies have ignored the reputation or the credibility of the source. Regardless of the value these findings have in furthering our understanding in non-advocacy situations, advertisers must constantly deal with issues of reputation and credibility. Because of this "real world" concern of how a source's reputation affects inferences, it is worthwhile to determine how reputation might interact with existing product information. It is not clear that direct inferences (e.g., quality from price, durability from weight, etc.) are "automatic" in those cases when the source is perceived as having a negative customer orientation and as being potentially manipulative. In such instances, unfavorable attributions as to why these target traits were omitted could lead a consumer to be more skeptical about the product and to generally discount both the message *and* any related inferences (Sternthal et al. 1978). If a consumer, for instance, assumes that a source will try to unfairly manipulate his or her impressions of the product, this could encourage wariness and a conservative evaluation of the product. In contrast, when such a source is perceived as having a more positive customer orientation, such concerns of being manipulated should be reduced, thereby allowing for these direct (and positive) inferences to be made more freely from any existing, covariant attributes. Though the previous hypothesis (H_3) predicted customer orientation would have a general impact on evaluation, it appears that this impact will be mediated by whether this target trait covaries with existing attributes. Formally stated,

> Hypothesis 4: The more covariant (up to a point) a target trait is with existing attribute information, the greater of an impact customer orientation will have on product evaluations.

Conversely, when the target trait does not covary with existing attribute information, the affect of customer orientation on a product's evaluation should be less pronounced. In such instances, final judgment about the product is likely to be suspended while a consumer searches for additional information about this target trait. In summary,

> Hypothesis 5: The less covariant a target trait is with existing attribute information, the less of an impact customer orientation will have on product evaluations.

The basic relations expressed in the above hypotheses are indicated in the Attribution-Inference Model in Figure 1. Generally speaking, when consumers are cued to important attributes that have been omitted from an ad, their perception of the customer orientation of the manufacturer or retailer affects whether they will make favorable (external) or unfavorable (internal) attributions about *why* such information was omitted. These attributions are important since they influence the inferred value for the target trait which, in turn, directly affects the evaluation of the product. This relationship is especially strong when information about highly covariant attributes is salient. It is important to note that besides affecting target trait inferences directly, these existing attributes also help consumers determine "why" such a target trait may have been omitted. The value and importance of these attributes "signals" whether it is reasonable to make external (i.e., favorable) attributions.

METHODOLOGY

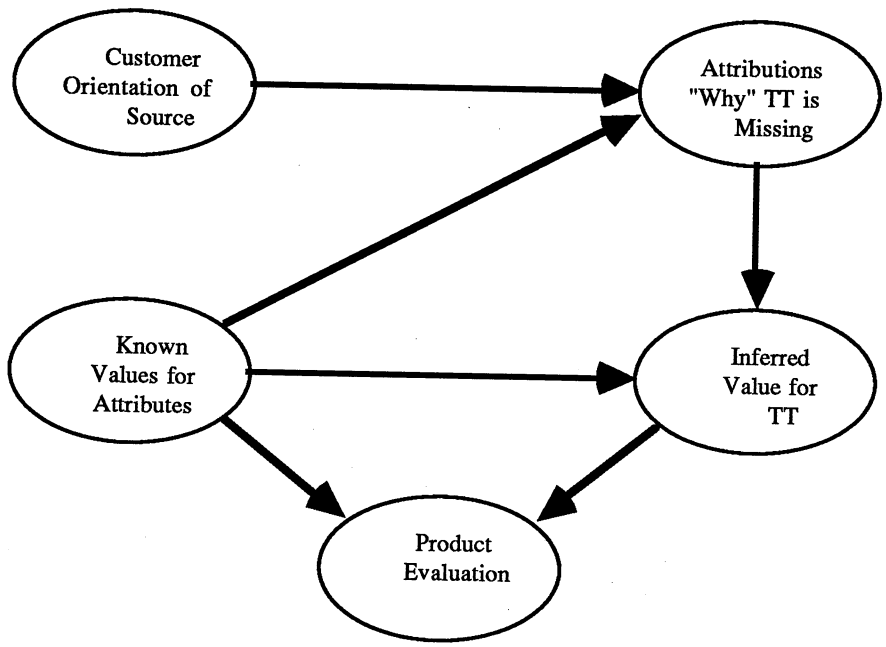
Design and Stimuli

This study was conducted with a 3 x 2 between-subject factorial experiment. Factor A was a three-level manipulation of the *customer orientation* of an information source ("positive," "negative," and control). Factor B manipulated the *covariance* of the cued missing attribute with existing attribute information (high covariance, $r = .51$; moderate covariance, $r = .76$).

Respondents consisted of 125 women who were support staff at Stanford University. They were randomly assigned to each of the six conditions and were processed in groups of approximately 20. For their participation in this and another study they were each paid five dollars and offered an opportunity to win a $100 lottery.

FIGURE 1

Attribution-Inference Model for Missing Target Traits (TT)



The context of the experiment was one in which a hypothetical audio and video store had placed an ad in a newspaper for a VCR it was selling. The ad included three of the VCR's attributes (picture sharpness, special features, and sound quality) as rated by *Consumer Guide*. This hypothetical but presumably objective rating source was used to reduce the probability that respondents would question the truth or falsity of this given attribute information.

The accompanying cover story manipulated the perceived customer orientation of the store by providing background information about how ownership changes had resulted in a recent increase (decrease) in customer loyalty due to an increase in customer satisfaction (dissatisfaction). In addition, a control group was tested where no information about customer satisfaction was provided.

Procedure and Manipulation Checks

Respondents were instructed to imagine that they were considering the purchase of a video tape recorder (VCR). Along with a hypothetical ad designed by "Team Audio and Video," they were given the instructions and background information which manipulated the perceived customer orientation of Team. After looking at the advertisement, subjects were asked for reasons why they believed a particular target trait -- two-year unlimited warranty (moderate covariance) or color quality (high covariance) -- was not mentioned in the ad. Following these thought protocols were specific questions which measured the product's perceived quality and the subject's estimated satisfaction with the product on a seven point scale. Additional questions were asked about VCR ownership and familiarity as well as measures of confidence in purchase situations.

A separate group of 39 subjects were used to provide a manipulation check on the three levels of customer orientation and on the two levels of attribute covariance. On a nine point scale, the warranty attribute (4.51; $r = .51$) was shown to be less covariant ($p<.001$) with existing information than was color quality (6.80; $r = .76$), and the manipulation check with customer orientation was also significant ($p<.001$).

Coding of Thought Verbalizations

Regardless of their treatment condition, most subjects provided cognitive responses which could be coded into at least one of twelve specific reponse categories. These twelve categories were collapsed into groups of "favorable" attributions (i.e., "no room for target trait," "there were more important things to include," etc.) and "unfavorable" attributions ("the attribute was poor," "they wanted to discourage comparison," etc.). Favorable (external) attributions implied that the business had omitted such information about the cued attribute for legitimate, nonmanipulative reasons instead of intending to mislead potential customers. The two response categories on which the judges did not reach a clear consensus were dropped from the coding scheme.

The 22 subjects whose thought protocols included one or more favorable response about the missing attribute, were labeled as "favorable." Using the same procedure, 59 subjects were labeled as "unfavorable" and 44 as "neutral." Protocols were labeled "neutral" if they contained an unrelated response or if they contained an equal number of favorable and unfavorable responses (n = 7). Thought protocol coding was also performed by a second coder on a subset (54 percent) of the questionnaires, yielding a coding reliability of .892.

ANALYSIS AND RESULTS

Consistent with H1, respondents were likely to make favorable attributions about the omission of "color quality" information when they were in the positive customer orientation condition. For instance, they were more likely to innocuously infer that "there wasn't enough room in the ad for that information," or that "(Team) probably forgot to include it" ($p < .05$). In contrast, differences in attributions between the positive and negative customer orientation conditions were not made regarding the omission of the "two-year unlimited warranty." Dispite the fact most respondents believed the product probably did not have a two-year unlimited warranty, it is interesting to note why they believed this. Respondents in the negative customer orientation (n = 59) condition were more likely to claim that such a warranty "would not be honored by the business" than were the subjects in the other two conditions ($p < .05$).

In general, these results provide support for the notion that the perceived customer orientation of a source can affect whether favorable or unfavorable attributions will be made as to why a target trait has been omitted (H1). Furthermore, the greatest occurrence of favorable attributions was in the high covariance ("color quality") condition, adding support to hypothesis (H4) that covariance has a mediating role in this Attribution-Inference Model.

As predicted in H2, attributions (positive, negative, neutral) as to why the target trait had been omitted proved to have a great impact both on measures of quality ($F(2,121) = 3.62$, $p < .05$) and on estimated satisfaction ($F(2,121) = 7.24$, $p < .01$) after controlling for familiarity and ownership. Though it was thought that favorable and unfavorable attributions would *both* relate directly to the evaluation of the product (H2), only the unfavorable ones had this impact. Correlations between the number of unfavorable attributions and evaluations revealed a significant relationship for both estimated satisfaction ($r = -.179$; $p < .01$) and for quality ($r = -.159$; $p < .01$). This indicated that negative attributions may hurt evaluations more strongly than positive ones improve them.

Support for the notion that a positive customer orientation will have a relatively stronger effect on product evaluations than a negative customer orientation (H3) was mixed, for the measurement of quality was significant ($F(1,82) = 4.38$, $p > .05$) while the measurement for estimated satisfaction was not ($F(1,82) = 1.98$ $p > .10$). As can be seen in Figures 2A and 2B, this effect of customer orientation on evaluation was most pronounced when the covariance of the target trait with existing attributes was high (H4) than when it was only moderate (H5). When such covariance was high ("color quality"), a t-test indicated a significant difference on the measurements of both quality and estimated satisfaction ($p < .01$ and $p < .03$). When the attribute was less covariant ("two-year unlimited warranty"), however, respondents provided nearly identical evaluations.

Though the focus of the hypothesized relations have centered around positive and negative customer orientation, these results also indicate that a positive customer orientation can also yield a better evaluation than a neutral customer orientation (under conditions of high covariance). This interaction between positive customer orientation and the control condition was significant for the measurement of estimated satisfaction ($F(1,77) = 4.28$, $p < .05$) and directional for that of quality ($F(1,77) = 2.41$, $p > .10$).

LIMITATIONS

As discussed earlier, attributions about a source and inferences about omitted information are not always made. Such processing is limited to those high involvement situations where a consumer has both the motivation and the ability to make them and when the source is seen as biased. In the context of this study, ability to respond was assumed (81 percent VCR ownership) while motivation and the reputation of the source were strongly manipulated. The results cannot, therefore, be generalized to low-involvement situations, or situations in which source reputation is not highly salient. In such cases, as noted previously, a consumer would be likely to simply discount his or her evaluation of the product under consideration.

An additional limitation results from different operationalizations of the two target traits. Whereas "color quality" and "two-year unlimited warranty" were originally believed to vary only to the degree of their covariance with existing attributes, it is now seen that the first represents a product dimension while the second may be viewed as more of a feature (Johnson and Kisielius 1985). In other words, "color quality" could be viewed as a continuous variable that every VCR has to some degree, whereas "two-year unlimited warranty" may merely represent a feature that the VCR either possesses or does not possess. In such a case, differences between positive and negative customer orientations could be naturally suppressed since few VCRs are likely to carry this specific feature. Although a perceived negative customer orientation generated more negative inferences than a positive orientation ($p < .10$), there were an insignificant number of positive inferences between the two. A stronger test of this Attribute-Inference Model would have been to have asked respondents about "the warranty" instead of making the target trait as specific as a "two-year unlimited warranty."

DISCUSSION AND FUTURE RESEARCH

In general, the results of this study provide support for the notion that the evaluation of a partially described product will be significantly

FIGURE 2A

Mean Values For "Estimated Satisfaction"

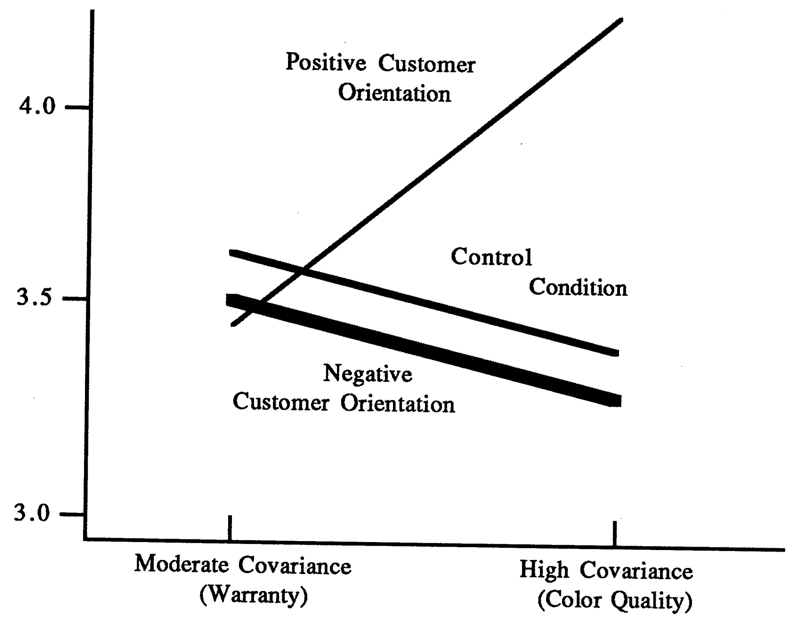
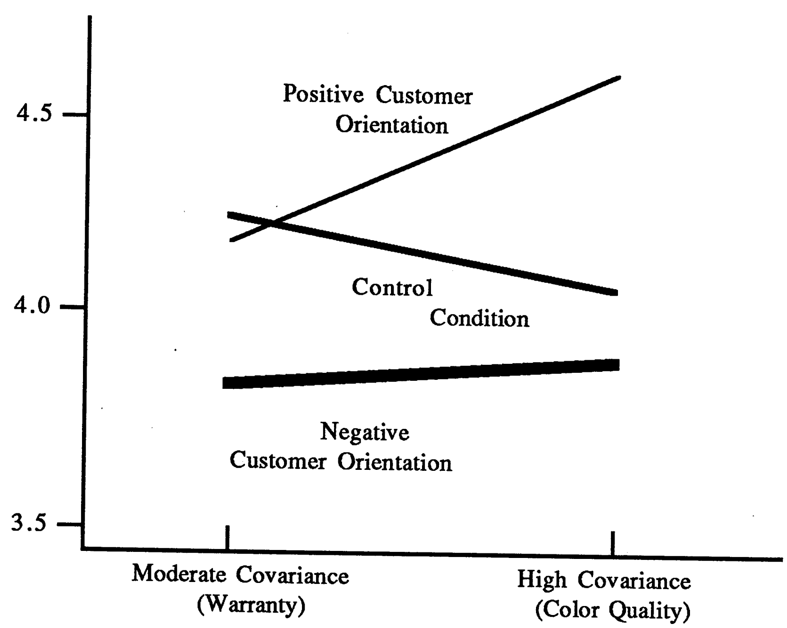


FIGURE 2B

Mean Values For "Quality"



affected by a consumer's perception of the source of this information. In particular, respondents were much more likely to make unfavorable atributions about why a target trait was missing from an advertisement when a retailer had a negative customer orientation than when it had a positive one. These attributions, especially the unfavorable ones, went on to influence product evaluations, having the greatest impact when salient attribute information highly covaried with the missing target trait. This suggests that inferences about target traits are more strongly influenced by a source's customer orientation the more strongly this target trait covaries with existing attributes. As mentioned earlier, this is thought to be because of the subject's greater skepticism and conservatism when uncertainty about a target trait is high (as is the case when there is no highly covariant information).

Though this study suggests that a source's reputation has an impact on attributions and oninferences, the greatest impact on these attributions and inferences still comes from covarying attributes. Evidently, "seeing is believing" as far as inferences are concerned. Basically, a positive customer orientation elicits favorable evaluations for a product only when such a business's ad contains attribute information which happens to highly covaries with whatever target trait the consumer considers important. If only moderately covarying (or noncovarying) information is provided in the ad, a positive customer orientation will be of little value in influencing attributions, inferences, or evaluations.

The time and space constraints in marketing communication contexts (advertising, package labeling, personal selling, etc.) force communicators to focus on certain product information at the expense of other information. Understanding the role of consumer attributions and inferences in such situations, helps suggest how messages can be most effectively presented, given these constraints. Specific variables of potential interest include the following:

Individual variables: Experts/ novices, searching/buying, high/low confidence.

Source variables: High/low customer orientation, advertising/personal selling, high/low purchase pressure (or time constraints).

Context variables: Comparative/ non-comparative environment, products/services, severe/nonsevere space constraints.

Attribute variables: Covarying/non-covarying, objective/subjective, highly/moderately important.

Given the important role of attributions and inferences in persuasion, it would seem that any theoretical and empirical contributions in these areas would serve to provide us with a more thorough understanding of consumer decision making in such pervasive conditions of missing.

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Consumer Research and Marketing Science

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ABSTRACT

It is the thesis of this paper that consumer researchers have drifted away from marketing science and that this trend is extremely dangerous. Evidence is marshalled to illustrate this trend. The danger of losing touch with marketing science is exemplified for consumer research by examining three major topics: the emergence of scanner data in marketing science which threatens to empirically rewrite consumer behavior theory; ignorance of the behavioral facts of consumer purchase behavior discovered by marketing scientists; and failure to consider the marketing science concept of stochasticity as one of the causes of consumer brand choice. We conclude that marketing science must be reintegrated with consumer behavior theory and research.

INTRODUCTION

Consumer research is losing touch with marketing science. This trend has been qualitatively apparent, to regular attenders of ACR conferences, from the time since ACR and The Institute of Management Sciences (TIMS) ceased to hold their conferences adjacently in the same location. The separation has become overwhelmingly evident in the last three years with the "new directions" that ACR has taken (see, for example, Holbrook 1987). The impending divorce of marketing science from consumer research seems quantitatively apparent, too, in an informal count of the proportion of "marketing science-type" articles published in the *Journal of Consumer Research* (Figure 1). There has been a marked decline in such articles in the last couple of years. As a further indicator of disciplinary separation, only 4.6 percent of names in the 1987 ACR Membership Directory are people known by their publications to have an interest in marketing science.[1]

It will be argued in this paper that the now almost complete divorce from marketing science by consumer behavior theorists and researchers is extremely dangerous. It is symbolically appropriate in Hawaii, which is perhaps the most qualitative of ACR conference venues that we have visited to date, that we should pause and reflect on the consequences of this trend.

The danger in ignoring marketing science is illustrated in this paper by examining three main topics that have major implications for consumer behavior theory and research:

1. The potential of the burgeoning amount of scanner data and results, which is primarily the province of marketing scientists, to empirically test our previous speculative consumer behavior theories and indeed to rewrite consumer behavior theory itself.

2. The large blind spot in the U.S. consumer behavior textbooks regarding the behavioral facts of consumer behavior, especially as represented by the work of the British marketing scientist, Ehrenberg (e.g., 1972, 1987), and by behavioral norms published by market research companies.

3. Inattention to the possibility that stochasticity may play a causal role in consumer brand choice rather than being merely a statistical descriptive device that marketing scientists use to account for inexplicable variations in purchase behavior.

The three topics will be expounded and then some conclusions will be suggested for the "new" ACR.

SCANNERS: BOOTSTRAPPING CONSUMER BEHAVIOR THEORY?

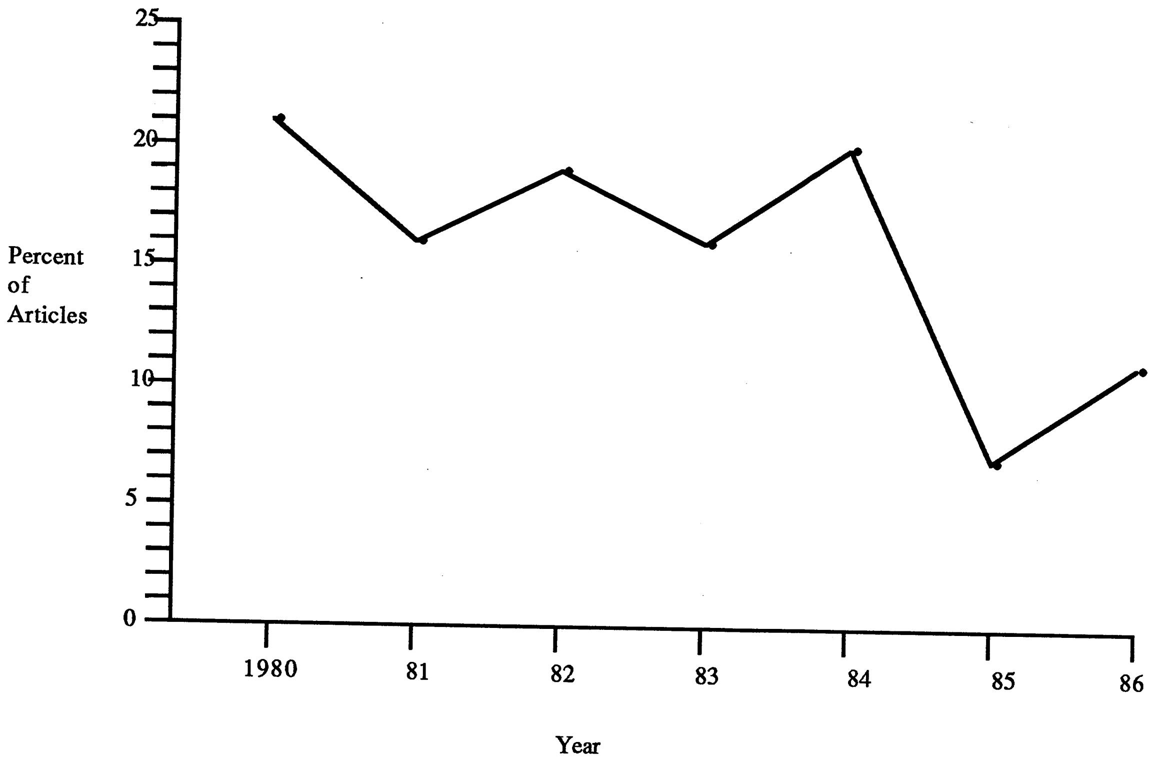
Until recently, consumer researchers who have developed theories about how consumers buy in response to advertising, sales promotion, price, and other marketing stimuli have had to test these theories by either small-scale laboratory research (e.g., Jacoby's 1974, 1977 studies of information overload theory) or by inference from aggregated sales data (rare among ACR researchers but common among managers-as-consumer-researchers in industry, who use Nielsen, SAMI, and other aggregate sales measures). However, with the emergence of scanner data on individual household purchases and, to some extent, earlier, household diary panel data, consumer researchers for the first time have the opportunity to measure real consumer behavior in response to marketing stimuli in the actual marketplace. Scanner data can be used at the store level to record responses to store-mediated stimuli such as price or in-store promotions (e.g., Guadagni and Little 1983) or in a household *panel* (particularly Information Resources, Inc.'s BehaviorScan service) whereby individual household receipt of marketing stimuli can be experimentally varied by accessing a whole town or community via cable TV, for TV advertising, or by random mail or door-to-door delivery, for other media advertising or promotions, and then arranging with the town or community's retailers to accept electronic I.D. cards to record purchases from a panel of residents. Obviously, never before have consumer researchers had such an ideal "real-world laboratory" with which to test their theories.

The results of scanner-panel tests are starting to pour out of the marketing science literature. It is indeed fortunate that the originators of some of the scanner panel services were academics (notably John Little of M.I.T. and Len Lodish of Wharton who began

[1]For obvious reasons, these data are *not* available from the author, but others can do their own count.

FIGURE 1

TREND IN PROPORTION OF "MARKETING SCIENCE-TYPE" ARTICLES
PUBLISHED IN THE *JOURNAL OF CONSUMER RESEARCH:* 1980 ONWARDS



NOTE: Proportions represent subjective judgment on content of articles as possibly publishable in *Marketing Science*; a list of articles so classified is available from the author. Time points are actually volumes of the *Journal of Consumer Research* (vols 7-13) of which three of the four issues per volume are published in the calender year shown.

Management Decisions Systems which later merged with Information Resources, Inc., but also others) who realized the value of releasing their data and results to the academic audience. The main journal in the discipline, *Marketing Science*, is beginning to carry academic reports of scanner panel experiments (e.g., Abraham and Lodish 1987; and Blattberg and Levin 1987 who provide a direct test of Blattberg, Eppen and Lieberman's 1981 "inventory transfer" theory of trade promotions). More recently, the TIMS/ORSA conference in Seattle (March 1988) featured over 20 papers on scanner data results and scanner panel experiments. For a consumer researcher interested in real-world behavioral responses to marketing stimuli, what a goldmine!

The scanner-researchers are primarily pursuing an "empirical" or *inductive* approach: they look at the data first, and then try to extract generalizable principles, that is, theories, especially theories that can serve as the basis for expert systems that managers can use. Essentially, this empirical approach to theory development is going to have the effect of "bootstrapping" the theories developed by the more *deductive* approach of consumer researchers, which is to formulate a general theory and then test it by particular observations in the laboratory. This bootstrapping is going to take time, because the empirical field settings and experiments (inductive observations) differ in many respects from one study to another. But you can't argue with the data, because they are real. As the inductive observations accumulate over many diverse instances with known dimensions of diversity, the consumer researchers' laboratory-tested theories about consumer behavior are in many cases going to be radically revised. To pick two examples: Scott's (1976) theory about the effects of promotion-aided trial on repeat purchase behavior is being tested in many scanner panels right now although the panel researchers may not know it; similarly Dodson, Tybout and Sternthal's (1978) theory that smaller face-value promotions lead to more brand loyalty than larger face-value promotions when the promotion is withdrawn is also implicitly the subject of many scanner panel studies.

Herein lies the critical importance of consumer researchers getting back into collaboration with the marketing scientists who have access to scanner data. Consumer researchers can help to *explain* the empirical results and can suggest new experiments to test consumer behavior theories in the *deductive* mode. Consumer researchers can guide marketing scientists who are "mining" scanner data by telling the goldminers "where to dig." Numerous instances of the potentiality of this collaboration were witnessed by the few consumer researchers who attended the TIMS/ORSA conference in Seattle earlier this year. Collaboration between consumer researchers and marketing scientists must be encouraged to maximize the value of this new-found data source for consumer behavior theory.

IGNORING THE BEHAVIORAL FACTS

A second major danger in consumer researchers splitting from marketing science is the appalling ignorance, or ignoring, of the fundamental behavioral facts which our discipline seeks to explain. This is especially true of U.S. consumer researchers, who seem to exhibit a large blind spot when it comes to looking at the empirical realities of purchase behavior.

To support the accusation of a blind spot, let's look at a basic example, first from a simple perspective and then from a more elaborate perspective. Suppose that a marketing manager or even a student doing a consumer behavior project wants to introduce a new brand of a typical supermarket product in an existing product category. What level of trial or "market penetration" and what market share can the new brand hope to attain? The leading (U.S.) textbooks in consumer behavior provide no help at all.[2]

The marketing scientists supply the answers. As to trial, the new brand can expect 15 percent to try it; as to market share, the likely *maximum* share attainable is 18 percent. NPD Research, Inc., which operates two national purchase panels, publishes normative data like this quite regularly (e.g., Johnson 1984; Rubinson 1986). For example, the following data from Rubinson (1986) are based on over 80 supermarket product categories (Table 1). The declining norms for trial and (first) repeat purchase in recent years pose an interesting trend for consumer researchers to explain. The explanation probably lies in the increasing number of brand alternatives per category which are not real alternatives but are simply line extensions (Rubinson 1986) that attract fewer triers. The norms in Table 1 are of course simplified averages, although NPD has norms for various product categories that are occasionally made public in limited form.

A more elaborate answer to the basic consumer behavior question posed by our hypothetical marketing manager or marketing student is provided in the brilliant work of British marketing scientist Andrew Ehrenberg. Again, and incredibly, a search of the same 10 U.S. consumer behavior textbooks finds no reference to Ehrenberg in eight of them, a half-page summary (no data) in Howard (1977), and a minor footnote in Engel et al. (1986). Whereas this omission may be due partly and inexcusably to American geocentrism, it's also due to the failure of U.S. (academic) consumer researchers to thoroughly study the very behavior in which they are supposed to be experts.

Ehrenberg and his colleagues (e.g., Ehrenberg 1972; Goodhardt, Ehrenberg and Chatfield 1984; Keng

[2]For this purpose, I surveyed 10 leading U.S. textbooks that had *Consumer Behavior* as their title: Alphabetically, the texts were: Assael (1987); Engel, Blackwell, and Miniard (1986); Hawkins, Best, and Coney (1986); Howard (1977); Loudon and Della Bitta (1984); Peter and Olson (1987) which is supposed to be 50 percent behavioral in content; Robertson, Zielinski, and Ward (1984); Schiffman and Kanuk (1983); Wilkie (1986); and Zaltman and Wallendorf (1983).

TABLE 1

TRIAL AND (FIRST) REPEAT NORMS FOR THE AVERAGE NEW SUPERMARKET BRAND

	First 12 months of launch:	
	Trial	Repeat (1+)
Period 1978-81	18%	44%
Period 1982-86	15	40

Source: Adapted from Rubinson, J. (1986), "Sales Simulation--New Marketing Realities Produce New Testing Needs," *Marketing Review*, New York Chapter of the American Marketing Association, 42 (November), p. 14.

and Ehrenberg 1984; Wellan and Ehrenberg 1988) have shown, on the basis of more data sets studied than perhaps any other research team, the remarkable aggregate predictability and "lawfulness" of consumer behavior--for store patronage, consumer durables, and not only supermarket products. Table 2, for example, from Ehrenberg (1987), shows the penetration, repeat rates, and market shares in the U.S. instant coffee market circa 1985. Look at the regularity of consumer behavior with which any consumer researcher must contend. There is clearly a direct relationship between penetration (trial) and market share, with repeat rates being relatively constant across brands and playing little part in market share determination.[3] The more sophisticated answer, therefore, to our new brand introduction question is that the new brand's likely market share depends on the penetration attained, given that the repeat rate in the product category is known.[4] A new instant coffee brand, for instance, hoping to attain a 10 percent market share, would have to gain trial by at least 18 percent of households (cf. Folger's in the table) given that its repeat rate is normal.

The same sort of overall regularity of consumer behavior holds for store patronage. And it is *very* predictable. Table 3 shows store patronage for instant coffee from a U.K. panel (hence the store names may be unfamiliar) in terms of the observed "store penetration" and "store repeat rates" compared with the theoretical predictions of these from the Dirichlet stochastic model employed by Keng and Ehrenberg (1984). Again the regularity and predictability are remarkable.

Why haven't these types of behavioral facts of consumer behavior been reported in the U.S. consumer behavior textbooks? Moreover, one rarely, if at all, hears or sees reference to them at ACR conferences or in *JCR*. Their importance is unarguable and central: the behavioral regularities of purchase behavior in the product category constitute the "norms" that we--as consumer researchers--must "beat," using our psychological theories of how to better produce responses to marketing stimuli. Managers-as-consumer-researchers, of course, have the same goal. But academic consumer researchers have the additional task of having to *explain* these facts.[5]

STOCHASTIC CAUSES?

The final illustration of the danger of our impending divorce from marketing science is seen in the concept of stochasticity. Almost 15 years ago, Bass (1974, p. 1) advanced the radical proposition that "brand choice behavior is substantially stochastic." In the zero-order extreme version of stochastic or probabilistic brand choice, the consumer, each time she faces a brand choice in the store, metaphorically rolls a multi-faced die to make her choice; the die's faces are "loaded" proportional to each brand's market share.[6] There is no cognition, no memory of past choices, just a simple series of metaphorical dice throws.

Stochastic models *describe* consumer brand choice behavior extremely well. At the aggregate or total market level, over the course of a year, it is not uncommon to find a correlation of greater than .90 between model-predicted and actual brand-switching patterns in the product category. But at the individual consumer (or more usually individual household) level, too, it is possible to be able to predict over 70 percent of the repeat purchases and switching occasions that an individual will experience in

[3]The data in Table 2 illustrate the widespread phenomenon that Ehrenberg has called the "Double Jeopardy" effect: that smaller penetration brands also tend to be bought less often, thus doubly jeopardizing their market performance.

[4]An alternative estimate is given by the Hendry system, based on *order* of entry (Rossiter and Percy, 1987). A new brand, for the average category, can expect to attain market share = $100 \times (.43)^{n-1}$, where the new brand is the nth brand. For qualification of the order-of-entry effect, see Urban, Carter, Gaskin, and Mucha (1986).

[5]For instance, the Dirichlet model used by Ehrenberg, like most stochastic models, is purely descriptive: there is no consumer behavior theory or explanation behind it.

[6]In the best-fitting stochastic models (e.g., the BBD or NBD-type models, including the Dirichlet), each consumer has her own die weighted by personal (previous brand choice) purchase.

TABLE 2

PENETRATION, REPEAT RATES, AND MARKET SHARES IN THE U.S. INSTANT COFFEE MARKET (CA. 1985)

Brand	Penetration (% households buying the brand at least once per year)	Repeat rate (average number of purchases per buyer)	Market share (%)
Maxwell House	24	3.6	(17)
Sanka	21	3.3	(14)
Taster's Choice	22	2.8	(12)
High Point	22	2.6	(11)
Folger's	18	2.7	(10)
Nescafe	13	2.9	(8)
Brim	9	2.0	(4)
Maxim	6	2.6	(3)
Average brand	17	2.8	(10)

Source: From A.S.C. Ehrenberg, "Buyer Behaviour and NBD," Working paper, London, England: London Business School, 1987, p. 4.

TABLE 3

U.K. INSTANT COFFEE: STORES (CHAINS) OF PURCHASES OVER 24 WEEKS, OBSERVED AND THEORETICAL

	Penetration		Repeat rate	
Store chain	Observed	Theoretical	Observed	Theoretical
Coop	28	29	3.4	3.3
Kwiksave	22	26	3.9	3.3
Tesco	21	20	3.1	3.2
Asda	14	16	3.6	3.1
Symbol	10	10	2.9	3.0
(Independents)	11	9	2.4	2.1
Fine Fare	5	4	2.1	2.8
Miscellaneous	33	28	2.8	3.3
Average store	18	18	3.0	3.1

Source: From Keng, A.K., and A.S.C. Ehrenberg (1984), "Patterns of Store Choice," *Journal of Marketing Research*, 21 (November), p. 402.

purchases over the year (e.g., Winter and Rossiter 1988) by using a model that has at least *some* degree of stochasticity in it. There is no fully deterministic (precise causal relationships) model developed by consumer researchers--for example, multiattribute attitude models--that can come anywhere near this degree of predictive accuracy in the real world.

The evidence for zero-order brand choice behavior, in which there is no cognitive carryover whatsoever from one purchase to the next, is mounting. In a particularly damaging (for consumer researchers) empirical *tour de force*, Bass, Givon, Kalwani, Reibstein, and Wright (1984) demonstrated that, for nine frequently-purchased supermarket product categories, the hypothesis of a zero-order brand choice process could not be rejected at the 10 percent significance level for an amazingly high 70 percent of households.[7] This high level was observed also for products such as white bread, margarine, and sugar, where it is difficult to argue that the "randomness" or zero-order nature of choice was spuriously due to the interspersing of different family members' choices within the household's overall purchase record (Kahn, Morrison, and Wright 1986).

Of course, "zero-order" does not necessarily mean "zero-order stochastic." As Bass (1974, p. 2) pointed out, the choice process could be fully determined by a multitude of variables such as recent advertising impressions, point-of-purchase promotions, out-of-stocks, and so forth, that make a fully-caused choice *appear* to be random, and which co-occur with unpredictable frequencies on each purchase occasion so that choice becomes zero-order. However, it's hard to believe that conditions change *that* much from one purchase occasion to the next. Rather, it seems that Bass' alternative hypothesis (1974, p. 2) of a "stochastic element in the brain," or at least some sort of stochastic causal process, must be equally entertained.

In a recent paper, Winter and Rossiter (1988) have proposed a consumer brand choice model that contains a substantial stochastic component. This model postulates, not that there is a random element in the brain, but that consumers *voluntarily and deliberately* engage in random (stochastic) choice behavior from time to time to satisfy a need for variety. This model states that consumers develop an individual purchasing "pattern" for the product category which indicates when to repeat in a brand loyal sense and when to "go stochastic" and simply select a brand probabilistically off the shelf. At the individual consumer level, this model predicts repeats and stochastic selections extremely well. And, note, it postulates stochasticity as one major *cause* of consumer brand choice, moving stochasticity from descriptive to explanatory status.

This (not so) new perspective of stochastic causality is emanating from marketing science. Again, it has been 15 years since Bass (1974) criticized consumer researchers' models such as those of Howard and Sheth (1969) or Engel, Kollat, and Blackwell (1968) for overemphasizing deterministic causes of brand choice. After 15 years of trying, it is abundantly clear that traditional consumer researchers' theories just cannot cope if they continue to overlook stochasticity. It is the marketing scientists who will force us to revise our theories to accommodate the now undeniable empirical challenge posed by stochasticity that we have heretofore ignored. Stochasticity must be regarded as a likely cause of consumer behavior.

CONCLUSIONS AND IMPLICATIONS

The theme of this year's ACR conference is that "multiple purposes, philosophies, and methods guide the generation of knowledge in the field of consumer behavior" (ACR Conference 1988 Call for Papers). The contention in this paper, based on observing what is going on at the now-separate ACR and TIMS conferences and in their respective journals, is that consumer researchers are in grave danger if they continue to divorce themselves from marketing scientists.

Three topics were examined to demonstrate the danger of not reintegrating consumer research with marketing science:

1. Empirical results from the marketing scientists' greater access to consumer purchase data from scanner panels threatening to inductively rewrite our largely deductive consumer behavior theories.

2. The incredible blindness, shown by U.S. consumer behavior textbook writers in particular, towards the fundamental facts of consumer behavior as discovered by marketing scientists--the very behavior which our theories hope to explain.

3. Failing to address the mounting evidence for Frank Bass' 15-year-old claim that "brand choice behavior is substantially stochastic" by not recognizing that stochasticity may be a cause of consumer behavior.

Reconciliation of the marriage breakdown between consumer researchers and marketing scientists is imperative if consumer researchers are to meet the fundamental challenge of the question "Can you explain consumer behavior?" being asked of us by our previous partners. Consumer researchers can and must help to explain the facts of consumer behavior that are increasingly being revealed to us by the marketing scientists.

Practical solutions for consumer researchers are quite evident: invite our marketing science colleagues back to our ACR conferences to insure markeing

[7]Our computations based on Bass et al.'s (1984) data revealed that the average across the nine products for "stationary" households, whose probabilities of purchase for each brand remained constant over the year of the panel, was 74 percent; for "non-stationary" households, it was 63 percent. The weighted average was 70 percent of households.

science input to our discipline; establish an interim policy of favoring more marketing science-based articles in *JCR*[8]; personally, keep current with the marketing science literature; and, above all, start "dating" our former marriage partners lest they leave us "single" and out of touch with what's going on.

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[8]By my count, there are at least 13 of the 56 editorial board members of JCR who have a primary or secondary research interest in marketing science. This approaches the incidence to which JCR's publication of marketing science-type articles has fallen, as suggested in Figure 1 earlier.

Effects of Identification with Comic Book Heroes and Villains of Consumption on Materialism Among Former Comic Book Readers

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ABSTRACT

Although a recent content analytic study (Belk 1987) has found archetypal heroes and villains of consumption in American comic books since the 1940s, it leaves unanswered the question of what the effect of these treatments may be on readers. The present study sought to investigate such effects among current college students by measuring identification with these comic book characters and relating such preferences to materialism traits. Results show expected negative effects on materialism for identifications with heroes of consumption, but find a somewhat more complex relationship between villain identification and materialism.

COMIC BOOK HEROES AND VILLAINS OF CONSUMPTION

Heroes and villains are important for several reasons. As Klapp (1962) notes, heroes and villains are social types by which we pass judgments on ourselves. They express cultural values by representing that which the society reveres as being admirable and desirable as well as that which the society fears and considers to be deviant. McCracken (1988) speaks of a culture projecting its values onto a mythical golden age of the past when life is imagined to have been ideal. Similarly, our heroes and villains allow us to encapsulate our values by involving these reified social types in mythical battles where the "good" inevitably triumphs over the "evil".

Comic book heroes and villains are little different in these respects than the heroes and villains of Greek, Roman, Chinese, Christian, or Muslim mythologies. They are one of the twentieth century American equivalents of the mythologies of tribal peoples of North America, Australia, Africa, Melenasia, Oceanea, Polynesia, and elsewhere. But perhaps even more strongly than heroes and villains of older traditions, comic book heroes provide role models that are potentially used by children in developing self images. Children and adolescents are the primary audience for comic books, formerly reading them most heavily from about age 11 to age 14 (Berger 1971, Murrell 1952, Witty and Moore 1945), but more recently from age 13 to age 18 (Anderson 1985, Sutin 1986). It is therefore likely that comic book heroes and villains are especially influential in the development of values and attitudes among a particularly susceptible age group, although probably not as susceptible as Wertham (1954) alleged in his early criticism of comic books.

The types of heroes and villains most commonly associated with comic books of years past are super virtuous, super strong super heroes like Superman, Batman, and Captain Marvel and arch-villainous criminal opponents who are out to rule the world (Baker 1975). Less recognized, but equally strongly characterized are what might be thought of as heroes and villains *of consumption.* Recent content analytic studies of comic strips and comic books conducted by Kassarjian (1983, 1984), Spiggle (1985, 1986), and Belk (1987) all identify materialistic themes as a major part of the content of these media. Belk (1987) found several prominent comic book series where such themes were strong enough to form the basis for defining the heroism and villainy of the characters.

Classification of Comic Consumption Characters

Based on Belk's (1987) qualitative and quantitative content analyses, the most prominent of these characters can be classified as shown in Table 1. The heroes of consumption in these comics are unselfish, altruistic, intelligent, and hard working. The villains are selfish, greedy, uncaring, spendthrifts who rely on luck, magic, crime, or unearned wealth instead of hard work. Although Uncle Scrooge was initially modeled after Dickens' Scrooge in *A Christmas Carol*, he is an ambiguous figure because on one hand he is avaricious, miserly, and exploitative (like Dickens' pre-transformation Scrooge), but on the other hand he is hard working, intelligent, and occasionally kind (at least in the last respect more like Dickens' post-transformation Scrooge). Mr. Lodge and Mrs. Rich are ambiguous because of inconsistent behaviors--sometimes altruistic and kind, sometimes acquisitive and ostentatious. And Fox and Crow are both ambiguous characters for reasons explained by Belk (1987):

> Fox was found to be four and one-half times more likely to act in a selfish than an unselfish manner, while Crow was found to be more than seven times more likely to act selfishly than unselfishly. Fox shows that he is able to achieve traditional success, but also shows a failing in continually wanting more. Crow shows admirable cleverness and cunning, but ultimately fails because he is unwilling to adhere to traditional rules for achieving success (Belk 1987, p. 31).

Like the crow in the fox and crow story from Aesop's fables, on which the series is loosely based, Crow is likable due to his cunning. He may thus appeal to child readers because he overcomes (at least temporarily) the more powerful and adult-like figure of the Fox. But Fox is likeable because he operates within the law and always "wins" by getting his revenge on Crow.

Effects of Comic Consumption Characters on Children

As Belk (1987) notes at the end of his content analytic study:

TABLE 1

Classifications of Comic Consumption Characters

Series	Heroes	Villains	Ambiguous
Archie	Archie Betty Jughead	Veronica Reggie	Mr. Lodge
Uncle Scrooge	Donald Duck Huey, Dewey, Louie	Beagle Boys Gladstone Gander Magica de Spell	Uncle Scrooge
Richie Rich	Richie Rich Mr. Rich Gloria Freckles Peewee	Reggie van Dough Mayda Money	Mrs. Rich Various thieves
Fox and Crow			Fox Crow

With such clear contradictions of values in these stories, readers have some clear value choices available to them. The stories themselves emphasize a traditional and conservative set of American values, but they depend upon readers identifying with the intended heroes. There is also a question of who reads these stories and what effect such reading may have on their materialistic attitudes. These must remain questions for future research (Belk 1987, p. 38).

If, for instance, readers identified more with the Beagle Boys in *Uncle Scrooge* than with Donald Duck or his nephews Huey, Dewey, and Louie, the intended value messages of the stories have quite a different effect. Thus readers' liking of different potential role models among these heroes and villains of consumption needs to be considered.

In addition, it should be possible to detect differences in materialistic traits of comic book readers who identify with different characters in these stories. Since it is assumed that the consumption characteristics learned during childhood and adolescence should set a pattern for the reader's behavior as an adult, we should still be able to detect differences in materialistic traits of adult readers who had different preferences in comic book heroes and villains of consumption. These are the premises upon which the current study is based.

A STUDY OF FORMER COMIC BOOK READERS

The present study is based on a convenience sample of 129 undergraduate students from all majors and 154 MBA students at a major Western U.S. university. Thirty-one percent of the undergraduates were female and the median age was 22. Forty-two percent of the graduates were female and the median age was 27. Participants were asked to recall the extent of their comic book readership in the past. The modal ages reported of heavy (6 or more issues per year) comic book readership were 8 to 15 for the undergraduates and 8 to 12 for the graduate students. Because the results presented below are otherwise quite similar for graduates and undergraduates (and for males and females), the samples have been combined.

Fewer than one-fourth of the combined sample disagreed with the statement, "There was a time when I read comic books every week." This suggests that despite the decline in U.S. comic book circulations from 60 million issues per month in 1949 to 4 million per month before a 1980s rebound (Henry 1986), current college students were still frequent comic book readers. The figure is not too discrepant from figures before the drop in popularity of comic books when 15 percent of children were found to be indifferent or hostile to this medium, compared to 37 percent who reported that they were loyal comic book fans (Wolf and Fiske 1949).

The participants reported whether they liked or disliked those of 50 specified comic book characters with whom they were familiar. For the characters identified above as heroes, villains, or ambiguous characters (based on content analyses), results were as shown in Table 2. It can be seen that at least two-thirds of those questioned were familiar with each of the characters in the *Archie* series and each of the five major characters in the *Uncle Scrooge Series.* While more familiar characters were often better liked, this was not uniformly true. The results instead indicate that participants generally prefer the comic book

TABLE 2

Proportion Liking Focal Characters In Fixed Alternative Evaluations

Series/Character (H=Hero;V=Villain)	Number Familiar With Character (Of n = 283)	Percent Of Those Familiar Who Like Character
Archie		
Archie Andrews (H)	239	80.8%
Jughead Jones (H)	232	76.3
Veronica (V)	226	52.7
Betty (H)	222	78.4
Reggie (V)	218	37.0
Mr. Lodge	184	51.1
Uncle Scrooge		
Donald Duck (H)	270	91.1
Huey, Dewey, Louie (H)	250	86.4
Uncle Scrooge	232	71.6
Gladstone Gander (V)	99	60.6
Beagle Boys (V)	88	52.3
Richie Rich		
Richie Rich (H)	162	59.3
Mr. Rich	132	52.3
Gloria Glad (H)	96	50.0
Reggie van Dough (V)	96	25.0
Mayda Money (V)	75	46.7
Peewee (H)	68	57.4
Freckles (H)	64	26.6
Fox and Crow		
Crawford C. Crow	59	37.3
Fauntleroy Fox	57	49.1

characters who were classified as heroes in the content analysis results shown in Table 1. The sole exception is for the minor heroic character Freckles in the *Richie Rich* series, who is less well liked than the minor villainous character Mayda Money. Because these were also among the least well known heroes and villains in these series, it may be that the impressions of their likability is also less reliable than for others.

It was not just that either wealthier or poorer people were uniformly more admired in these series. The wealthy Richie Rich and Uncle Scrooge were seen more favorably than the wealthy Fauntleroy Fox, Reggie (*Archie* series), Reggie van Dough (*Richie Rich* series), Mayda Money, Mr. Lodge, and Veronica. And the poor Archie Andrews, Betty, Jughead Jones, Donald Duck, nephews Huey, Dewey, and Louie, Gloria Glad, and Peewee were seem more favorably than the poor Beagle Boys, Freckles, and Crawford C. Crow. The differentiating factors instead seem related to how wealth is regarded, sought, and used. When the wealthy are hard-working, honest, altruistic, kind, and not given to conspicuous or competitive consumption, the impression is most favorable. For the poor, the traits that seem to disqualify a character from reader identification are greed, envy, and deceitful or dishonest pursuit of wealth. The humble poor are much more admired, just as it is the humble rich are are more admired. This suggests that perhaps we may be least comfortable when arrogance threatens the social structural status quo that is otherwise preserved by the humility of all concerned.

The next question to be addressed is the effect of liking these various heroes and villains of consumption on materialistic traits in readers. Because nearly half of the comic book characters studied were about evenly liked and disliked by the sample (40%-60% liked and 40%-60% disliked them), there was a good basis for paired comparisons of those who reacted to these characters positively and negatively. The dependent measures employed in these comparisons were the materialism scale and subscales (envy, nongenerosity, and possessiveness) developed by Belk (1985).

These scales have been found to have adequate levels of reliability and validity for exploratory research (Belk 1984, 1985, Rudmin 1988). They were further examined in the present study by having the graduate student sample indicate for a sample of 20 products and services which ones they thought the average American adult regarded as a necessity that they must have rather than as a luxury that they could easily do without. Items included a car, a second car, a television, air travel one or more times per year,

TABLE 3

Mean Materialism scores For Those Liking and Disliking Key Characters*

Series/Character (H=Hero; V=Villain)	Materialism Like	Materialism Dislike	Envy Like	Envy Dislike	Nongenerosity Like	Nongenerosity Dislike	Possessiveness Like	Possessiveness Dislike
Archie								
Archie (H)	71.7	73.2	19.1	20.7	18.6	19.8		
Betty (H)	66.6	74.9			13.5	19.4	32.5	33.7
Veronica (V)	73.6	71.7	21.4	20.1			33.4	32.7
Mr. Lodge			20.7	19.7				
Jughead (H)	69.8	71.0			16.7	19.4		
Reggie (V)	71.9	70.5	21.4	19.9			33.4	31.6
Uncle Scrooge								
Donald Duck (H)	71.0	73.8			17.8	19.3	33.0	34.0
Huey, Dewey, & Louie (H)							32.7	33.5
Uncle Scrooge							32.1	33.5
Gladstone (V)	70.9	75.5			19.7	20.7	30.8	34.6
Beagle Boys (V)	70.9	74.2					30.8	33.5
Richie Rich								
Richie Rich (H)	70.8	73.7			18.4	19.8	31.8	33.4
Mr. Rich								
Gloria (H)	71.4	73.5	20.0	21.7	18.4	19.5		
Reggie (V)	70.0	72.3	19.7	20.5	17.8	19.2		
Freckles (H)								
Mayda Money (V)	70.8	75.7					30.3	33.8
Peewee (H)	73.0	76.4	20.9	21.9	19.3	20.9		
Fox and Crow								
Fox			23.5	20.5	18.8	20.4	31.5	33.2
Crow	75.2	72.8	24.3	20.3	18.4	20.4		

*All adjacent pairs of differences shown significant at $p < .05$, via t- test.

three or more weeks vacation per year, a home computer, an audiocassette player, and a videocassette player. It was generally expected that the number of items regarded as necessities would be positively related to materialism. Actual correlations were:

Overall Materialism	$r = .14$ ($p < .05$)
Envy	$r = .01$ (NS)
Nongenerosity	$r = -.02$ (NS)
Possessiveness	$r = .24$ ($p < .001$)

These results are supportive, but indicate that possessiveness was the driving component of materialism that was related to tendency to regard consumer goods as necessities. On the other hand, O'Guinn and Faber (1987) find that envy and nongenerosity are most related to compulsive consumption tendencies and that compulsive buyers are not very possessive of their purchases. Together these studies suggest that these materialism scales have some predictive validity and may be effectively compared among those regarding the consumption heroes and villains of comic books either positively or negatively. These results are shown in Table 3.

Clearly those who reported liking consumption heroes were without contradiction less materialistic (and less envious, nongenerous, and possessive) than those who disliked these characters. In part, it was also found that those who liked villains of consumption were more materialistic than those who disliked these characters. This was true of the villains in the *Archie* series, but it was not true of the villains in the *Uncle Scrooge* and *Richie Rich* series. Rather than those who liked these villains being more materialistic, they were less materialistic. It may be significant that all of the latter villains (Gladstone Gander, the Beagle Boys, Reggie van Dough, and Mayda Money) seek to obtain wealth, fame, or success through non-legitimate means (e.g., including theft, luck, and trickery). On the other hand, villains Veronica and Reggie from the *Archie* series are portrayed negatively by the way they *spend* their wealth. They are thus more truly *consumption* villains rather than *production* villains like the others. The fact that consumption villains are liked by materialistic people, while production villains are disliked by these same people, suggests that only when consumption villains are appealing role models is greater materialism likely to result. Thus with this admittedly post-hoc distinction between production villains and consumption villains, the results all make sense.

CONCLUSIONS

While caution is urged in making any causal inferences from these associational findings and this limited sample, the number of significant differences in Table 3 suggests that there is a relationship between identification with consumption heroes and villains in comics and the materialistic traits of former readers. Coupled with Belk's (1987) finding of socially desirable treatments of wealth in the story lines of these comic books, there is some suggestion that these comic books may have a positive socializing influence on children, at least with regard to materialism. Those who report that they liked the heroic consumption figures (i.e., those figures who were more hard-working, honest, altruistic, kind, and not given to conspicuous or competitive consumption) scored lower on the materialism scale and subscales than those who disliked these characters. The fact that those who instead identified with villainous or ambiguous characters were not generally more materialistic than those who disliked these characters suggests that even when readers "mis-identify" with intended villains, they are unlikely to develop negative materialistic traits themselves.

The tentative conclusion that comic books featuring themes of wealth do not increase materialism and may instead decrease materialism among readers, is no guarantee that these comics do not have other effects on consumers however. As noted by Belk (1987) in reviewing the battles over material goods between Fox and Crow:

> The value of the material goods over which Fox and Crow disagree--meals, radios, televisions, automobiles, money, vacations, and other "prizes"--is never called into question (Belk 1987, p. 31).

Coupled with the weak correlations found in the present study between materialistic traits and the number of items thought by readers to be "necessities", it may well be that the mere display and vicarious consumption of wealth in these comics serve to legitimize high level consumption and reinforce an ever-expanding "standard package" of consumer goods (Riesman and Rosenborough 1955). This possibility however awaits further research.

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Seven Routes to Facilitating the Semiological Interpretation of Consumption Symbolism and Marketing Imagery in Works of Art: Some Tips For Wildcats

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ABSTRACT

This paper reviews the emerging role of semiotics in consumer research and, especially, in research on esthetic consumption. It distinguishes between positivistic and interpretive approaches to the semiotics of artistic objects and focuses on the latter orientation toward the semiological interpretation of consumption symbolism and marketing imagery in works of art. The paper presents an attempt to render the hermeneutics of artistic consumption less perilous by distilling seven lessons from the author's own experience with this kind of interpretive approach. These reflections suggest the following seven routes to interpretation: (1) Focus on consumption; (2) Interpret consumption broadly; (3) Hope for inspiration; (4) Try watching the video alone; (5) Look for differences and contrasts; (6) Search for points of departure; and (7) Regard the text itself as evidence. The paper illustrates each route to interpretation with an example drawn from one of the dramatic, narrative, or representational arts.

INTRODUCTION

Creeping In

In recent years, semiotics or the study of signs has begun to creep with catlike tread into the alleys of consumer research. While occasionally chasing an imaginary prey into a dark corner or a cul de sac, semiotics has also begun to sneak into the main avenues in our field of inquiry (Mick 1986, 1988). Thus, a view of products as symbols carries immediate relevance for such conventional topics as brand imagery or competitive positioning strategy, price as a cue for quality, intangible aspects of the shopping experience, and the multilayered meanings of advertising copy. Semiotics fits quite comfortably into these conventional areas of concern and has therefore won favor with even the most traditional marketing-oriented consumer researchers. However, the study of signs also shows considerable prowess for prowling around the edges of our usual territory. At the fringes, it encounters such topics as consumer esthetics -- an issue that it seems particularly well designed by its nature to pounce upon and to devour (Holbrook 1988b).

Two Orientations

As with other aspects of consumer research, esthetic semiotics shows two sides or, perhaps more accurately, a continuum between two extremes. We might characterize these, respectively, as the *positivistic* and the *interpretive* orientations. On the one hand, many studies of consumer esthetics cling closely to the conventional norms of logical empiricism -- designing careful experimental manipulations of artistic features, proposing hypotheses about their effects, and testing rigorously for the support of these hypotheses. I wish to emphasize that such positivistic studies have much to offer. Indeed, much of my own empirical work lies in this direction. However, a competing approach follows more *post*positivistic norms by placing a greater weight on interpretation (Hudson and Ozanne 1987). It accepts the meaningfulness of the researcher's subjective judgments and compensates for what it surrenders in the way of positivistic rigor by extending our field of inquiry into the hermeneutic exploration of various concerns that characterize the human condition. Indeed, it opens up areas of scholarship such as the humanities that might otherwise be excluded from our view of science more narrowly conceived. In this, it invites us to consider the meanings of artworks at levels not accessible to the experimental researcher equipped with verbal rating scales and psychophysiological measures. It thereby invokes the researcher's personal, subjective, and introspective inputs; it relies for much of its effect on stories, images, and metaphors; it finds its tropes in songs, pictures, and poetry (Hirschman 1985; Mitroff and Kilmann 1978).

The distinction between these two approaches to the study of signs deserves a name. In one paper I called the former "semiotics" and the latter "semiology" (Holbrook 1988b). But this terminology was not well received by my friends in the basic discipline, many of whom believe that the term "semiotics" covers everything related to the study of signs. Hence, I still lack a name for the more positivistic side of semiotics. Perhaps we might coin a new word such as "semionomy," "semioscience," or "semiometrics." I shudder to imagine the lexical possibilities that unfold before us. Meanwhile, however, few appear to object to my use of the term "semiology" to refer specifically to the more postpositivistic, interpretive, hermeneutic, humanistic side of semiotics.

I might add that, as far as consumer research is concerned, semiology is also by far the more neglected of the two divergent approaches to semiotics. A few consumer researchers have dipped their paws into the stream of semiological investigation. For example, Belk (1986) has interpreted artworks as sources of information about consumption patterns. Hirschman (1988) has performed structural analyses of myths and symbols in popular movies. O'Guinn, Lee, and Faber (1986) have

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examined films and television as agents of acculturation. Hudson and Ozanne (1987) have argued for the interpretive approach to science in consumer research from the viewpoint of hermeneutics. Meanwhile, I have pursued a somewhat different direction of inquiry, asking not what semiology can do for marketing and consumer research, but rather what marketing and consumer research can do for semiology (Holbrook 1987b). Specifically, I have explored the use of consumption symbolism and marketing imagery to convey meaning in dramatic, narrative, and representational works of art (Holbrook 1988a; Holbrook and Grayson 1986). Thus, I have advocated a close reading of films, plays, novels, paintings, and sculpture for what the consumption-related aspects of their texts tell us about the interpretation of art. (For further discussion and a review, see Mick 1988.)

Dangers and Difficulties

While advocating this hermeneutic approach to the semiology of consumption symbolism and marketing imagery in works of art, I have also felt the need to warn other consumer researchers about the dangers of following my example. Briefly, this semiological approach to consumer research is *hard* -- in the sense that it is both *dangerous* and *difficult*. These two considerations militate against my ability to recommend the pursuit of consumption semiology as a career path.

First, the semiological analysis of consumption symbolism in art is *dangerous* because it departs from the two most cherished tenets of the reviewers who dominate the journals in our field: logical empiricism and managerial relevance. Hence, however inappropriate these positivistic and pragmatic criteria may eventually turn out to be, semiological research runs the risk of rejection. As a veteran of some bloody wars fought over this issue, I can only report that the semiological field of battle is one where sadomasochism in the review process wages some of its most ferocious assaults.

Second, as a factor that I have not previously emphasized, the semiological interpretation of consumption symbolism in works of art is *difficult*. Somewhat ironically, most of us know how to design and execute studies in accord with the conventional hypothetico-deductive method used to test the effects of various marketing variables. We might occasionally run into trouble on such issues as the nonrepresentativeness of samples, the failure to rule out alternative explanations, or threats to real-world generalizability. But, usually, we know a set of fairly clear-cut rules that we can follow if we want to play the hypothetico-deductive game. By contrast, all such rules evaporate in the context of the semiological study of market signs and consumption symbols. Semioticians cannot even agree amongst themselves on whether interpretation should focus on the intention of the author, the text itself, the work in its sociohistorical context, or the reader's response. Hence, we lack clear guidelines for what we regard as a valid close reading. Thus cast adrift, we must explore whatever routes we can find into the meaning of consumption symbolism and marketing imagery in the artistic text. Such explorations generally require hard-won insights or muse-like inspirations that cannot be programmed and that do not come easily.

All this means that, in contrast to our usual application of the terms "hard" and "soft," a consideration of its *dangers* and *difficulties* suggests that the semiology of consumption in art is the true *hard* science while more positivistic approaches are relatively soft by comparison. To repeat, this realization has led to my warning against the interpretive, hermeneutic, humanistic approach to consumer research as a career path. But, to my delight, a few consumer researchers (including those mentioned earlier) are so devoted to the stubborn pursuit of what they regard as truth, that even such pessimistic cautions cannot dissuade them.

Wildcats

Earlier, at the start of this paper, I compared such intrepid semioticians to cats. Indeed, we might honor the famous BCG matrix by claiming the status of wildcat (or problem child) for semiotics in the consumer-research portfolio -- with choice studies, multiattribute attitude models, and consulting applications viewed as stars, cash cows, and dogs, respectively (see table 1).

Anyone familiar with the feline temperament knows that you cannot tell a cat, much less a wildcat, what to do. Hence, I can warn against the dangers and difficulties of semiotics in general and semiology in particular until I am blue in the face without the slightest fear of discouraging the true believer. The true believer looks at Morris, recognizes immediately that Morris is a cat too, and cheerfully ignores all the cautions that Morris can muster. This is why Morris loves the true believer.

Preview

My obligation, then, is to stop issuing unheeded warnings to the problem children or wildcats of consumer research and to search instead for ways of providing assistance. I propose to offer such assistance by describing seven routes to the interpretation of artistic texts in terms of their consumption symbolism and marketing imagery. I choose seven such aids to interpretation because this is the magical number that George Miller tells us we can remember without excessive strain on our cognitive systems. I would not want to strain our cognitive systems because we need those systems as inputs into other more general psychological processes such as those involved in emotion. Indeed, emotional sensitivity and appreciative responses to the meanings of consumption symbolism appear to be primary requisites for the interpretation of artistic texts. Hence, my seven proposed routes to interpretation have emerged from intensely subjective, personal, and introspective experiences with interpreting works of art. Accordingly, in discussing each route to interpretation, I shall provide an example of how it manifested itself in my own encounters with esthetic appreciation. I intend such examples not as proofs nor even as arguments, but

TABLE 1

The Consumer-Research Portfolio

	Big Share	Little Share
Growing	Choice Studies *	Semiotics ?
Stagnant	Attitude Models $	Consulting X

merely as illustrations of how the interpretive principles have worked in the life of one consumer researcher concerned with artistic consumption. By thus revealing themselves, they may help to suggest some tips for wildcats.

SEVEN ROUTES TO INTERPRETATION

1. Focus on Consumption

Obviously, one might "read" a play, a movie, a novel, a painting, or any other artwork from a variety of perspectives. One might focus primarily on its visual composition, its dialogue, its physical actions, its musical soundtrack, its shape, its colors, or any one of many other inter-related components that could be isolated for purposes of analysis. I suggest that, from the viewpoint of consumer research, one fruitful approach involves the subordination of all such perspectives to a singleminded focus on what these various sights and sounds reveal about consumption. Often, much of an artwork's meaning is carried by a subtext that emerges in its use of consumption symbolism.

One example appears in the movie *Gremlins*. On the surface, this film presents a rather conventional action-adventure story about a courageous boy who conquers some evil monsters, rescues his loved ones, and saves his hometown. Further, it develops a tender relationship between this brave lad and his sweet little girlfriend from down the block. But, if one attends to the movie's use of consumption symbolism and marketing imagery, one quickly discovers an important subtext -- namely, a powerful, sustained thematic attack on the evils of materialism. Throughout the film, the gremlins provide a vehicle for revealing the spiritual disasters potentially inherent in a consumer culture gone to extremes. Ultimately, the monsters become a hideous reflection of the profligacies latent in a consumption-oriented society that surrenders itself to excess. In the scene in which the gremlins take over the movie house and enact their hideous parody of a theater audience, we suddenly recognize that the gremlins represent ourselves as viewers of the film.

2. Interpret Consumption Broadly

As I have argued elsewhere, consumption involves much more than just the purchase of goods or services (Holbrook 1987c). Briefly, it includes any form of acquisition, usage, or disposition directed toward consummation in the satisfaction of needs and wants. This means that consumption encompasses any behavior that confers value and that thereby reflects the influence of underlying motivations. Hence, by its reflection of motivating needs and wants, consumption mirrors a dramatic character's personality and helps to trace the development of that personality.

One illustration concerns the clothing worn by Judy during her three scenes in John Patrick Shanley's play entitled *Women of Manhattan*. In the first scene, Judy wears a man-like outfit that instantiates the repression of her buried femininity. As her sexual awakening occurs, Judy next appears in a restaurant with Duke, wearing a voluptuous, low-cut evening gown that prefigures the carnal ecstasies soon to follow. Finally, Judy's third appearance conveys her newly won mental equilibrium by means of a fashionable dress that reflects a precarious compromise between modesty and sexiness.

3. Hope for Inspiration

I believe that semiological interpretation of artworks usually depends on some degree of inspiration, some serendipitous insight or some sudden afflatus. Unfortunately, one cannot control such magic events. One can only wait for one's muse to sing or hope that one's daemon will speak. Needless to say, when such an inspiration occurs, one must be ready to follow the wind, wherever it blows.

Something like this happened to me in connection with some self-reflective work I recently completed on the subject of my own art collection. While visiting me in Pennsylvania, my friends on the Consumer Behavior Odyssey had inquired about our extraordinary number of artistic objects representing birds and other animals. This serendipitous insight planted a seed in my head that grew there for several months until I happened to attend a seminar on the psychoanalytic interpretation of art. The latter experience caused me to reflect on my own earlier period of psychoanalysis and to recall some childhood memories and an old phobia that seemed to account for the art collection as the embodiment of a wish to avoid castration (by symbolically protecting birds and other phallic objects from attack by the father figure in the form of a wolf). Such connections sprang into consciousness one day when I looked up from my desk in New York and suddenly found myself confronted by a wolf staring at me from the opposite wall. My resulting shock of recognition led to the realization that, figuratively, I have mastered the wolf's menacing implications by turning him into a comic, brightly colored caricature in the form of a lithograph by Karel

Appel called *I Am an Animal*. All this poured out of me onto paper in something like the stream-of-consciousness of a trance-like state. Though I have subsequently revised my first draft (many times) for style, accuracy, and consistency, its essential content emerged altogether as one holistic Gestalt.

4. Try Watching the Video Alone

My next recommendation grew out of another piece of serendipity that may generalize to other interpretive situations. Specifically, I suspect that one may often gain enriched insights into the consumption symbolism of a film (or, conceivably, a play) if one first watches it without sound, attending to the video portion alone. The reason for this speculation is simply that the dialogue, music, and sound effects often refer to action sequences or interpersonal relationships not directly connected with the consumer behavior of interest. The audio message may thereby distract us from relevant aspects of the consumption symbolism.

My serendipitous discovery of this principle occurred on my first viewing of *Gremlins*. I had flipped through several television channels in search of something to amuse me while I rode my exercise bike. Finding nothing of interest, I put on some music instead. But, having started pedalling, I realized that I had left the TV turned on with the sound off. This accident exposed me to some key scenes through my eyes alone. One such scene occurs when the boy puts a Santa Claus hat on his pet mogwa and shows it to itself in a small mirror. The tiny creature displays obvious horror and dives into a wastebasket. Thus, the visual aspects of this scene convey one of the film's major themes -- namely, indignation over the spiritual decadence of yuletide materialism. Yet, the impact of this symbolic gesture diminishes with the addition of its verbal accompaniment. The latter information concerns the mogwa's fear of light and actually distracts us from the important consumption symbolism associated with Santa Claus.

5. Look for Differences and Contrasts

One of the fundamental tenets of structuralism -- an approach to interpretation descended from Saussure (ed. 1966) and practiced by people like Lévi-Strauss (1963, 1985) -- concerns the significance associated with differences among signifiers. Clearly, the varying meanings of words such as dog, dig, dim, dam, bam, bat, cat, car, tar, tan, ton, et cetera, depend on minor contrasts between one feature in the two members of each pair. Similarly, if only by loose analogy, I would argue that systematic differences in consumption symbolism within a work of art often provide key insights into contrasts essential to the development of plot, character, or theme.

Illustrations of this structural principle appear in two plays by Tina Howe entitled *Coastal Disturbances* and *Painting Churches*. The first play (written later) depends in part on clear contrasts in consumption styles within three pairs of characters. Specifically, *Coastal Disturbances* uses consumption symbolism to depict the lives of two young mothers (who represent fertility and barren desiccation, respectively); an elderly couple (who stand for artistic vision versus mundane cynicism); and a pair of young lovers (whose consumption behavior reflects instability as opposed to mastery). The second play (written earlier) relies on an even more complex scheme of differences in consumer behavior. Specifically, *Painting Churches* portrays a father, mother, and daughter in terms of the thematic contrasts between the (a) negative and (b) positive aspects of their (1) trivial and (2) artistic consumption. This structure establishes a four-fold set of homologous distinctions for each character separately as well as for the interactions among all three. The resulting pattern of parallel contrasts leads to a rather complex interpretation based on the analysis of a table with sixteen cells.

6. Search For Points of Departure

By contrast with the top-down structural approach just described, an entire interpretive analysis of an artwork sometimes unfolds from just one crucial passage or scene or detail that, like a DNA molecule or a hologram, seems to contain a code for the meaning that extends through the remaining work of art. Thus, a small specimen can provide a point of departure for the interpretation of the rest of the text. Indeed, such a point of departure or *Ansatzpunkt* (Auerbach 1969) can radiate outward, shedding light on the overall work, in a way that helps to anchor the so-called Hermeneutic Circle based on the interaction between the parts and the whole. Auerbach (1953), among others, demonstrated over and over the value of interpretive work that moves in this manner.

One clear instance of such an *Ansatzpunkt* appears in the film entitled *Two For the Road*. Here, in one especially vivid scene, Joanna (Audrey Hepburn) attracts her future lover Mark (Albert Finney) by imitating a traffic sign. On the one hand, like the moving and flashing semaphore itself, Joanna is brightly colored, blinking, animated, gay, beautiful, and alluring (especially to the heart of an Audrey Hepburn fan). On the other, like the road sign, Joanna's movements demand an interpretation as a warning signal advising her fellow traveler Mark to proceed with caution. Indeed, this duality of meaning perfectly captures the ambivalence of Mark and Joanna's developing relationship. Further, the telling ambiguity of the semaphore adumbrates a network of automotive imagery that extends throughout the rest of the movie. Hence, my interpretive analysis of automotive signs in *Two For the Road* (i.e., the film's use of travel symbolism and transportation imagery) focuses entirely on this one type of consumption- and market-related meaning.

7. Regard the Text Itself As Evidence

Finally, we must inquire about the question of validity in semiological interpretation. Here, frightened by the apparent self-fulfillment of the Hermeneutic Circle or the occasional solipsism of the New Criticism, we might be tempted to surrender our claims to validity and to succumb to a sort of positivistic angst (Calder and Tybout 1987). One way to avoid this tragic impasse involves regarding the close reading of a text as a kind of empirical verification in which the evidence appears in the text itself (Hirsch 1967; Ricoeur 1976). As argued elsewhere, this interpretive strategy conforms to an inferential process that Charles Peirce called *abduction* (Eco and Sebeok 1983; Holbrook 1988b; Mick 1986). Abductive inference involves bringing *rules* from different contexts (e.g., elite people drive expensive cars) to bear on *results* found in the work of art (e.g., Mary drives a Cadillac) to infer something about *cases* at intermediate levels of generality (e.g., Mary is elite). The latter inferential abductions then supply hypotheses in need of support from further portions of the text. Hence, the text plus an understanding of its context provides the grounds for the validation of its own interpretation.

An illustration of this latter claim appeared in the movie *Out of Africa*. Here, a cuckoo clock unpacked by Karen Blixen early in the film, symbolizes the extreme gulf that separates the Western European and African cultures. Immediately, Karen's manservant Farah regards this foreign object with an expression of utter amazement. Soon, the Kikuyu children watch it with an attitude of eager anticipation and subsequent astonishment. These two brief scenes provided the core point of departure or *Ansatzpunkt* into an interpretation of the film's consumption symbolism. Only much later -- indeed, too late for inclusion in the original article -- did I spot a validating detail toward the end of the film. Specifically, as Karen tries to prepare Farah for her imminent return to Denmark, she puts a tag on the cuckoo clock to ready it for disposal in her yard sale. The conclusion of this sad task is marked by her request that Farah take the timepiece outside to be sold. Ultimately, the camera focuses on the forlorn cuckoo clock as the visible emblem of Karen's return to Western Civilization and abandonment of her African home. In effect, European patterns of consumption have once again driven their wedge between the two cultures.

CONCLUSION

This paper has reviewed the emerging role of semiotics in consumer research and, especially, in research on esthetic consumption. It has distinguished between positivistic and interpretive approaches to the semiotics of artistic objects and has focused on the latter orientation toward the semiological interpretation of consumption symbolism and marketing imagery in works of art. It has warned against the dangers and difficulties of this "hard" style of research, but has anticipated that the "wildcats" who inhabit this cell of the consumer-research portfolio will display their feline tendencies by stubbornly refusing to listen to such cautionary advice.

The paper therefore presents my attempt to render the hermeneutics of artistic consumption less perilous by distilling seven lessons from my own experience with this kind of interpretive approach. These reflections suggest the following seven routes to interpretation:

1. Focus on consumption
2. Interpret consumption broadly
3. Hope for inspiration
4. Try watching the video alone
5. Look for differences and contrasts
6. Search for points of departure
7. Regard the text itself as evidence

The paper illustrates each route to interpretation with an example drawn from one of the dramatic, narrative, or representational arts. I hope that these illustrated principles will be seen as something more than just seven isolated pieces of advice. I hope that they will be viewed as an interconnected set of considerations that bear on one problem -- namely, the problem of interpretation -- and that thereby begin to suggest ways of reading an artistic text through the analysis of its consumption symbolism and marketing imagery. In sum, I hope that through such an approach we can grope our way toward a view of art that might one day emerge as a perspective more powerful than just some tips for wildcats.

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Heroes, Villains, Wildcats and Marketing Science
Discussion of New Directions in Consumer Behavior and Consumer Research

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Two of these papers could be said to be indicative of the "new directions" taken by ACR. Although in point of fact, they are, outside of ACR, *not at all new*. The fact that we label them as such is testament to the need for ACR members to get off the block, and discover things beyond marketing and psychology. The third paper suggests that it is precisely this "new direction," that is precipitating the "divorce" of consumer researchers (as represented by ACR) and marketing scientists (as represented by ORSA/TIMS). As discussant I offer these few comments, criticisms and suggestions.

Heroes and Villains

Belk's paper, "Effects of Identification with Comic Book Heroes and Villains of Consumption on Materialism Among Former Comic Book Readers," suggests that identification with certain comic book consumption heroes in childhood and adolescence produced less materialistic adults. Identification with consumption villains was less clear in its effect.

The general topic of this paper, the effect of identification with mass mediated consumption archetypes, could prove a fruitful area of consumer behavior inquiry. Most consumer research involving comic books has treated them as cultural artifact, interpretation of which tells us of the consumption values of cultures and subcultures. As valuable as that type of analysis is, this paper takes quite a different approach. It explores the *effects* of identification with certain types of comic book characters. Comics seem particularly appropriate as an initial foray into this area of inquiry because comic book characters are generally so archetypal, mythic and, therefore, rarely ambiguous. They can thus be typed more easily for analysis, and may make the case for effects somewhat easier to make and defend.

Belk's work is certainly a departure from previous studies and deserves serious consideration. The consumer behavior field has, other than for advertising, generally ignored the effects of mass mediated communication. There is a lot of mass media beyond advertising out there. We can safely assume that exposure to mass media programming, much of it explicitly involving consumption, has some effect on the behavior of consumers, perhaps even greater than that of advertising. This would certainly seem a reasonable pursuit for those interested in consumer socialization (see Faber and O'Guinn 1988 for a more thorough treatment of this issue). The field's singular focus on advertising as the only mass media material worthy of research attention is difficult to understand. Belk deserves credit for moving consumer research in this "new" direction.

I offer only two cautionary notes to this paper: (1) the case for "effect" is always a tough one to make; and (2) the finding that the overall effect of exposure to such consumption portrayals is generally positive or neutral must be carefully qualified. Thirty-five years of research on mass media has generally failed to demonstrate clear effects of exposure or even identification. The communications field has generally moved away from the exposure "effects" paradigm, and more to a limited effects, cultivation, or "uses and gratifications" paradigm. The later seems particularly appropriate in this instance since it could very well be the case that early childhood socialization or individual differences in personality or motivational factors lead the child or adolescent to seek out and identify with certain types of mass media characters for a wide variety of uses and derived gratifications. As a meta-theory it offers more in terms of a broader definition of "effects," as well as a much more active view of mass media audiences. I am not disputing the association Belk reports, but offer caution as to the nature of the association and related process.

Another point made by Belk is also worth amplifying, and may represent a very promising path of future research. Belk suggests that it may be the contextual and incidental learning that is the most important effect of identification with comic book consumption characters, thus drawing on the ideas of long overlooked Riesman and Rosenborough (1955). This is an excellent point. It doesn't have to be a direct modeling effect to be meaningful. It may be that by identifying with certain consumption heroes that important associations and inferences are made about how the world works for certain types of people. "Good" rich people have certain things, and things work a certain way for them. The process and it effects may be much more subtle that some straight "effects" model would suggest.

Wildcats:

Holbrook offers seven suggestions for those "wildcats" who choose to study consumption symbolism through the semiology of works of art. Because this is a largely prescriptive paper, I have few criticisms, but will offer a few comments. All seven of Morris's suggestions are good advice. While I don't really disagree with any of them, I would offer a comment with respect to two more global comments made by the author.

Holbrook (p. 3) takes the position that "it's not what semiology can do for marketing and consumer research, but rather what marketing and consumer research can do for semiology." While this approach is perfectly legitimate and valuable, the analysis of symbol systems is ultimately an interactive process. It seems that semiology is at its most powerful level when it operates in both directions, by being self-reflexive, asking what each system in turn say about the other. When one is "reading" a film by focusing on consumption one can uncover another layer of meaning, thus making it a richer consumption experience. This is because consumption is such a central component of ours, and many other cultures, that art reveals more meaning through direct consideration of consumption. You can, however, just as well see the film as providing evidence of the way cultures feel about themselves, including their consumer values, ideals, and norms. Frankly, I find the two perspectives inseparable and the distinction somewhat artificial.

I would also like to amplify another point made by Morris. He says that being a wildcat is both "dangerous and difficult." He's right on both scores. Semiological analysis is by its nature difficult. But I think more important is his assertion that it's also *dangerous for one's career*. This *may* be true, although I do not understand why this has to be. Furthermore, continually issuing these dire warnings runs the risk of creating a self fulfilling prophecy and a disinhibition and legitimation of prejudice against semiology. I would prefer to think choosing semiology as a primary research tool is at present riskier than some other course of action, but I still would under no circumstances try to dissuade someone who really wants to use this analytical system to better understand consumer behavior. I suppose if you approach an academic career with the prime imperative being "strategy," becoming a semiologist may be a bad idea. If, however, things like happiness and intellectual integrity matter to you, *study what you want to know*. Be passionate in your pursuit. If you want to be safe, the advice is simple: don't take chances. Study what everyone else studies and do it the same safe way they do it. You'll have a nice safe career, and when you get to the end of it you can say, "wasn't that fun; wasn't that fulfilling." If you are going to spend your brief time on this planet being a camp follower, there are plenty of other domains in which the hours are shorter, the pay much better, and the expectations lower (i.e. politics). Morris really wants you to be a wildcat. He's just telling you the cost. I would ask you to think of the *cost of not pursuing what you desire to pursue.*

Science:

Let me preface my comments on John Rossiter's paper by saying that I realize that it represents a heartfelt and absolutely sincere appeal on the part of Rossiter for what he sees as the good of the organization and the discipline. I, however, *respectfully disagree* with some, but not all, of his arguments. I do, regrettably, find the paper's tone troubling.

Rossiter says that "Consumer research is losing touch with marketing science;".. and that this "now almost complete divorce from marketing science by consumer behavior theorists is extremely dangerous." He rests his case on three illustrations. First, Rossiter asserts that scanner data in marketing science "threatens to *empirically rewrite consumer behavior theory*." His argument is that scanner data is "primarily the province of marketing scientists," and that we "can't argue with the data, because they are real." Confrontation with these "real data" is going to force consumer behavior theorists to "radically revise" theory. His suggestion is that consumer researchers draw upon the largely inductive work of the "scientists," so that consumer researchers (by inference, non-scientists) can reformulate theory and then deductively test it. I find this phrasing odd and disturbing. The explicit assertion is that marketing equals science and consumer research is something less than that. I was under the impression that consumer researchers were also scientists. I suppose if you equate behaviorally atheoretic empiricism with science, then many of us would plead guilty as charged. I realize, it's all a matter of how you see it, but what modelers call stochastic error consumer researchers call human process.

There is, nonetheless, some truth in what Rossiter says. As error is reduced by better collection methods, theorists often have to rework and revise. This is neither unusual or damning. It is simply part of the practice of science. Just as theoretical physicists have had to revise their theories as a result of data gained through advances in radio astronomy and inter-planetary probes, so too will consumer behavior theorists be challenged by advances in scanner data. On this much we agree. Still, I would also suggest that what scanner data really do best is improve dependent measures and a few of the more gross independent ones. It does little to speak to process or even higher level description. It's undeniably valuable, particularly to managers, but to suggest that it's "real" and cannot be "argued with" is strong rhetoric. Scanner methodology is not without problems and is perfectly capable of producing error. You are essentially right in asserting that it has more validity to the ecology than a laboratory setting, but that's essentially because most experimental research in consumer behavior is examining micro processes which could not be appropriately examined through scanner technology. You may see the gross effects of many simultaneously operating micro processes in gross scanner measures, but I can't imagine how you would hope to unravel, for example, the way specific cognitive processes operate within the individual consumer. We are talking about different levels of analysis, different process, and different phenomena.

Still, you are right that some consumer behavior theories could to a greater extent be tested by field experiments, but only certain levels and types of theory. This very well might be the case of the two examples you cite (Scott 1976; Dodson, Tybout and Sternthall 1978). Still, even in these cases, would it really test the underlying behavioral theory of *why* these particular patterns would be expected? Maybe what it's really testing is the veracity of the associated and claimed *managerial implications* of these theories. If that was your point, I think you would have a much stronger and defensible one.

John's second point is that ACR members are ignorant of "the behavioral facts of consumer purchase behavior discovered by marketing scientists." Again, there is some truth here, particularly with respect to American researchers' undeniable geocentrism, and it certainly wouldn't hurt anyone to be more aware of some of the patterns that appear in aggregate data. But again, consumer researchers could just as easily say that modelers are largely ignorant of behavioral processes. Responsibility for the failure to integrate must be shared by both camps.

John's second thesis is clear in this quote (p. 12).

> Their (behavioral facts') importance is unarguable and central: the regularities of purchase behavior in the product category constitute the "norms" the we as consumer researchers--must "beat" using our psychological theories of how to better produce responses to marketing stimuli.

I guess I don't quite understand how knowing these norms will make us any more likely to produce better marketing stimuli, or more importantly, *build better theory*. The paper never gets around to explaining just exactly how knowing normative information like "what the average new brand can expect" will improve our theories of process. As you point out, the marketing "science" models have no consumer behavior theory in them. Having normative consumer data is valuable for managers. No one denies that. It also helps academics sell their ideas as managerially relevant (to journals and to consulting clients). But beyond that, I don't see it playing a terribly significant role in behavioral theory development. I certainly could be wrong, but I've been unable to think of a single example where that would clearly be the case.

Rossiter's third and final point is that ACR members have failed "to recognize that stochasticity may be a *cause* of consumer behavior." John says that consumers "go stochastic," and engage in random choice behavior. This is a very provocative idea, much like Bass' (1974) model which requires "no cognition, no memory of past choices." The difference is that Rossiter says that it is *voluntary* and dependent on consumers developing "an initial purchasing pattern for the product category which indicates when to repeat in a brand loyal sense and when to "go stochastic" and simply selects a brand probabilistically off the shelf" (p. 14). You say people "voluntarily go stochastic." Doesn't it seems just the least bit contradictory to say that consumers use cognition and memory in order to not use cognition and memory in making a choice? Something drives consumer choice: a preference for a box, a color, previous advertising, or something in the mind, but not stochasticity. There is no cognitive tabula rosa. Your assertion flies in the face of an enormous body of psychological literature. Furthermore, what you offer as evidence is *no evidence at all*. The presence of stochasticity at the aggregate level is no evidence of the absence of psychological process. The only thing it is evidence of is ecological fallacy.

Admittedly, across enough consumers many individual level processes appear to be random or near random. The problem is that if you take a gross dependent measure like brand switching, there are so many cognitive, social, cultural, and situational processes involved that while each of those may be explained in terms of its role and effect on the final outcome, that for some processes that are essentially low risk and multi-factored that there is the appearance of randomness at the aggregate level. That illusory condition is called the *ecological fallacy*. You are taking aggregate level data and making inferences about individual level process. When some behavioral outcome of admittedly minor consequence involves the use of many inputs which themselves are variously distributed throughout large populations, invoking a large enough N will give you the *illusion of stochasticity as cause*. But, it is only an illusion.

To conclude, Rossiter blames ACR's "new directions" for all of this non-science, and asserts that we are "missing the boat" in not attending ORSA/TIMS. Interestingly, he never explains just how the "new direction" of ACR has done this, by what mechanism. He suggests that we should invite them (scientists) back, reform, change our ways and repent. We are in danger of a divorce if we don't mend our ways.

As far as I know, everyone is invited to ACR. I certainly welcome the interaction you propose. I too think consumer researchers should be challenged and confronted by data from advancing technology. I also think it is healthy for us both.

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The Impact of Initial Processing Goals on Memory-Based Brand Comparisons

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ABSTRACT

When consumers compare two brands to form a preference, one brand serves as the starting point or subject of comparison and the other serves as the target or referent. Previous research has shown that the subject's unique attributes are more salient than the referent's unique attributes, and, consequently, consumers prefer the subject when both brands possess unique favorable attributes and they prefer the referent when both brands possess unique unfavorable attributes. The present experiment demonstrates that this direction-of-comparison effect is moderated by consumers' initial processing objectives. Stronger direction-of-comparison effects were found when respondents were instructed to memorize attributes than when they were told to form impressions of the products. The implications of the results for understanding memory-based judgment and choice are discussed.

INTRODUCTION

Consumers commonly compare brand alternatives prior to making a purchase. Comparisons are performed to determine both similarities and differences between brands, and to determine which of the available brands is preferable. Common sense dictates that a comparison of two brands should be a straightforward matter of comparing all of the features of one brand with all of the features of the second brand. However, Tversky's (1977) feature-matching model of the comparison process predicts that certain asymmetries in judgment will result in a directional comparison.

Tversky suggests that in a comparison of two objects, one object often serves as the starting point or *subject* of comparison, and the second object serves as the target or *referent*. In Tversky's view, people performing a directional comparison begin with the features of the subject, and examine how the referent compares with regard to these features. Which object serves as the subject of comparison is critical, as people are particularly attuned to the subject's features. These features serve as a sort of checklist against which the features of the referent are reviewed. Features unique to the referent are often neglected in the comparison process, as people tend to compare only the features present in the subject. Features unique to the subject, however, tend to be highlighted by the comparison process and consequently carry the most weight in judgments about the two items.

A number of studies have demonstrated that the direction of comparison can lead to asymmetries in judgment consistent with Tversky's feature-matching model (Agostinelli, Sherman, Fazio, and Hearst 1986; Houston and Sherman forthcoming; Srull and Gaelick 1983; Tversky 1977). Of particular relevance to the present study is Houston and Sherman's examination of the impact of the direction of comparison on judgments of preference. The authors presented experimental participants with two different descriptions of objects of various categories (e.g., automobiles, apartments). The two competing objects were described by an equal number of favorable and unfavorable features. The descriptions differed, though, in that each object possessed features that were unique from the other object. In half of the conditions the objects possessed unique positive features and shared negative features, whereas in the remaining conditions the objects possessed unique negative features and shared positive features.

Houston and Sherman (forthcoming) predicted that there would be a tendency to treat the most recently observed object as the subject, and the first observed and thus less accessible object as the referent. Three experiments supported this prediction. Further, this result is consistent with Biehal and Chakravarti's (1983) finding that when the most recently observed brand is acceptible, consumers choose this brand over other brands whose attributes are less accessible from memory. Thus, when respondents are exposed to two brands possessing equally favorable but unique features, respondents should prefer the subject of comparison over the referent. Mapping the features of the subject onto the referent should lead respondents to recognize the shared bad features and the subject's unique good features, and neglect the referent's unique good features.

Conversely, when two brands possess unique bad features, respondents should prefer the referent. Comparing two brands along the features of the subject should lead to a recognition of the common good features and the subject's unique bad features, and a neglect of the referent's bad features. Consistent with these predicitons, Houston and Sherman found that the subject is preferred when the objects of comparison possess unique good features, and that the referent is preferred when the objects possess unique bad features. They also observed a pervasive tendency to treat the most recently observed object as the subject in a directional comparison.

The direction of comparison is presumed to affect judgments through a feature-matching process such as that proposed by Tversky (1977). Studies of memory-based judgment, though, indicate that consumers do not always rely on specific feature information in making a judgment (see Hastie and Park 1986; Kardes 1986; Lichtenstein and Srull 1985, 1987). When relevant judgments or impressions are formed during the initial processing of information, these impressions, rather than the specific information on which the impressions were based, tend to serve as the primary basis for later judgments.

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Thus, if consumers possess global impressions or evaluations of the relevant brands in memory, a memory-based comparison of the brands may be based on these global impressions rather than upon the specific feature knowledge of the brands.

We suggest that when a memory-based judgment is characterized by a comparison of brand impressions rather than brand attributes, the effects of the direction of comparison on judgments of similarity and preference observed in previous studies may be attenuated. When an impression is formed of the referent during the initial processing of information, both unique and shared features may be integrated into and accounted for in the overall brand impression or evaluation. The unique features of the referent may influence subsequent impression-based comparisons by affecting the nature of the initial global impression of the referent. Consequently, the tendency to overlook the referent's unique features in directional comparison may be attenuated.

The aim of the present study is to examine whether the initial processing of product information moderates the impact of the direction of comparison on memory-based preference judgments. We hypothesized that the formation of global brand impressions during the initial processing of brand information may attenuate the likelihood of the asymmetries in judgment that have been shown to occur as a function of the direction of comparison.

An experiment employing procedures and stimuli similar to those used by Houston and Sherman (forthcoming) was conducted. Respondents read about two brands from two different product categories (pens and automobiles). The brands were characterized by unique good features and shared bad features, or by unique bad features and shared good features. Respondents read about each brand and then were given a surprise comparison task. The initial processing of the products was manipulated such that half of the respondents read about the products under instructions to form an impression of the brands, whereas the remaining respondents read about the products under instructions to remember the attributes of the brands. It was predicted that the effect of the direction of comparison on preference observed by Houston and Sherman--the tendency to prefer the subject (i.e., the object presented second) more when both objects possessed unique good features as opposed to unique bad features--would be attenuated when respondents were prompted to form an impression.

METHOD

Stimulus Materials

Descriptions of two brands of cars and two brands of pens were developed. Each of the brands was described by five positive attributes (e.g., refillable, does not skip) and four negative attributes (e.g., not attractively styled, tip breaks with excessive pressure). Through pretesting, descriptions were created in which the five positive attributes describing one brand of a product category were equal in mean desirability to the five positive attributes describing the second brand. In addition, the four negative attributes describing one brand of a product category were equal in mean desirability to the four negative attributes describing the second brand. The automobile descriptions were developed by Houston and Sherman (forthcoming). Fictitious brand names were used for all four brands (HH Automobile, JJ Automobile, Dot Pen, Circle Pen).

Procedure

The experiment was described as "an investigation of people's perceptions of various consumer products." One hundred and thirteen subjects were given booklets containing the brand descriptions and were randomly assigned to impression or memory set conditions. In impression set conditions, respondents were instructed to "form an overall impression or evaluation of each of the products that are described. At the end of the session we will ask you a series of questions about your impressions." In memory set conditions, respondents were told to "remember the various attributes of each of the products that are described. At the end of the session, we will ask you to recall the various attributes of each of the products."

The descriptions of the four brands were presented in a booklet. Each description was presented a separate page and consisted of a fictitious brand name followed by a list of the brand's features. Respondents read each of the four descriptions at a pace set by the experimenter. They were given a minute to read each description.

In unique good features conditions, respondents were exposed to descriptions in which the two brands of a product category shared bad features but had unique good features. In contrast, respondents in unique bad features conditions received descriptions of brands with shared good features and unique bad features.

The order of presentation of a brand description was counterbalanced, such that in half of the conditions one brand of a product category appeared prior to the other brand, whereas in the remaining conditions the order of presentation of the two brands was reversed. The product category appearing first in the booklet was also counterbalanced, such that in half of the conditions the first product described was an automobile, whereas in the remaining conditions the first product described was a pen. Finally, the descriptions were ordered such that the descriptions of the two brands of a product category never appeared consecutively.

Preference Measurement

After respondents read the product descriptions, the booklets were removed and a surprise preference measure was administered. Preference was assessed on a 12-point scale anchored by the endpoints "I strongly prefer the Brand HH Auto (Dot Brand Pen)" and "I strongly prefer the JJ Brand Auto (Circle Brand Pen)."

RESULTS

Because the pattern of results was similar for pens and automobiles, preference scores were collapsed across product category and a 2 X 2 (Processing goal X Valence of unique features) between-subjects analysis of variance was performed to test the prediction that respondents should prefer the subject of comparison over the referent when the unique features of the brands were positive rather than negative. As expected, a main effect for the valence of the unique features was obtained, as respondents preferred the subject more when the unique features were positive as opposed to negative. A main effect for processing set was not observed.

It was also predicted that the tendency to prefer the subject of comparison more when the features of the brands were positive as opposed to negative would be more pronounced in memory set than in impression set conditions. The expected interaction was marginally significant. Planned comparisons revealed that participants under memory set conditions preferred the subject more in unique positive than in unique negative features conditions. A similar but weaker pattern was observed in impression set conditions. Thus, support was found for the hypothesis that the direction of comparison will have a greater impact on preferences in memory set than in impression set conditions.

DISCUSSION

When two brands possess shared bad features and unique good features, consumers prefer the subject of comparison (i.e., the brand presented second). In contrast, when two brands possess shared good features and unique bad features, consumers prefer the referent (i.e., the brand presented first). This direction-of-comparison effect occurs even when the mean desirability of the unique features are equivalent for the two brands. The present study demonstrated that this effect is very pervasive: it occurs across product categories and it occurs in memory set and in impression set conditions. However, direction of comparison had a greater impact on preference in memory set than in impression set conditions, as predicted.

According to Tversky (1977), when people compare objects the features of the subject are mapped onto the features of the referent. As a consequence, people are especially likely to detect differences between two objects when the subject possesses features that are not shared by the referent. On the other hand, the referent's unique features are likely to be overlooked because the subject--not the referent--determines what features are examined.

The present study, however, demonstrates that the referent's unique features can influence preference under some circumstances. For example, when consumers are prompted to use the referent's unique features to form an overall impression of the referent, consumers are less likely to overlook these features. We argued that this is because consumers may use shared and unique features to form an overall impression of a brand and then a preference judgment might be made by comparing overall impressions between two brands. An alternative explanation, however, is that an impression set may enhance recall for all features for both brands (Hamilton, Katz, and Leirer 1980; Wyer and Srull 1986) and an attribute-based comparison process may be used to form a preference judgment. With either process, however, an impression set increases the likelihood of considering the referent's unique features and the magnitude of the direction-of-comparison effect is reduced.

Because the unique features of the subject have a strong impact on preference, it is important to identify the factors that determine which brand will be the subject and which brand will be the referent. The present study and the Houston and Sherman (forthcoming) studies show that order of presentation influences the direction of comparison. When two brands are presented sequentially, the second brand is the most recently considered brand. Because recently activated information is readily accessible from memory, the features of the second brand are more accessible than the features of the first brand, and, consequently, the second brand is used as the starting point or subject of comparison.

However, recency of activation is not the only determinant of information accessibility. Frequency of activation is another important determinant (Higgins and King 1981, Srull and Wyer 1986). If the most accessible brand in a product category is used as the subject of comparison, it could be predicted that frequent exposure to attribute information for one brand may induce consumers to use that brand as the subject. If so, the attributes of this brand should be salient and the attributes of competing brands should be overlooked to some extent.

It is easy to think of naturally occurring situations in which this process may take place. For example, consumers are often exposed to the features of a pioneer brand over a period of time. By the time competing brands enter the market, the features of the pioneer brand should be readily accessible from memory. If so, the pioneer brand should be used as the subject of comparison. The unique features of later entrants may be overlooked by consumers, and, consequently, competitors may experience difficulty in differentiating their brands from the pioneer brand. Hence, the direction-of- comparison effect may provide one explanation for the pioneer brand advantage (see Urban et al. 1986). We are currently pursuing this line of investigation.

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A Re-Examination of Consumer Decision Making for a Repeat Purchase Product: Variations in Product Importance and Purchase Frequency

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ABSTRACT

This paper reports on a replication of Hoyer's (1984) study on in-store consumer decision making. The study uses a more important, less frequently purchased product category for the choice task. Differences in information search and choice tactics are presented and discussed. The results show that the decision making process of consumers is more complex as hypothesized. However, the extent of deliberative decision making is shown to be rather low.

INTRODUCTION

The rational approach to consumer decision making where it is proposed that consumers go through several stages in the purchase process - problem recognition, information search, evaluation of alternatives, decision and purchase, post-purchase evaluation (see Wilkie, 1986 for a representative discussion) - has been challenged by numerous marketing authors. Studies have shown that for many products consumers either spend very little time or do not even engage in some of the sequential activities that are hypothesized to form a "rational" purchase process (Olshavsky and Granbois, 1979). Several empirically supported facts are inconsistent with the economic man model. Thus, it has been repeatedly found that many consumers undertake little or no pre-purchase external information search (Beales et al., 1981; Claxton, Fry and Portis, 1974; Katona and Mueller, 1955; Newman and Staelin, 1972). Some researchers also argue that there is often limited planning prior to a purchase decision and that consumers construct decision rules at the time of choice (Bettman and Zins, 1977; Biehal and Chakravarti, 1986). In addition, most researchers believe that consumers do not typically apply analytical decision rules to make optimal choices but instead rely on heuristics that lead to "satisficing" solutions (Bettman, 1979; Payne, 1976). The rational view also overlooks the fact that most consumer decisions are repetitive and relatively unimportant and that, consequently, consumers need not go through an elaborate purchase process but may make their choices on the basis of habit or brand loyalty (Kassarjian, 1978).

A study by Hoyer (1984) provides a recent attempt at showing that consumers do not engage in extensive in-store deliberation when making purchase decisions. In that study, 120 consumers were observed while making a laundry detergent purchase. The results showed that a great majority of consumers (more than 70%) did not examine more than one package, did not make comparisons between brands or between different sizes within a single brand and did not examine any shelf tag. The observed consumers spent an average of 13 seconds from entering the aisle until making the purchase decision. Finally, when asked why they had made that particular brand choice, 91% of the consumers gave a single reason, related to price (e.g. its the cheapest brand), affect (e.g. I love it), performance (e.g. it's the best) or social norms (e.g. my wife likes it).

Two factors make the Hoyer (1984) study a particularly interesting one. First, its focus on an uninvolving frequently purchased product contrasts with some of the studies that have examined consumer decision making in the context of more involving purchases. Second, it uses an unobtrusive methodology to study how consumers actually make their brand choice in the store and complements it with standard interviews with the observed consumers.

However, as Hoyer (1984) himself notes, the generalization power of his research is greatly limited since only one product category was studied. Clearly, in order to better understand consumer decision making, research must be carried out with other products. Consistent with this observation, this paper reports on a replication of the Hoyer (1984) study with a different consumer product. The product was chosen on the basis of importance and purchase frequency. Since one objective was to examine a distinct purchase situation, a more important, less frequently purchased product was selected for study.

CONCEPTUAL BACKGROUND

According to Hoyer (1984), when a product is purchased repeatedly and is relatively not important, the decision making process of consumers is characterized by low cognitive effort and use of very simple choice tactics. These tactics reflect the fact that consumers have acquired experience with similar product purchases in the past. Therefore, the decision process does not unfold at the moment of choice, but rather evolves over time on the basis of perceived satisfaction with purchased brands. For example, a common choice tactic for a consumer who is satisfied with a particular brand could be "buy my favorite brand as I usually do."

In Hoyer's (1984) view, purchase frequency and product importance are basic dimensions, as far as consumer decision making is concerned (see Assael, 1987 for a similar analysis). One would think that a different scenario would characterize the purchase decisions of more important, less frequently purchased products. When a product purchase is made on an infrequent basis, brand satisfaction may be more difficult to evaluate since consumers may not be able to remember precisely how the brand performed. Less frequent purchase decisions may lead consumers to re-consider their decision criteria at the time of choice. Also, the more important a product is to the consumer, the more complex the decision making process. Products with higher social, personal or financial risks are likely to motivate consumers to engage in external information search and more deliberative decision processes. This is not to say that complex decision making always characterize the purchase of risky products. Brand loyalty and following others' advice are effective strategies to reduce risk (Roselius, 1971). However, we argue that even when these strategies are used, consumers will devote more cognitive effort to the purchase of an important product.

Based on the above discussion, the following research propositions are therefore put forward:

P_1: In the case of a more important, less frequently purchased product, consumers will be more likely to seek in-store information and display deliberative choice processes.

P_2: In the case of a more important, less frequently purchased product, consumers will use different choice tactics. In particular, normative choice tactics should be used more.

METHOD

Product Category

Analgesics were chosen as choice stimuli since that product category seemed to possess interesting characteristics given the objectives of the study. Thus, contrary to laundry detergent, analgesics are less frequently purchased. Also, since their use is associated with health care, they should be more involving to consumers. Finally, there are many brands of analgesics available with different components and they come in a variety of sizes and forms. This last characteristic implies that some sort of in-store decision making process must occur.

Subjects

The study took place in a drug store considered as one of the largest in a mid-size (100,000 inhabitants) Canadian city. A total of 98 subjects were observed while shopping for analgesics and interviewed once their final brand choice was made. Given the nature of the product (i.e. low purchase frequency), the data were collected at times of high customer traffic (i.e. Thursday and Friday in the evening, Saturday and Sunday all day). Table 1 presents some descriptive information about the sample.

Observation Phase

The first phase of the data collection process consisted in observing consumers while they were shopping for analgesics. An observer stood near the analgesics display to take various measurements. There was no apparent consumer awareness of being watched. In order to facilitate the data collection, the observer used a chart-like reproduction of the display. A coding system similar to that used by Hoyer (1984) was employed. Each time a consumer stopped in front of the display, the observer circled all brands that were picked up and placed an "x" on the chosen brand. In addition, the observer recorded the total time of the purchase episode, from the moment the consumer stopped at the display to the final choice, as well as the time spent on each brand that was picked up.

Interview phase

Immediately after having completed their purchase, consumers were approached by a different experimenter and offered a 50-cent coupon redeemable for the purchased brand to participate in the study. Only 11 of the 109 consumers that were approached refused to participate. The primary purpose of the interview was to assess consumers' choice tactics. This was accomplished with the help of an open question asking why the chosen brand was purchased. The rest of the interview was structured and involved questions about the extent of purchase planning, purchase experience, brand knowledge, brand loyalty, purchase frequency, preference for the chosen brand, influence of in-store and out-of-store advertising, degree of attention to package information, and standard demographic information.

RESULTS

Search Indices

Table 2 summarizes the results associated with the observation phase. We should note first that the observation set-up did not permit an evaluation of the number of packages and the number of shelf tags examined by consumers. The analgesics display was fairly small and such measures would have necessitated the use of an eye-monitoring device.

As shown in Table 2, the results are generally supportive of the first research proposition. Compared with Hoyer's (1984) findings, the mean number of packages picked up by consumers in this study is higher. A similar pattern is obtained with the mean number of within-brand comparisons (e.g. between different sizes), the average time spent on examining a brand and the average total time of the purchase episode. The only search index which is lower in the present study is the mean number of across-brand comparisons.

In order to test if the differences between the mean indices observed in this study and those of Hoyer (1984) are statistically significant, information on the variances of the variables is needed. Hoyer (1984) did not provide this information, but he supplied the frequency distribution of all variables (see Table 2). Such data allow the use of chi-square goodness-of-fit statistics to test if the frequency distributions obtained in this study are statistically different. The statistical results are presented in Table 3. They confirm the conclusions made earlier. The only variable which does not show higher information search is the number of across-brand comparisons. Apparently, consumers shopping for analgesics do not compare a greater number of brands but make more within-brand comparisons on attributes such as size, ingredients, strength and so on.

TABLE 1

Descriptive Information About the Sample (n = 98)

Frequency distribution for:

(1) Age:

18-24	13.3%
25-34	27.6
35-44	27.6
45-54	17.3
55-more	14.2

(2) Purchase experience:

less than 3 years	6.1%
3 to 5 years	11.2
5 to 10 years	18.4
10 to 20 years	25.5
20 to 30 years	20.4
30 to 40 years	9.2
40 years and more	9.2

(3) Education:

Elementary school	1.0%
High school	43.9
College	26.5
University	28.6

(4) Sex:

Males	37.8%
Females	62.2

TABLE 2

Summary of Search Data (n = 98)*

Variable	Mean	Frequency distribution proportions 0	1	2	3	4	5
Number of packages picked up	1.51 (1.23)	0.00 (0.00)	0.67 (0.83)	0.21 (0.13)	0.09 (0.02)	0.02 (0.01)	0.01 (0.01)
Number of across-brand comparisons	0.29 (0.45)	0.79 (0.74)	0.16 (0.17)	0.03 (0.01)	0.02 (0.07)	0.00 (0.02)	0.00 (0.00)
Number of within-brand comparisons	0.21 (0.07)	0.84 (0.95)	0.12 (0.03)	0.03 (0.02)	0.01 (0.00)	0.00 (0.00)	0.00 (0.00)

		Frequency distribution seconds 1-30	31-60	61-90	91-120	121-150	151-more
Time per brand	21.56 (7.72)	0.78 (0.99)	0.16 (0.01)	0.03 (0.00)	0.01 (0.00)	0.01 (0.00)	0.01 (0.00)
Total time	47.12 (13.16)	0.45 (0.93)	0.31 (0.07)	0.14 (0.00)	0.05 (0.00)	0.01 (0.00)	0.04 (0.00)

*Hoyer's (1984) results are presented within parentheses.

TABLE 3

Chi-Square Goodness-of-Fit Tests

Variable	Chi-square statistic	Degrees of freedom	P-value
Number of packages picked up	10.079	4	0.039
Number of across-brand comparisons	5.750	4	0.219
Number of within-brand comparisons	8.289	3	0.040
Time per brand	26.770	5	0.000
Total time	64.818	5	0.000

TABLE 4

Consumers' Choice Tactics*

Response	Number of Consumers	Percentage
Price tactics	6 (27)	6.12 (22.50)
Cheapest	6	6.12
Affect tactics	28 (24)	28.57 (20.00)
Like it, satisfying	20	20.41
Love it	6	6.12
Well-known brand	2	2.04
Performance tactics	35 (34)	35.71 (28.33)
Works well	24	24.49
Best brand	5	5.10
Few side-effects	6	6.12
Normative tactics	14 (13)	14.29 (10.83)
Children	1	1.02
Friends	3	3.06
Doctors, pharmacists	10	10.20
Non classified	4 (11)	4.08 (9.17)
Multiple statements	11 (11)	11.22 (9.17)
Total	98 (120)	

*Hoyer's (1984) results are presented within parentheses.

Choice Tactics

The responses given to the open question on choice tactics were coded as either related to price, affect, performance or social norms. Table 4 presents the distribution of consumers among the choice tactics. The results seem to partially support the second research proposition since the percentage of consumers having mentioned a normative choice tactic (e.g. my doctor has recommended that I buy this brand) is higher than in Hoyer's (1984) study. However, the major difference clearly occurs at the level of price tactics where the percentage of consumers having come forward with this type of reason is much smaller. It seems that consumers do not think that price is an appropriate attribute for selecting a brand of analgesics. The observed distribution of choice tactics among consumers in this study is statistically different from that reported by Hoyer (1984) (Chi-square = 12.684, df = 4,p = 0.013).

Additional Analyses

Several analyses of variance (ANOVA) were conducted to investigate the relationships between choice tactics and the other study variables. Table 5 presents the statistically significant relationships that were uncovered. It should be noted that the exploratory nature of this analysis makes it likely to obtain some statistically significant results by chance. However, three observations are inconsistent with this interpretation: (1) the relationships are fairly strong (the R^2's are all ≥ 0.12), (2) the results are highly significant (all but two p-values < 0.01), and (3) the results seem to make sense.

Two results essentially replicate what Hoyer (1984) found. Thus, price tactic consumers are less brand loyal and have less purchase experience with analgesics. On the other hand, affect and performance tactic consumers are more brand loyal and have more purchase experience. Consistent with these results, price tactic consumers are less likely to have planned the purchase of the chosen brand, have weaker brand preferences and have purchased the chosen brand less frequently than affect and performance tactic consumers.

TABLE 5

Significant Anova Results

	Means						
	Price	Affect	Performance	Normative	F*	p-value	R2
Purchase planning (1 = yes; 2 = no)	1.88	1.11	1.29	1.21	5.41	0.002	0.17
Brand loyalty (higher scores = more loyalty)	1.33	4.07	2.31	1.36	14.96	0.000	0.36
Brand purchase frequency (1 = always; 7 = first time)	4.00	1.96	2.14	3.07	5.27	0.002	0.17
Purchase experience (1 = 0-3 yrs; 7 = 40 yrs-more)	2.50	4.68	4.11	3.79	3.47	0.020	0.12
Brand preference (1 = very high; 5 = very low)	3.00	1.93	1.74	2.36	5.21	0.003	0.17
Number of packages picked up	2.33	1.29	1.34	1.79	3.65	0.016	0.12
Number of across-brand comparisons	1.00	0.11	0.17	0.36	5.45	0.002	0.17
Total time	91.17	30.07	47.11	61.02	4.12	0.009	0.14

*With 3 degrees of freedom to the numerator and 79 degrees of freedom to the dominator.

Finally, it is interesting to note that the results obtained with some search indices confirm that price tactic consumers expend more effort during the purchase episode. On average, they pick up a greater number of packages, make a greater number of across-brand comparisons and spend more time to make the purchase. Clearly, this is what one should expect from consumers having less purchase experience with a somewhat involving product.

DISCUSSION

Overall, the results of this study show that the in-store decision making process of consumers is more complex when a product is more important and less frequently purchased. Almost all search indices computed in this study are significantly higher than those reported by Hoyer (1984) for a less important, frequently purchased product. Also, product importance and purchase frequency appear to influence consumers' use of choice tactics. In this study, consumers were more likely to mention affect, performance and normative reasons to explain their brand choice and less price-related reasons than in the Hoyer (1984) study.

However, the above conclusions must be tempered by three observations. First, comparisons between studies conducted at different times, in different places, with different populations and different researchers are hazardous. Such comparisons are not made within an experimental context and, as such, do not permit to draw clear conclusions about true explanatory variables. For instance, we should note that drug stores and grocery stores are different shopping environments. There is generally more consumer traffic in grocery stores and more pressure to speed up the choice process. This fact could well explain why consumers in this study took more time to shop and displayed more search.

Second, even though variations in purchase frequency and product importance distinguish analgesics from laundry detergent, there are obviously other features that make them different as well. Any of these features is a potential candidate for explaining differences in consumer decision making. For instance, analgesics are health products and consumers should be somewhat careful in purchasing them. Within this perspective, it seems understandable that consumers would not confess that they have used a price-related choice tactic.

Finally, although the data presented in this paper support the proposition that product importance and purchase frequency have a significant impact on consumer decision processes, it is worth noting that the extent of in-store deliberative decision making observed in this study is not very great. Thus, almost 70% of the consumers picked only one package of analgesics, near 80% did not make any across-brand comparison and almost 85% did not make any within-brand comparison. In light of these results, we are compelled to conclude, along with other researchers (Olshavsky and Granbois, 1979), that even for a relatively important, less frequently purchased product category such as analgesics, consumers do not engage in complex decision making processes or, perhaps, in any decision making at all.

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Is Brand Evaluation Independent of Other Brands?

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ABSTRACT

Normally, in consumer information processing research, overall evaluation of a brand is implicitly assumed to be independent of other brands. This paper questions this assumption of the inter-brand independence and empirically tests the validity of such assumptions. By extending the Multi-Attribute Attitude Model so as to includes the $\sum B_i a_i$ of other brands as well as the $\sum B_i a_i$ of the concerned brand, the influence form other brands' knowledge in brand evaluation was investigated. The results indicate that brand evaluation may be interdependent between or among brands.

INTRODUCTION

One important aspect of consumer information processing is that it is related to choice (Bettman 1979, Hansen 1976, Payne 1982). Consumers process information in order to achieve their goals, i.e., to choose one alternative from a number of alternatives. Marketers provide competitive information so as to make consumers form favorable Attitude toward their brand and finally purchase their brand. In consumer information processing research, this competitive aspect of information processing is treated at various stages of processing. For instance, when a consumer uses choice heuristics like lexicographic rule or additive difference rule, the comparison is done at the belief level and the formation of overall evaluations of brands are not necessary for brand comparison. However, when a consumer uses compensatory choice heuristics, the overall evaluations of brands must be formed before the comparison process begins. A good example is the linear compensatory choice heuristic known as Multi-Attribute Attitude Model. When the Multi-Attribute Model is used, basically, two approaches are implicitly used in dealing with this choice aspect. One is the approach that assumes that a consumer chooses the brand which has the highest score of Attitude among alternative brands. The other approach is the introduction of an intervening variable Intention, which is thought to be very close to the concept of probability (Ajzen and Fishbein 1980; Fishbein and Ajzen 1975).

It is clear that both approaches share the basic assumption that competitive aspect of alternative brands become relevant only after the formation of overall evaluation, i.e., Attitude. However, this assumption seems to be rather strong assumption under the competitive environment of consumer information processing. It seems to be unrealistic to rule out the possibility that the overall evaluation of a brand is affected by the knowledge of other brands. It may even be possible that the knowledge of each brands is interrelated between or among other brands. For instance, if the size of a newly introduced brand is so compact, it may make the other brands look comparatively large and consequently may lower the overall evaluation of other brands. If this is the case, then a change of a belief on one brand toward the favorable direction affects the choice not only through the increase of overall evaluation score of that brand but also through the decrease of overall evaluation scores of other brands.

This study tries to shed light on this point, i.e., the interdependence of brand evaluation.

RESEARCH HYPOTHESES AND METHOD

First hypothesis in this study is "$\sum B_i a_i$of a brand is positively related to A_o (i.e., Attitude toward the brand), while $\sum B_i a_i$s of other brands are negatively related to A_o or A_{act}." Where B_i is the belief that the brand possesses the attribute i, and a_i is the evaluative aspect of attribute i. Since brands in a market are in competitive relationships, the high score of $\sum B_i a_i$ on one brand is thought to lower the overall evaluation of other brands. these hypothesized inter-brand relationships are though to be the most prominent ones and therefore the most easily discernible ones, if any inter-brand relationships exist at all. For, even the inter-brand relationships are likely to exist in the form of causal flow rather than a simultaneous interdependence form[1], and the inter-brand relationships at the overall evaluation stage are the ones which should be tested first before delving into the more complicated inter-brand relationships at individual belief level.

Second hypothesis is "The effects from other brands are more evident in the case of A_{act} than in the case of A_o." In general, it is pointed out that A_o is less specific about the purchasing behavior and is somewhat less useful in explaining the purchasing behavior than A_{act} (Fishbein 1967). For example, a person who has very favorable Attitude toward Chadillac can have rather unfavorable Attitude toward purchasing a Chadillac, because Attitude toward buying a Chadillac reflects a number of specific factors like high price of the car, high maintenance costs and lack of parking space. This indicates that the concept of A_{act} is closer to Behavior or Behavioral Intention

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[1] One of the reviewers pointed out that there might be negative correlations between $\sum B_i a_i$s of different brands and between Attitudes of different brands. We calculated the simple correlation coefficients to test this simultaneous inter-brand relationships. The results were either positive or no correlations, so they were not in the direction which inflates our hypothesized inter-brand relationships. The aforementioned simultaneous inter-brand relationships at the level of individual beliefs are difficult to discern by a nonexperimental study like this, so it is not tested here.

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than the concept A_o is. Thus, to the extent A_{act} is closer to Behavior, it is thought to reflect more about the knowledge of other brands. For, as indicated above, Behavior or Behavioral Intention in choice setting is meaningless without incorporating the information on other brands. Here, one caveat is necessary. Normally, when A_{act} is used, B_i and a_i are redefined so that they may be meaningful in the context of A_{act}. However, in this study we used the same B_i and a_i for both A_o and A_{act} in order to make the comparison between A_o and A_{act} easier.

Margarine was used as the choice object. The major reason we chose margarine was that three leading brands altogether enjoy about seventy percent of margarine market in Japan. Therefore, most of the consumers were thought to be familiar with three brands. the estimated market share for each of three margarine (denoted here by brand N, brand R, and brand M) was 37%, 17%, and 16%, respectively.

Based upon an exploratory study on twenty consumers, we selected seven relevant attributes for choosing margarine. They were (1) ease of spreading, (2) good taste, (3) economy, (4) good for health, (5) tasty looking color, (6) convenience of container, and (7) nutrition. All of these attributes have positive values, so we used seven point uni-polar impotance scales to measure the evaluative aspects of attribute. Beliefs were measured on a semantic differential type scales.

For measuring A_o, following two scales were utilized:

As a whole, margarine S is

very good ----:----:----:----:----:----:----very bad

very undesirable ----:----:----:----:----:----:----very desirable

A_{act} was measured on similar two scales with a slightly different preceding words as "As a whole purchasing margarine X is".

928 housewives of family size of two or more were randomly extracted form Tokyo, Kyoto, Osaka, and their vicinities. Data were collected by personal interview method during September 1985. This interview covered several products among which margarine was the one for this research purpose. Of 938 housewives, 138 were absent and 230 refused to corporate, therefore, the remaining 260 housewives answered the questionnaire. Two forms of questionnaire were used on a split run basis, i.e., one for collecting data on A_o and the other for collecting data on A_{act}. Of those who responded, we further limited the sample respondents to those whose evoked set plus hold set included all three brands of concern. If any one of these three brands belonged to foggy set, unawareness set, or reject set, then the respondent was excluded form the sample (Laroche et. al., 1983). In other words, the respondents who knew little about the three brands or who held very strong negative Attitude toward these brands were excluded from the analysis. The reason we excluded reject set was that it might have distorted the competitive relationships between or among brands due to the exceptional nature of reject set. Ideally, the analysis should have been restricted to the relationships between or among brands in evoked set, however we added hold set in view of the sample size. The effective sample sizes for each of the three brands with A_o and A_{act} separately are shown in the Table. Because, some of the answers for Attitude scales were incomplete, sample sizes were not identical over three brands.

Since we utilized two indicators for both A_o and A_{act} LISREL approach was used. The model we used for testing the inter-brand relationships is depicted in the Figure.

In the Figure the variables in circles are constructs or latent variables, and can be measured indirectly through indicators which are denoted by squares. ξN, ξR and ξM are $\sum B_i a_i$ for brand N, brand R, and brand M, respectively. These exogenous variables have one to one correspondence with the indicators. Therefore, no measurement error is assumed for $\sum B_i a_i$. η is the only endogenous variable, and it signifies either A_o or A_{act}. Two indicators (i.e., y_1 and y_2) are used to measure the endogenous variable η. ε_1 and ε_2 are measurement errors for y_1 and y_2, respectively. λ_1 and λ_2 are factor loadings which connect y_1 and y_2 to η, though the value of λ_1 can be set as 1.0 to make the unit of η to be identical with that of y_1 . ζ is a specification error.

In the model depicted in the Figure, Γ_N, Γ_R, and Γ_M signify three paths from ξ_N, ξ_R, and ξ_M to η, respectively. If η is the Attitude toward (purchasing) brand N, then the value of Γ_R and the value of Γ_M are of interest, because these two paths show the effect of other brands' $\sum B_i a_i$s on the formation of Attitude toward (purchasing) brand N.

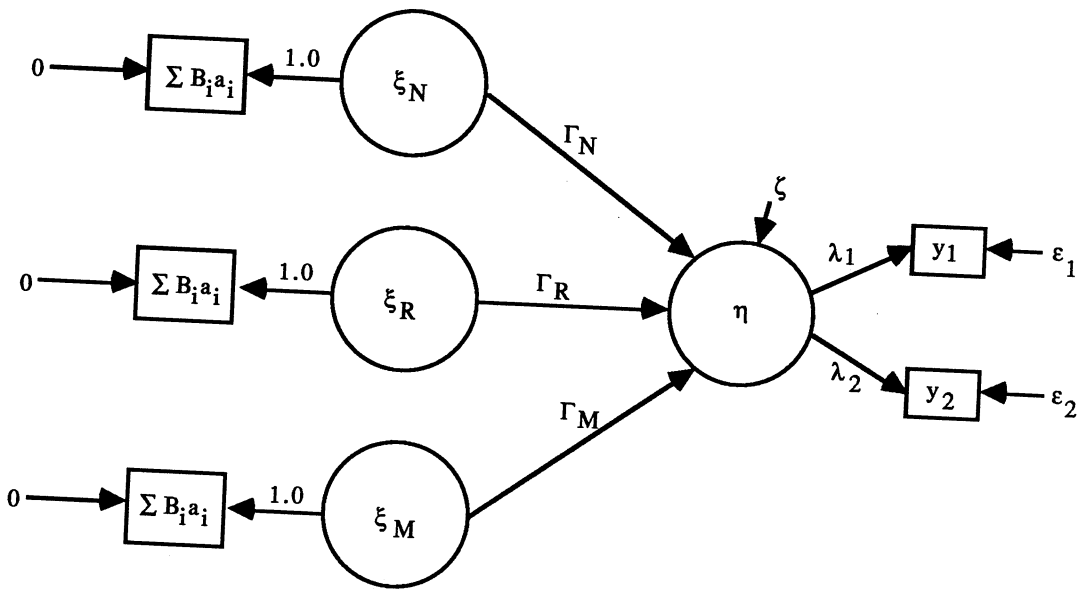
RESULTS AND DISCUSSION

The results of parameter estimation are shown in the Table. It is Clear that only three cases, i.e., A_o for brand M, A_{act} for brand R, and A_{act} for brand M pass the acceptable level of p that is 0.10. The p levels for the remaining three cases fall short of this level. Also, we need to be careful that some reliability coefficients are below satisfactory level of 0.6. So, we ought to be conservative in drawing conclusions from these results.

The estimated values for Γs, which are main focus in this study, show that all the signs of Γs match the hypothesized ones, except for Γ_M in A_{act} for brand R. Some of these are statistically significant at the 0.05 level. In the formation of Attitude toward brand N, which is the leading brand, the $\sum B_i a_i$ of brand R is found to have significant negative effect on the Attitude score. In the case of A_{act}, Γ_R in brand N, Γ_N in brand R, and Γ_N in brand M are found to be significant. As the Multi-

FIGURE

MODEL OF INTER-BRAND DEPENDENCE



TABLE

STANDARDIZED PARAMETER ESTIMATES

brand	A_o N	A_o R	A_o M	A_{act} N	A_{act} R	A_{act} M
Γ_N	.813*	-1.87	-.157	7.16*	-.284*	-.238*
Γ_R	-.363*	.698*	-.172	-.369*	.622*	-.170
Γ_M	-.034	-.104	.730*	-.076	.077	.798*
λ_1	.959	.777	.776	.999	.918	1.042
λ_2	.857*	.962*	.763*	.955*	.922*	.876*
r.c., y_1	.704	.579	.583	.750	.591	.797
r.c., y_2	.546	.738	.485	.623	.570	.555
χ^2 (d.f. = 2)	4.89	4.86	2.40	5.40	3.59	1.14
p	.087	.088	.301	.067	.166	.564
n	204	206	205	238	240	239

r.c.: reliability coefficient
*: significant at 0.05

Attribute Attitude Model indicates, both in A_o and in A_{act}, the $\Sigma B_i a_i$ of the concerned brand is found to have positive significant effect on Attitude.

The fact that there are some cases in which Γs are not significant means that our first Hypothesis is not fully supported. However, the findings of some cases which are consistent with our first Hypothesis is much more meaningful in this study. For, it shows that the assumption of independent evaluation does not hold att the time.

In this study, we have no direct way of testing our second Hypothesis, which indicates interdependence is more evident in A_{act} than in A_o. We have only three cases for each type of Attitude. The only available way of indirectly testing our second Hypothesis is to compare the results between A_o and A_{act}. The fact that there are more significant Γs in the case of A_{act} than in the case of A_o is in favor of our second Hypothesis.

In addition to the limitations which stem from the fact that only small number of cases were tested, at least three limitations can be pointed out with regard to this study.

First, in testing the interrelationships among completing brands, we relied on the Multi-Attribute Attitude Model and tried to find out the relationships between Attitude and $\Sigma B_i a_i$. However, this may be criticized of being too narrowly assuming such relationships. Inter-brand relationships may exist among Attitudes or they may exist at the level of beliefs. Moreover, we must admit that the Fishbein's Model is not the sole form of forming overall evaluation of brand. Consumers may use other forms of multi-attribute combination rules as well (Hansen, 1976).

Secondly, the data we used were non-experimental data. Therefore, only weak inferences could be made in terms of finding relationships between or among brands. To investigate fully the interrelationships in brand evaluation, consumers' memory structure is needed to be taken into consideration.

Thirdly, the analysis of interdependence among three brands in our study was rather aggregated one in that each individual respondent's ranks of preference among three brands did not necessarily correspond to the ranks of market share. If the sample size were large enough, it would be desirable to subdivide the sample according to each respondent's preference order and to carry out the analysis separately for each subgroup.

However, if the interrelationships among brands in brand evaluation were found to be the case, then one important implication could be drawn form this study. The implication is that a marketer should bear it in mind that a consumer's evaluation of his brand is always linked to the evaluations of other brands. So, if a marketer succeeded in changing consumers' beliefs about his brand, it not only would hoist the overall evaluation of his brand but also would lower the overall evaluations of competitors' brands. This means more than a relative change of preference caused by the image hike of one brand, for, the decrease of competing brands' evaluations may cause the change in preference order more likely. In other words, it means even an ordinary non-comparative ad. has comparative nature, and is often better than a comparative ad. which arouses refutative cognitive response (Gorn and Weinberg 1984). It also means that, in marketing research, when the effect of a product change is to be measured, the research ought to cover the competitors' brands as well as the changed brand.

In conclusion, although this study does not offer any definite remarks regarding the interdependence in brand evaluation, it casts doubts on the existing models and encourages further studies in this field.

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The Influence of Cents-off Coupons on Brand Choice Decisions at the Point of Purchase

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ABSTRACT

Evidence from an exploratory, descriptive study of supermarket shoppers' use of cents-off coupons is discussed with respect to the role coupons play in brand-choice and general shopping behaviors. Support is reported for several ideas suggested in the couponing literature as to mechanisms involved in consumers' use of coupons.

INTRODUCTION

Probably the most familiar example of consumer sales promotion is the use of cents-off coupons that give shoppers a discount from the regular price of a product at the time of purchase. In 1987, manufacturers distributed more than 215 billion coupons in the U.S., of which more than seven billion were subsequently redeemed by consumers for a total savings of 2.8 billion dollars (Manufacturers Coupon Control Center 1988). Despite the immense aggregate economic impact of this activity, however, relatively little is known about how coupons influence brand choices of individual consumers, nor about consumers' motivations underlying the use of coupons.

Given the sizable expenses many marketers incur for coupon distribution and redemption, a better understanding of the role coupons play in shopping behavior would help in designing efficient, effective couponing programs. Moreover, the consumer behavior discipline's growing interest in consumers' use of price information would be well served by learning more about how this particular sort of price discount information influences choices. It was with these objectives in mind that the present study was designed to explore the role of coupons in consumer choice behavior.

BACKGROUND

Several mechanisms have been proposed in the effort to model consumers' coupon-use decisions. One line of thinking assumes that consumers incur costs in order to use coupons. For example, clipping coupons, saving them, remembering to take them to the store, and using them to buy couponed brands instead of other, preferred brands all impose certain psychological and time (opportunity) costs on the user. These costs, it is reasoned, are weighed by the user against the savings (and possibly other benefits) afforded by the coupon in deciding whether to use a coupon. Some support for this approach has emerged from studies using consumer panel data to observe purchase patterns involving coupons (Bawa and Shoemaker 1987; Blattberg, Buesing, Peacock and Sen 1978; Henderson 1984; Narasimhan 1984).

Another suggestion as to how coupons work is that they stimulate, in at least some users, feelings of being "smart" shoppers (e.g., Price, Feick and Guskey-Federouch 1988; Schindler 1987; Shimp and Kavas 1984). A shopper who saves money by using coupons may feel that he or she is thriftier, cleverer, or generally a better shopper than one who doesn't take advantage of such deals. Schindler (1987) reported experimental evidence that such feelings may account for the "coupon effect," wherein coupons are observed to cause greater stimulation of sales than an equivalent simple reduction in price. Price et al. (1988) quoted "market mavens," who tend to be heavy coupon users, as saying they enjoyed the challenge of seeing how much they could save -- they actually viewed economizing with coupons as recreational activity.

In a study investigating the interaction of coupons with other promotions, Henderson (1988) found some support for each of two mechanisms of couponing behavior. According to Henderson's "coupon primacy" model, coupons block the impact of other promotional influences, either because the consumer has precommitted to using the coupon (maybe due to the effort already expended to clip, save, and bring the coupon to the store), or because the consumer is trying to simplify choices amid the clutter of multiple brands, other promotions, etc. When coupon primacy is active, the brand for which a consumer has a coupon will be the one chosen, even if it does not represent the best price deal. Henderson's alternative "lowest price" model posits that a brand will be chosen on the basis of the lowest overall price, taking into account any coupons or other price promotions that may be offered. Thus, having a coupon for a particular brand would not necessarily predispose the consumer to select that brand. Henderson did find mild evidence of different groups of consumers using coupons in ways consistent with each of these two models.

The present study was designed to explore these various ideas concerning coupon usage through direct interviews with consumers following purchase decisions. The results of these interviews lend some credence to each of the explanations.

METHOD

Two-hundred thirty-one female adults were intercepted while shopping in two large supermarkets located in Flagstaff, Arizona. Shoppers were selected for interviews on the basis of having several products in their shopping carts, thereby increasing the chances of having already made a choice in which a coupon played a role.

Upon consenting to take part in the study, the shopper was asked whether she had a cents-off coupon for any product in her cart. If she had none, she was then asked several questions about her general use of coupons and other aspects of her shopping behavior. If she did have a coupon for one or more products already selected, she was first asked a series of questions about the most recent of those choices for which she had a coupon. These questions explored the range of brands considered, the nature of comparisons among brands, perceptions of similarity among brands, and the nature of the choice process, as well as brand loyalty and purchase history. Each shopper was finally asked for any additional comments concerning how coupons affect her shopping, and the interview was completed. Typical interviews lasted from two to six minutes.

RESULTS

Of the 231 shoppers interviewed, 74 (32%) had already chosen a product for which they had a coupon. Though the subject selection procedure might be expected to be biased toward shoppers likelier to have coupons, this figure is consistent with store managers' estimates of the proportion ("about a third") of their clientele who use coupons.

As one would expect, those 74 shoppers who had coupons for items already selected (the "with coupon" group) tended to be heavier users of coupons in general than the remaining shoppers (the "without coupon" group). They reported using coupons on an average of 64% of their grocery shopping trips, compared to 29% for those without coupons [$t(218)=7.5$, $p<.0005$]. And those with coupons averaged 6.9 coupon redemptions per trip, compared to 4.4 coupons/trip for the other shoppers [$t(180)=3.0$, $p<.003$].

Since shoppers with coupons might be expected to engage in other thrift-oriented practices, it was not surprising to find that they claimed to read newspaper grocery ads to find the best prices slightly more often (averaging "more than weekly", compared to about three times per month for the without-coupon group, $X^2(3)=7.1$, $p<.07$). The two groups did not differ, however, in the number of different food stores usually shopped per week (about 1.9), nor in the percentage of their coupon usage that is for brands they usually buy (about 76%).

Choice Processes

Of the 74 shoppers with coupons, 23% reported they had considered other brands before making their choice. Of this deliberating subset, 41% had with them a coupon for another brand (as well as the chosen brand), and 71% claimed to have compared prices among brands. Interestingly, of those who compared prices among brands, only 58% actually wound up choosing the one they thought was the cheapest (and 8% were not sure). Thus, as many as two-thirds of coupon-using shoppers who compared prices (or 16% of all shoppers with coupons) behaved in a manner consistent with the "lowest price" model.

Viewed another way, these results indicate that 29% of coupon-users who considered more than one brand did so on the basis of attributes other than price -- perhaps quality, personal tastes, or other factors. These shoppers are clearly not "lowest-price" shoppers, nor are the 25% of those deliberating coupon-users who compared prices but said their choice was not the cheapest brand. And clearly not lowest-price shoppers were the 77% of coupon users who did not even consider brands other than the one selected.

Thirty percent of the 74 shoppers with coupons reported they had assumed the brand they chose was the best deal (with the coupon) without checking to be sure. Such behavior is consistent with a "coupon primacy" model. The coupons these shoppers had for the brand they had already selected were of slightly (about 8¢) higher face value, on average, than the coupons held by the remaining shoppers. And the mean shelf price (without coupon) of the product already selected by these coupon-primacy shoppers ($2.46) was, in fact, slightly lower than the mean price of the item the other shoppers with coupons had selected ($2.88). Though both of these observations support the appropriateness of a coupon-primacy strategy for these shoppers, due to small sample sizes and large variances in the data, neither difference was significant.

One additional pair of comparisons between the coupon-primacy shoppers and other coupon users was of interest. The coupon-primacy shoppers reported using fewer coupons, on average, per trip to the grocery [4.2 vs. 6.1 coupons, $t(70)=1.88$, $p<.07$]. And they used coupons on a slightly, though insignificantly, smaller proportion of their shopping trips (59% vs. 65%). Thus, these coupon users who assumed without checking that they were getting the best deals tended to be lighter users of coupons overall.

After discriminating, among all shoppers with coupons, those who fit the coupon primacy mold and those who reported choices compatible with a lowest-price strategy, a sizable 51% remained who fit neither category. These shoppers said they did not consider brands other than the one they had chosen, yet neither did they assume their choice represented the best deal. These consumers apparently used other criteria to select a brand. It may well be that their choices were fairly routinized, based on non-price factors. When asked to rate the strength of their household's preference for the chosen brand over other brands (on a 5-point rating scale, where 1 = "no preference" and 5 = "we won't use any other brand"), these shoppers showed a significantly stronger loyalty to their chosen brand (3.2) than did the other coupon-users (2.5, $t(71) = 2.26$, $p<.03$).

Comments about Coupon Use

Through their comments at the end of the interview concerning the effect of coupons on their shopping behavior, the subjects shed some light on feelings and thoughts that play a role in the use of coupons. All but 10 of the 231 shoppers had comments to share.

While a thorough content analysis of these comments is beyond the scope of the present paper, useful insight is provided by looking at the sorts of statements made as a function of the consumers' coupon usage. To accomplish this, the shoppers were ranked according to their responses to two items: the percent of their grocery trips on which coupons are used, and the average number of coupons used per trip.

The heaviest users of coupons clearly got some satisfaction out of using them. Phrases such as "I love coupons," "I really like them," and "coupons are great" were quite common from the most regular users, as were comments of appreciation for the significant savings they offer. One moderately heavy user even said she keeps a chart of her coupon savings week-by-week, and she looks for coupons to see how much she can save each week. Thus, the "smart shopper" feelings suggested in the literature do appear to characterize those shoppers who make the most use of coupons. Several heavy users also commented that coupon savings are worth the time and effort involved, implying that they do weigh the tradeoff between costs and benefits of couponing, as suggested in the literature.

The lightest users of coupons offered rather different comments. For example, seventy percent of the 35 shoppers who said they never use coupons made comments about using coupons being "too time consuming" to be worth the "small savings" they generated. Others criticized the "hassle" or "pain" of clipping and using coupons. Slightly-more-frequent users also noted that time constraints limited their use of coupons. As coupon use increased, however, the nature of time-oriented comments shifted somewhat. For example, one shopper who reported using coupons on half of her shopping trips said that couponing is "kind of a nuisance, but the savings is worth the trouble." Thus, we find evidence throughout the range of heavy-to-light coupon usage that consumers do compare the anticipated savings with the opportunity- and psychological costs of the work involved.

Comments from some consumers in the study provide direct evidence of the use of a "lowest price" strategy. Ranging from heavy (99% of trips) to moderate (50%) users of coupons, several subjects claimed to shop for the best deals, with or without coupons. Some noted that having coupons encourages them to compare prices across brands, leading to better deals. Several shoppers noted that they like to use their coupons in stores offering "double coupon" values, to maximize their savings. One woman even showed how her shopping list was organized by stores and by coupons, with coupons for multiple brands in several product categories. Prior to shopping, she had determined which products to buy where, to take best advantage of price and double-couponing differences among stores. Clearly she was a "lowest price" coupon user.

Other interesting observations emerge from subjects' comments. A few shoppers indicated that the coupons they have on a given trip often help define the set of brands they consider -- they give preference to the brands for which they have coupons. Many consumers, ranging from heavy to light users, commented that they always or usually use coupons only for the brands they regularly buy. Finally, several women said they'd rather have lower regular prices than gain savings by coupons. However, as one heavy couponer commented, "as long as everyone else is paying for my savings, I'll keep using coupons." And, in the words of a moderate user, "I hate coupons; but, since I'm paying for them in higher regular prices, I may as well use them." Several of the lightest coupon users expressed annoyance that they had to pay higher prices to cover the costs of coupon discounts, but this didn't motivate them to increase their coupon usage.

DISCUSSION

This study provides evidence that using coupons does influence brand choices in several ways as previously hypothesized. About half of those shoppers with coupons used them in ways consistent with either Henderson's (1988) "lowest price" or "coupon primacy" models. The "lowest price" consumers tended to be more regular users of coupons, while the "coupon primacy" strategy was likelier among light coupon users, as Henderson had speculated.

Substantial numbers of shoppers, primarily the heavier users of coupons, reported positive, "smart shopper" feelings associated with coupon use. And evidence that shoppers weigh the benefits against the costs of coupon use came from many shoppers, heavy and light coupon users alike. Thus, each of the mechanisms postulated in the literature to be involved in coupon usage appears to apply to one or another segment of users.

While both heavy and light coupon users indicated they assess the costs and benefits they realize from couponing, their conclusions were quite different. Heavy couponers felt their savings from using coupons well justified the effort involved, while light- and non-users felt just the opposite. This poses an interesting question for future research: are these disparate perceptions of couponing *both* correct? That is, are the products (categories or brands) that light couponers tend to buy different from those bought by heavy users of coupons? And, if so, do the light users' preferences tend to be items for which coupons are often not available, or for which coupon values are generally small? Such findings would account for the two groups' perceptions, and, moreover, would suggest strategic changes in couponing behavior by marketers to appeal more to those who are currently light users. The findings of the present study don't answer the question, but they do suggest that marketers might be wise to explore segmentation of coupon users according to their views and usage patterns regarding coupons.

Several other coupon-use issues offer interesting questions for further study. The present study explored coupon use with respect to only a single product category per shopper. Does the way a consumer uses coupons (e.g., with a lowest-price strategy or a coupon-primacy approach) tend to be consistent across categories? Bawa and Shoemaker (1987) found that heavy coupon usage by a household for one product category tended to predict heavy usage in other categories, but they did not explore the processes by which those coupons influenced brand choices. An investigation of this issue would help clarify the relative influences of personal and situational variables in coupon usage patterns.

Another usage issue needing further study concerns those consumers who bring to the store coupons for multiple brands, and perhaps even multiple values per brand, within a product category. Such consumers might be expected to be lowest-price shoppers, but we know little about their brand-choice processes. While the present study found some evidence of this sort of coupon usage, a larger-scale study is needed to estimate the extent of such behavior among shoppers and to explore more fully their choice mechanisms.

A final area for further research concerns the relationship between coupon usage and other facets of deal-prone behavior. In the present study, coupon usage was found to be moderately correlated with frequency of reading grocery ads to find the best buys. But heavy users did not shop more stores per week than light users. An extension of this line of inquiry into a broader range of deal-seeking behaviors might help explain the role coupon use plays in the larger effort to economize when shopping.

In conclusion, this exploratory study has corroborated several ideas about how coupons influence brand choices, and it has provided a sense of how consumers view the role of coupons in their shopping. These results help provide direction for further efforts to learn much that remains to be known about consumers' use of coupons.

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The Excitement of Getting a Bargain: Some Hypotheses Concerning the Origins and Effects of Smart-Shopper Feelings

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ABSTRACT

The excitement that is often generated in consumers by a price promotion suggests that there is an ego-expressive, as well as utilitarian aspect to a price. This ego-expressive aspect results in "smart-shopper feelings." It is proposed that these feelings can be enhanced by leading the consumer to feel responsible for the discount and by dangling the discount in front of consumers. Hypotheses are also presented concerning the consumer segments most likely to be affected by smart-shopper feelings, the relationship of these feelings to dysfunctional shopping behaviors, and the ways that smart-shopper feelings may influence the consumer decision process.

INTRODUCTION

The emotional consequences of a price promotion are, as with many phenomena, most visible in their extremes. The legendary frenzy of shoppers elicited by the discounts in Filene's basement is an example of such an extreme. Another is provided by the *Wall Street Journal*'s colorful description of the effects of K-Mart's "blue-light specials" (Guiles 1987):

> When the light starts to flash, mothers sometimes abandon their babies. Shoppers have pushed clerks up onto counter tops and ripped merchandise to shreds. ... When they miss a special, some shoppers berate the store's employees. Others steal tagged merchandise from the carts of their more successful rivals. In April, two women vying for discounted jelly beans at Mr. Reed's store began throwing punches. Money and keys "went everywhere," marvels Mr. Reed.

A few years ago, some consumers became so caught up in the increasing number of cents-off coupon promotions that they formed clubs to exchange coupons, and "coupon queens" gained wide publicity for their ability to get large discounts on their food bills (Zbytniewski 1979). More recently, airline price promotions resulted in, "thousands of people ... frittering away their leisure time in airplanes solely to qualify for triple mileage on frequent-flier programs" (Harmetz 1988). And in 1985, twenty "hardened criminals" were apprehended by being lured into a police trap by the offer of a free trip to Atlantic City and a small cash bonus (Jensen 1985).

Although these extremes are dramatic, the more moderate indications of this phenomenon are far more common. We have probably all come into contact with people who delight in telling others about the low prices they were able to find. And consumer research has provided ample evidence that, "feelings of being a thrifty and smart shopper" are a salient consequence of responding to a price promotion (Shimp and Kavas 1984; Price et al. 1988; Babakus et al. 1988).

The goal of this paper is to develop the concept of "smart-shopper feelings," as a major component of the emotional response which a price promotion can generate, and to present some hypotheses about the origins and effects of these feelings.

THE CONCEPT OF SMART-SHOPPER FEELINGS

Just as ownership of a product may have many different types of consequences, so also there may be different types of consequences resulting from the price a consumer pays. One type of consequence of a price could be called *utilitarian*. This would include the utility of the alternative uses for the money spent; the alternative purchases which must be forgone. If the purchase price is a discount price, then another utilitarian consequence is the utility of the items which could be purchased with the savings. A third utilitarian consequence of a price results from the consumer's tendency to use price as an indicator of product quality (Bearden et al. 1984; Monroe and Krishnan 1985). Paying a particular price for an item might have the desirable consequence of increasing the consumer's confidence that the product will perform well or will otherwise be of high quality.

A second type of consequence which may result from a price could be called *ego-expressive*. This category of consequences includes the implications which a price may have on the consumer's self-concept. Paying a low price for a particular item might lead a consumer to feel proud, smart, or competent (Holbrook et al. 1984). There might be a sense of accomplishment or a thrill of feeling in a small way victorious over large corporations (Rose 1988). There may be the satisfaction of anticipating that the shopping expertise represented by having found this low price can be used to help others get low prices (Feick et al. 1988).

On the other hand, paying a high price for a particular item could lead a consumer to feel angry and resentful. Thaler's (1985) descriptions of the hazards of charging market rates for rock concert tickets or hotel rooms during important sports events illustrates the power of these feelings. Or, a consumer may experience regret (Loomes and Sugden 1983) if a purchased item is later found to have been available at a lower price.

This ability of price to elicit strong feelings such as pride and anger is not surprising when one considers the importance of feelings of efficacy in human motivation (e.g., Bandura 1977). Moreover, there is a long tradition in the American culture of the use of money, and the material things it represents, as a sign of status and personal success (Veblen 1899). In his recent update of Veblen's observations, Lapham (1988, pp. 26-7) described this value clearly:

> Ask an American what money means, and nine times in ten he will say that it is synonymous with freedom, that it opens the doors of feeling and experience, that citizens with enough money can play at being gods, and do anything they wish ....

It is this combination of the power of achievement as a human motive force with the traditional potency of money as a sign of competence and status which may give these emotional consequences of price not only the ability to strongly affect individual purchase decisions, but also the potential to more broadly affect the shopping behavior of the consumer.

The term, "smart-shopper feelings," will be used to refer to the ego-related affect which may be generated in a consumer by a price. It includes feelings ranging from pride to anger to the satisfaction of helping others. The common thread among these responses is that they all have to do with the implications that paying a certain price for an item has for the consumer's self-concept.

Smart-shopper feelings are related to, but distinguishable from the feelings associated with ostentation, or Veblen's "conspicuous consumption." When a consumer feels pride in advertising that he or she has paid a very high price for an item, there is an assumption that appropriate value is being received in return for that price. Under this assumptions, price becomes a way of communicating the consumer's ability to afford goods and services of the highest quality. It is when this assumption is questioned that smart-shopper feelings will come into play. For example, the perception of a rich person paying an exorbitant price for an item of only average quality is likely to elicit, in the buyer, feelings of anger rather than pride, and in onlookers, feelings of superiority.

ATTRIBUTIONAL ORIGINS OF SMART-SHOPPER FEELINGS

There are probably always utilitarian consequences of perceiving a price as different from a reference price. If the consumer perceives the price as higher than the reference point, then the utility of the items which could be purchased with the perceived overpayment would constitute a utilitarian consequence. Conversely, if the consumer perceives a discount, then the utility of the perceived savings and the greater assurance of good value for the money would be utilitarian consequences of the price.

However, a perceived discount or overpayment should have ego-expressive consequences only to the extent that the consumer feels *responsible* for the getting the discount or making the overpayment. For example, if a decision is made under duress, and the outcome is negative, the decision-maker is not likely to feel the regret he or she would feel if the decision were viewed as having resulted from a free choice (Kahneman and Tversky 1982; Shefrin and Statman 1984).

Fortunately, at least for the purveyors of price promotions, people tend to view themselves as responsible when they make a decision which results in a good outcome (Miller and Ross 1975; Zuckerman 1979; Tetlock and Levi 1982). This would suggest that smart-shopper feelings are often important consequences of price promotions.

To test the idea that attribution of responsibility affects the consumer's feelings about a price, Schindler (1988a) asked 111 members of women's church groups to describe their most recent purchase which cost over $20. They were asked to report the price they paid for the item, their reference price (the price which "most stores usually charge for this item"), and how satisfied they felt with the price that they paid. Following that, the consumers answered a series of questions designed to determine how responsible they felt for the price they paid for this item. It was found that price satisfaction was significantly correlated with perceived responsibility, even after the variation due to the size of the perceived discount or overpayment was removed. In other words, consumers felt more satisfied with having received, say, a 20% discount if they felt responsible for having found that discount than if they received the same discount but felt it was only luck or some other external factor which was responsible.

An experimental version of this research (Schindler 1988b) confirmed and extended this finding. The subjects of the study were given shopping scenarios where the protagonist received a discount. Although the discount was of identical size in all of the scenarios, some were designed (from pretesting) to elicit the attribution that the protagonist was responsible for receiving the discount, and others were designed so that the protagonist was not perceived to be responsible. The subjects who read the scenarios where the protagonist was perceived to be responsible for the discount judged that the protagonist would feel better about the discount than did the subjects who received scenarios where the protagonist was not perceived to be responsible for the discount. Responsible protagonists were also judged to be more likely to go to that store next time and more likely to "tell a lot of people" about the purchase.

If smart-shopper feelings result from an attribution of responsibility for receiving the discount, then a marketer should be able to increase the favorable consequences of a discount by leading consumers to feel responsible for the discount. Kelly's (1967) covariation theory suggests that the perception that one is receiving a discount which not everybody else is receiving will enhance the smart-shopper feelings which result from this discount. Thus, consumers mention the pleasure of being in the supermarket check-out line and having coupons that not everyone has. And, the skilled new car salesperson will typically leave each customer with the feeling of having received a better deal than most. Perhaps the fact that redemption rates for direct mail coupons are on average higher than for coupons distributed in newspapers and magazines (Manufacturers Coupon Control Center 1988) results, at least in part, from an ability of the direct mail medium to give the consumer a sense of getting something that other consumers are not getting.

Taylor and Fiske (1978) have demonstrated that the factors which are salient in a person's experience will tend to more strongly influence attributions than factors which are less salient. To most consumers, the activities they engage in for the purpose of locating the lowest price available for an item are highly salient. If the consumer takes one or more actions in order to get a discount, it should lead to a greater attribution of responsibility and consequently more smart-shopper feelings (see Schindler 1984).

Some of the actions a consumer might take in order to find a low price are overt "price search activities": looking through advertisements, going to stores, and asking other consumers. But even if a consumer does not take any overt actions to search for a low price, he or she may well take covert, or purely mental, actions to determine whether a price is high or low. The consumer may search memory for the prices of comparable items to serve as a reference point (Schindler and Bauer 1988), make inferences about the reputation and motives of the seller (Wright 1986), or consider the costs and savings which are likely to be associated with the consumption of the product.

These mental actions, or "price evaluation activities," may at times become fairly elaborate, involving a number of memory searches, complex computations, numerous inferences, and sophisticated reasoning. While such activities may not always be so complex, they are always salient to the consumer. Such purely mental price evaluation activities, along with the overt price search activities, are probably major factors leading consumers to take credit for the discounts received in price promotions.

AROUSING SMART-SHOPPER FEELINGS

When one considers the extremes of excitement possible from price promotions such as K-Mart's blue light specials, it becomes clear that simply taking credit for the usually fairly modest perceived savings cannot entirely account for the phenomenon. The drama in the presentation of the price promotion - the flashing blue light, the spiel of a pitchman in a TV ad, or the splashy "Save $$!!" promises of print ads - also appears to play a role in the smart-shopper feelings evoked by the promotion.

This role might be to actually increase the desire for smart-shopper feelings, much as seeing an attractive pair of shoes can arouse desire for them (Rook 1987) or smelling the aroma of fresh-baked cookies can arouse the hunger for them (Hoch and Loewenstein 1988). Research by Mischel and his colleagues (Mischel 1974; Mischel and Grusec 1967) on delay of gratification suggests that the mere perceptual presence of a stimulus can increase a person's desire for it. For example, subjects who were given the choice between a small reward now or a larger reward at a later time had more trouble resisting the smaller reward if they could see it than if it was not visually present in their environment.

Frijda (1988) has argued that the ability of perceptual presence to stimulate affect is a "law of emotion" and is more or less independent of our knowledge systems and verbal processes. For example, the sight of something can cause fear even if you know that the thing cannot hurt you. Moreover, a vividly *imagined* stimulus can have the same desire-arousing effect as one which is physically present in the environment. Thus, factors which make an object easier to imagine can enhance the affect-arousing effect of the object. One such factor may be temporal proximity, the knowledge that a desirable object can be obtained immediately rather than only after a delay (Hoch and Loewenstein 1988).

If the sight of a discount offer can indeed arouse the "appetite" for the smart-shopper feelings which result from getting a bargain, then it makes sense for retailers to be continually dangling promotional offers in front of the consumer. Getting the consumer to visualize how good it would feel to save so much money may whip up the desires to have those feelings and thus increase the likelihood that the consumer responds to an offer.

Further, these greater desires to save money may have the additional effect of motivating the consumer to engage in more price search and price evaluation activities. Since such activities are likely to increase the degree to which the consumer feels responsible for the promotional discount, they are likely to increase the intensity of the resulting smart-shopper feelings. In this way, there may be a synergy between the arousal origins of smart-shopper feelings and their attributional origins.

ROLE OF SMART-SHOPPER FEELINGS IN CONSUMERS' LIVES

It is unlikely that all consumers find smart-shopper feelings equally important in their lives. Since smart-shopper feelings involve a sense of efficacy and competence, one would expect that groups of consumers who lack sufficient work-related means to have such feelings would be particularly responsive to smart-shopper feelings. Nonworking mothers whose children are grown would be one example of such a group; retirees would be another. If it is indeed the case that smart-shopper feelings play an important role in consumer response to price promotions, then groups such as these should be particularly deal-prone.

As it happens, there is evidence which is consistent with this hypothesis. Several researchers have found a greater amount of coupon usage in households where the woman is not employed full-time outside the home (Narasimhan 1984; Kingsbury 1987) and Bawa and Shoemaker (1987) have found tendencies in this direction. The problem is, there are at least two other theories which are also consistent with these data. Blattberg et al. (1978) have suggested that women who are not employed outside the home are more likely to be deal-prone because they will tend to have more time available for shopping than women who are working full-time outside the home. Also, research reviewed by Zeithaml (1985) would predict that women not employed outside the home would be more deal-prone simply because such shopping activities are traditionally part of the homemaker role. Thus, further research is necessary to determine if the need for feelings of efficacy and competence is a significant factor behind the demographic characteristics of deal-prone consumers.

Other aspects of smart-shopper feelings also lead to predictions of who might be particularly susceptible to sales promotions which result in these feelings. The pleasure in the "beating the system" aspect of smart-shopper feelings might suggest a reason why police have been successful in using bogus promotions to apprehend fugitive criminals (Jensen 1985). The social status which some people feel results from having found a discount suggests that consumers who are more gregarious and have a greater amount of social contact might be particularly prone to responding to deals. It also suggests that anything the marketer can do to make it more visible that some consumers are receiving discounts would lead to stronger smart-shopper feelings and thus more response to the promotion.

In addition to there being certain consumers who may more highly value smart-shopper feelings, there may also be certain situations when all consumers will tend to experience a greater need for these feelings. In times of inflation, consumers may suffer continuing feelings that they are being unfairly treated by businesses and may thus have particular strong needs for at least momentary feelings of shopping pride and accomplishment. Such a situational stimulus to smart-shopper feelings could be an important factor in the dramatic growth of price-promotion activity during the chronic inflation of the 1970's (Bowman 1980).

The perception that a particular item is over-priced may create a greater need for smart-shopper feelings even if this perception is not due to general economic inflation. Such an effect might be behind Kamen and Toman's (1970) finding that consumers showed greater interest in a small price difference in higher-priced gasoline then they did in a price difference of the same size when the gasoline was offered at a lower price.

Further, it might well be the case that the risk involved (e.g. Roselius 1971) might cause consumers to feel anxiety at the prospect of purchasing *any* high-priced item, even if the price is perceived to be a fair one. This might make the purchase of a high-priced item a situation where the consumer will be particularly responsive to the good feelings resulting from a perceived discount. The efforts which new-car salespeople make to leave their customers with a feeling of having received a discount may be an indication of the importance of smart-shopper feelings in this situation. Since it is the negotiation process which helps the skilled salesperson create this impression, it is interesting that it is only the more expensive items which have resisted the one-price policy which is otherwise ubiquitous in American retailing (Mason and Mayer 1987, p. 494).

As is probably the case with any pleasurable emotion, it may be possible to become psychologically dependent on, or addicted to, smart-shopper feelings. The manifestation of such an addiction would be a certain set of behaviors which are not fully under the control of the consumer and which are dysfunctional to his or her life (Faber et al. 1987). The particular set of dysfunctional behaviors displayed would result from the consumer's attitudes and beliefs about shopping and saving money. The result is, there could be a number of "shopping disorders" which are at least partially manifestations of a psychological dependence on smart-shopper feelings.

One such shopping disorder would be compulsive involvement in the price search and evaluation activities which enable the consumer to find, and feel responsible for, discounts and low prices. For example, airlines' frequent flyer programs have led some consumers to become "mileage maniacs" who devote an excessive amount of time to activities such as "playing cross-country hopscotch" simply to chalk up extra frequent flyer miles (Rose 1988).

Compulsive buying may be another shopping disorder which is related to an addiction to smart-shopper feelings. Anecdotal evidence suggests that, at least sometimes, it is the thrill of getting a bargain which leads the consumer to purchase more than he or she can afford (Morris 1987). This possibility would fit well with Faber et al.'s (1987) observation that low self-esteem is a trait which most compulsive spenders have in common.

A third shopping disorder involves the consumer who exhibits behaviors opposite to those of the compulsive spender: the inhibited, or "stingy," consumer. Such behavior could result from a compulsive necessity to be *sure* that each prospective purchase is indeed necessary and is in fact at the lowest price available. Since such certainty is rare, this type of consumer will tend to protect his or her smart-shopper feelings by making very few purchases.

HOW SMART-SHOPPER FEELINGS MAY AFFECT CONSUMER CHOICE

An understanding of the effects of smart-shopper feelings is as important as an understanding of their origins for the marketer who is concerned with maximizing the effectiveness of price promotions. Broadly speaking, smart-shopper feelings can affect the consumer decision process in two ways: (1) they can alter the sequence of events in the decision process, and (2) they can affect the evaluation of a single alternative.

The sequence of events in the decision process can be strongly affected by word-of-mouth information from other consumers. Folkes (1988) has suggested that consumers who feel proud about the price they pay are more likely than other consumers to brag, and thus spread information about the purchase, and the results of Schindler's (1988b) scenario experiment supports this possibility. Price et al. (1988) found that at least some shoppers respond to coupon promotions by clipping the coupons and giving them to friends and relatives who use products in the category of the couponed brand. This could be considered a form of word-of-mouth communication between consumers.

The anticipation of smart-shopper feelings could also affect the sequence of events in the decision process by causing an item to be considered. Many consumers will scan sale advertising and examine every cents-off coupon they receive in search of items they are planning to buy. This procedure is a price search activity which may well lead to smart-shopper feelings, but also may lead consumers to consider items which they otherwise would never have considered. Causing consideration of an item could have an important influence on the outcome of a decision since consumers may often use the "satisficing" strategy of choosing the first alternative which is satisfactory rather than considering the full range of possibilities.

Whether or not it is a price promotion which causes an item to be considered, there are at least three mechanisms by which the anticipation of smart-shopper feelings for a discounted item may influence the evaluation of this item. First, the prospect of these feelings may be considered simply another attribute of the item which is weighed against the values of the item's other attributes in an additive way. Although the attribute of anticipated smart-shopper feelings is intangible, this mechanism of its influence is relatively simple.

The second possible mechanism by which smart-shopper feelings may influence product evaluation is the possibility that the anticipation of the benefit of smart-shopper feelings *interacts* with the assessment of the other costs and benefits of the item. In particular, the desire for smart-shopper feelings could lead the consumer to alter his or her perception of other attributes in order to "rationalize" the purchase. Rose's (1988) description of one frequent-flyer plan enthusiast appears to provide an example of such rationalization:

> Personal-finance author Andrew Tobias - who tells people to shop around for everything from shaving cream to auto insurance - admits he doesn't shop around when it comes to airlines. He says there's more to it than free trips: Sticking with one airline "makes you feel like part of a family," he says. "Way down deep, I know there's a heart of steel at American Airlines. But they make you feel like they really care." Still, he adds, "I've gotten so many free trips, it's ridiculous."

A third possible mechanism of the effect of smart-shopper feelings on product evaluation involves the possibility that the price evaluation activities which lead to smart-shopper feelings also have the effect of distracting the consumer from the consideration of other attributes (Gardner and Strang 1984). If the goal which is salient in the consumer's mind affects the considerations which are evoked, then the goal of being responsible for a price savings is likely to evoke thoughts concerning whether the item is *really* on sale, whether or not a lower price might not be found elsewhere, etc. Involvement with these considerations may distract the consumer from considerations which are less closely related to the goal of feeling responsible for a low price, such as whether the benefits of the item will really justify its costs.

SUMMARY AND IMPLICATIONS

If smart-shopper feelings do indeed play a major role in the consumer's response to price promotions, then it is important to understand the origins and effects of these feelings. Understanding of the factors which lead the consumer to feel responsible for a discount and the stimuli which arouse the desire for smart-shopper feelings would help the marketer design programs which maximize the amount of consumer excitement which can be generated by a limited promotional budget. An understanding of the role of smart-shopper feelings in consumers' lives would help marketers target price promotions to those consumers and to those situations where they are most likely to have an effect. And, a detailed understanding of the mechanisms by which a price promotion may affect the consumer decision process would guide the marketer's decisions concerning the timing of promotions and the choice of products to be discounted.

In addition, these understandings are relevant to public policy and consumer education. An appreciation of the origins of smart-shopper feelings and the situations where they are most likely to have an effect on buying decisions should help the consumer put such feelings into perspective. Each consumer should be prepared to make an informed decision about just what role the excitement of getting a bargain will play in his or her life.

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Exploring the Effects of Country of Origin Labels: An Information Processing Framework

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ABSTRACT

Theories of information processing are used to develop a framework for the effects of country of origin labels. The framework identifies three types of effects: *cognitive*--the traditional hierarchy of effects, *affective*--an emotional response to country stereotypes that influences attitude directly without intervening belief changes, and *normative*--a direct effect on behavior.

INTRODUCTION

The growth of international trade and the academic debate over the merits of global versus customized marketing have increased awareness of and interest in the effects of country of origin labels on consumer evaluations. Although a large number of studies have been reported, no firm conclusions can be drawn on the pervasiveness or the strength of country of origin (CO) label effects. Lacking a basis in theory, most CO research has been limited by a narrow descriptive focus and marred by methodological flaws. Our objective is the development of a theoretical framework that can account for the existing diverse findings and generate both useful directions for further research and insights into marketing practice.

Most published work exploring CO phenomena has reported descriptive empirical work. These studies primarily detail which countries, product classes, or consumer groups, exhibit or possess which stereotypical effects. That countries connote different product images or stereotypes in consumers' minds has been firmly established (Bannister and Saunders 1978; Eroglu and Machleit 1986; Gazda, Light and Brown 1986; Khanna 1986; Lillis and Narayana 1974; Nagashima 1970; Reierson 1966; Schooler and Wildt 1968; Schooler 1971). For example, Gaedeke (1973) found that attitudes toward a specific product or brand are substantially changed, both favorably and unfavorably when the country of origin of the product/brand is revealed to the consumer. The CO phenomenon is also observed in industrial buyers (White and Cundiff 1978; White 1979) and has been shown to change over time (Nagashima 1977). CO stereotypes have been shown to vary by demographic characteristics: age and gender (Bannister and Saunders 1978; Schooler 1971), race and education (Schooler 1971). Older, better educated, and higher income consumers tend to have more positive attitudes toward foreign products but no one has determined whether the correlation is the result of these consumers' using the CO label more or less than other consumers. In general, attitudes toward products made in less developed countries have been shown to be considerably less favorable than toward products from more developed countries (Gaedeke 1973).

Other research has indicated psychographic traits significantly influence the effect of CO images on domestic versus foreign auto purchase (Andersen and Cunningham 1972). In a similar fashion, Johansson and Nebenzahl (1986) proposed a link between CO stereotyping and social norms in the consumer's country. Douglas and Urban (1977) supported this idea with evidence that women in a given country hold differing social norms than those of women in the same product markets of different nations/cultures. Complicating the roles of psychographic traits and normative beliefs is the finding that stereotypes of a country or culture were not equivalent to stereotypes of products from that country (Etzel and Walker 1974).

While most of the work done on CO biases has been descriptive, a few studies have been explanatory and/or predictive in nature. These studies set out to explain why people have whatever CO stereotypes they exhibit, and how those stereotypes will manifest themselves in different situations. Schooler (1965) indicated that CO product stereotypes result from attitudes toward people and governments of other countries, although he also concludes, counterintuitively, that CO biases are not developed through travel or related to attitudes toward industry or labor organizations within a country. Erickson, Johansson and Chao (1986) and Johansson, Douglas and Nonaka (1985), attempted to model the effects of CO stereotypes based on information processing principles. Unfortunately, the work done in model development has many of the same limitations of earlier descriptive pieces, e.g. lack of generalizability. Using survey data from real world situations puts clear limits on the findings of these studies.

A few studies have examined the influence of marketing activities on CO effects. Communication and promotion devices were shown to alter CO biases favorably by Reierson (1967). The effect, however, was contingent upon consumers' holding CO biases of low intensity. The moderating effect of price was examined by Schooler and Wildt (1968), who found that the effect of product bias on the selection decision between similar, alternative domestic and foreign goods could be offset by manipulation of the price differential. Thus, a disinclination to purchase a product, resulting from a negative CO bias, should not be equated with an unalterable unwillingness to buy.

Most CO studies to date provide us with little generalizable knowledge. Results are typically product, country, or sample specific. Moreover, much of the research has been flawed by demand effects. Early experimental studies artificially heightened the salience of CO labels. Some provided little information other than the CO label, others used within-subjects designs that sensitized subjects to the manipulation of the country of origin (Bilkey and Nes 1982). Survey approaches that attempted to assess the role of CO labels in evaluations of real products suffered from gross self-report measures of the "importance" of the CO label in overall evaluations.

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THE NEED FOR THEORY

Central to the problem with CO research is a common weakness in business research--the focus on results from "realistic" applications leads to specious attempts to generalize from research at the level of operational variables rather than theoretical constructs. Lacking a generalizable theoretical framework, one can make little sense of the collection of positive, negative, and null effects in CO research. Nor can one understand the role of other managerial actions that may mediate CO effects. Although we know that some CO effects are positive and some negative, we do not know why. "Made in Germany" (relative to "made in Italy") for instance, enhances evaluation of a car but diminishes evaluation of dress shoes. And, although descriptive research may uncover such instances, it does not tell firms how to take advantage of the positive or minimize the negative. Vast differences across purchase situations have prevented marketers from developing useful hypotheses that relate concrete tactics, such as CO labels, to outputs, such as attitude or purchase. Rather, we must focus on the meaning of these tactics within the framework of consumer information processing. We hope to take some first steps toward the development and testing of a generalizable framework for CO effects.

THEORETICAL FRAMEWORK

Considerable research indicates that CO labels influence overall product evaluations or beliefs about product quality (e.g. Nagashima 1970; Reierson 1967). This effect may result from two processes: In the first, the CO label has no direct effect on evaluation. Rather, from it, consumers infer the level of some other attribute(s) that determine(s) a global attitude or assessment of quality. We suspect this *cognitive process* to be the most frequent role of CO labels in product evaluation. Erickson, Johansson, and Chao (1984) demonstrated this process for automobiles; CO labels affected quality evaluations through their effects on beliefs about such attributes as workmanship, durability, and reliability.

Less likely would be CO label's triggering an *affective process*, resulting in an emotional response that bypasses the purely cognitive inferential evaluation. Consumers may, in fact, infer positive beliefs on key attributes yet respond negatively to the country of origin. This emotional response will occur only when the CO is, itself, directly tied to an evaluative response. Americans of Arab descent, for example, may evaluate an Israeli-made precision instrument high on craftsmanship yet have a strong negative reaction overall. It is this affective process that has been cited as the country of origin stereotypes effect (Bannister and Sanders 1978; Reierson 1966).

A third process in which CO labels may be involved would reveal an influence on preferences without a change in overall evaluation or product attitude. The effect of the CO label would intervene between evaluation and behavioral intention. The extended Fishbein model of behavior (Fishbein and Ajzen 1975) allows for anticipated circumstances to moderate the effect of attitude on choice and cites normative pressure as an important type of anticipated circumstance. Thus, one may evaluate Nissan automobiles favorably and have no emotional response to Japan as a country of origin yet comply with a "Buy American" norm that operates in one's family or peer group.

The figure models the three processes that involve CO effects. It identifies situational and individual difference variables that mediate CO effects and output variables that indicate change.

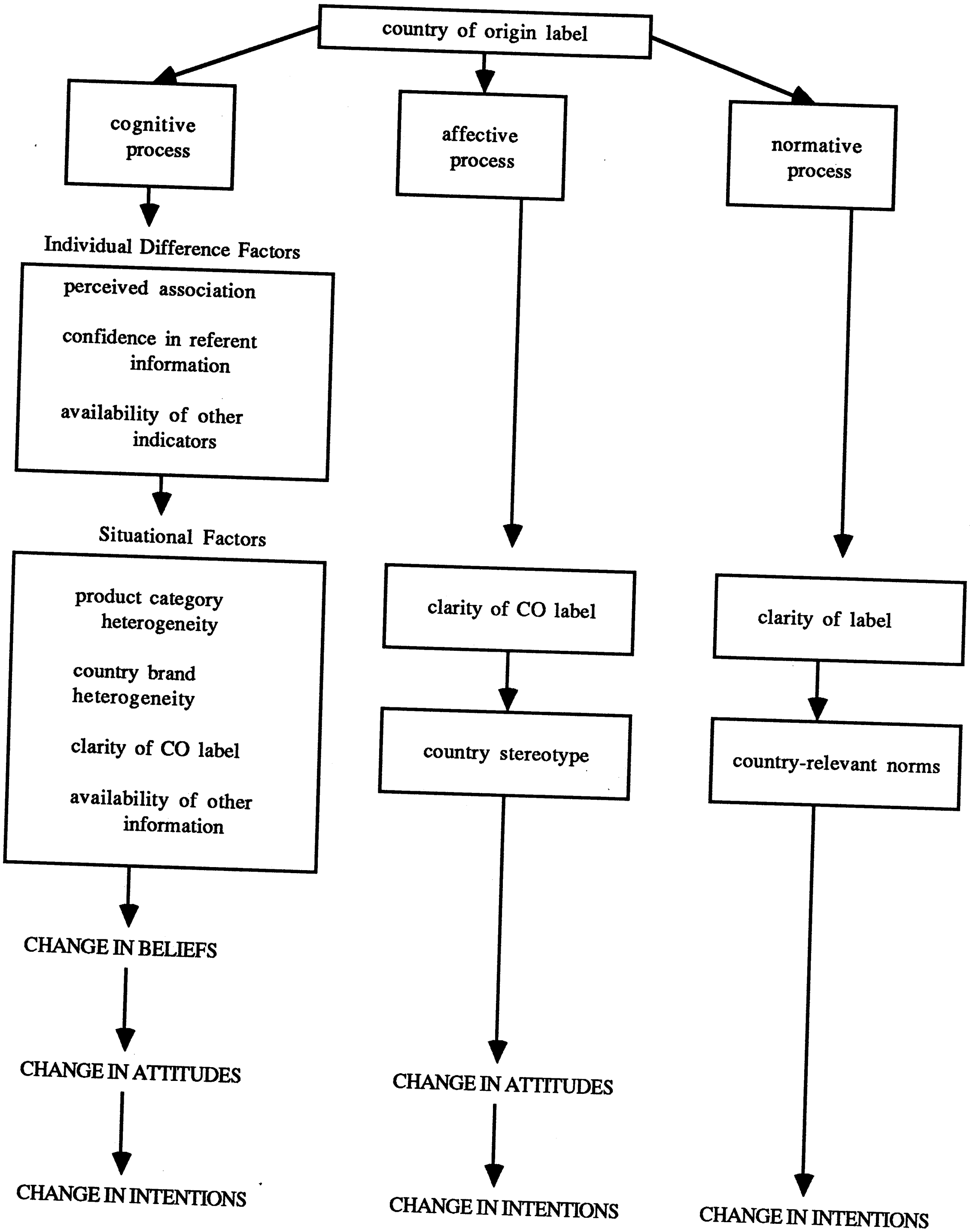
The cognitive effects of CO labels result from an inference to some unknown attribute value. The constraints on any inference process are identified as individual difference variables: Consumers will use CO labels to infer other attributes *if* they perceive the two attributes to be associated, *if* they are confident in their knowledge of the country of origin, and *if* there are no better indicators of the target attribute value.

The four situational variables mediate the inference process by affecting one or more of the three constraints. Product category heterogeneity refers to the familiarity of the product category to the consumer and the perceived variation of brands on the target attribute. As with other proxy variables, such as price and brand name, one can hypothesize that when consumers are unfamiliar with the product class they will rely more on perceived associations between CO and target attributes. Johansson, Douglas, and Nonaka (1985), however, found a positive interaction between product familiarity and CO influence. Similarly, Johansson and Nebenzahl (1986) found a significant positive correlation between "Knowledge about product class" and "Importance of country-of-origin." We would argue that high familiarity does not preclude inferences from CO. The interaction is a complicated one, depending on situational factors. When product heterogeneity is high, CO *may* be a valid indicator of quality or other target attributes, and knowledgeable consumers will use it. Note that product heterogeneity refers to brand variation across countries of origin.

Country brand heterogeneity refers to the consumer's knowledge of the various brands from a given country in a single product category or small set of related categories and the perceived variation within that country's brands. Whereas product category heterogeneity refers to variations *across* countries, country brand heterogeneity refers to variations *within* a country. Lack of familiarity with a country's product offerings would prevent any perceived association between CO and other attributes. On the other hand, high familiarity with a country's offerings will permit such an association only when the country's brands have little variance. Thus, "California" wine does not connote a specific quality level to those who know that California vintages fall across a wide range. Consequently, confidence in the implication of the CO label should vary inversely with variation in the country's offerings.
Variation within a country's offerings limits the informativeness of the CO label, as will any factor that reduces the clarity of country of origin. A specific threat to clarity is multiple countries of

FIGURE

A Theoretical Framework for Country of Origin Effects



origin, represented by hybrid products, e.g. a car that might have parts manufactured in several countries and assembled in still another. Thus, clarity of the CO label relates to confidence in its informativeness.

The final mediator of the cognitive inference process is the presence of other information. Consumers will rely on CO labels as referents only if no better indicators are equally available. Whether some other information is an indicator of a target attribute is a function of the same set of issues that have been discussed with respect to CO labels as indicators. Research has demonstrated, however, that "intrinsic" cues, which are informative of composition or functional performance, are better indicators of quality than such "extrinsic" cues as CO label (Olson and Jacoby 1972; Wheatley and Goldman 1981).

The remaining two processes, affective and normative influences, bypass cognitive processing and are subject to less mediation from external factors. Both are mediated by the clarity (and salience) of the CO label, which acts as a trigger. An affective response requires an evaluative response to the country stimulus, a stereotype, that overrides any attribute-based evaluation. Overall product evaluations may be colored by other product related cues. Research on stereotypes, schematic processing, and halo effects indicates that such affective responses influence attitude directly, without affecting attribute beliefs. An implication for marketers with respect to affective processes regards focus of promotional effort. Thus, promotional effort may be aimed at positive aspects of the country of origin rather than the specific product. Rather than trying to change product beliefs, marketers can attempt to change negative affective responses to their products. If the country stereotype cannot be changed the alternative is to reduce the clarity of the CO label by deemphasizing or obscuring it.

Normative processing of CO labels occurs when a country-relevant norm exists. Attitude-behavior theorists have proposed a combination of normative pressure and motivation to comply with such norms as a mediator of attitude's effect on behavior. When strong norms exist regarding country-specific purchases, CO may affect purchase intention without changing attribute beliefs or attitudes. Some consumers, for example, will "Buy American" due to normative pressure irrespective of their belief that other countries produce superior automobiles. Marketers utilizing the "Buy American" theme are trying to establish normative processes, subrogating consumer attitudes and attribute beliefs in advertising campaigns. Countries that face normative obstacles have three strategic options: They may attempt to change the social norm, often a difficult task. They may attempt to change individuals' motivation to comply with the norm, which may often be done by appealing to appropriate reference groups for support of noncompliance. A final option is, again, to obscure the relationship between product and CO.

IMPLICATIONS FOR EMPIRICAL WORK

CO effects research is a classic case of research "falling in the crack" between theory-based research and effects-application research (see Calder, Phillips and Tybout 1981). Research interest has been motivated almost exclusively by interest in applied effects, with the result that CO labels have been considered almost exclusively at the level of operational variables. Yet, researchers have attempted to draw general conclusions from their results. If nothing else, our framework indicates that CO labels have different meanings depending on a number of mediating and moderating factors. In large part, the hodgepodge of past findings has resulted from a failure to consider consumers' subjective interpretations of CO labels.

In order to generalize the effects of CO labels, researchers must understand them at the theoretical level, which implies a focus on the *construct* level of the variable, rather than the operational level. It is insufficient to observe differences in consumer responses to products with labels "Made in Japan," "Made in Great Britain," or no label; we need to investigate the basic information processing content of such labels. The role of a theoretical framework is to permit one to translate from the level of operations to the level of theoretical constructs. The researcher who wishes to test hypotheses derived from such a framework has two general options: correlational designs that measure all the specified constructs or experimental designs that manipulate and control them.

We advocate the experimental approach for two reasons. First, correlational studies rely on the validity of their measures to elucidate effects that result from naturally-occurring (read "small") variations on the factors in the model. To date, we have no valid measures of the factors identified in our framework. Any measures of perceived association, confidence, availability of other information, and prior beliefs in variation of products across or within countries would be gross self-report scales. We have more confidence in our ability to manipulate levels of these factors than in our skill at identifying naturally-occurring differences.

Second, the CO label is a complex phenomenon. We do not presume to have captured all that complexity in our framework. Even if one assumed perfect measures of the factors that have been specified, a correlational study might be misleading due to underspecification of the model. A failure to identify causal variables in an experimental design can also threaten internal validity, but an experiment allows the researcher to use very strong manipulations, which may override the effects of uncontrolled variables.

The advantages of experimental designs in determining causal relationships are elementary; the problems with using experiments to address the CO label phenomenon may be less obvious. In general, the concerns are of two types: (1) assuring that experimental manipulations are construct valid and (2) assuring that the experimental situation does not become a causal factor by introducing expectations, increased sensitivity, or other biases. Both concerns are relevant to investigations of the roles of the factors we have identified. For example, how does one manipulate consumers' perceived associations between a CO label and overall product quality, or the valence of a country stereotype, or a country-relevant norm? These factors are the result of accumulated learning. If a subject comes to an experiment with a strong perception that country of origin indicates overall quality of the product in question, it is unlikely that any experimental manipulation will change that belief. It is necessary, therefore, to avoid situations where the relevant consumer beliefs are intractable. As a result, in order to understand important "real life" effects, the experimenter may purposefully investigate CO effects for products and countries that are unimportant or even fictitious.

The approach we suggest is a scenario paradigm. Subjects are given information designed to create desired levels of specific prior beliefs. The subjects subsequently evaluate products with CO labels. Since both the specific brands and the countries are either little known or fictitious, one expects that subjects will not have well-formed prior beliefs and will, therefore, form beliefs based on the scenario information provided in the experiment. This paradigm has been used successfully in prior research on price as a cue to quality. Obermiller and Wheatley (1984) used several scenarios to create beliefs of either high or low quality variance across brands. In their study, manipulation checks indicated that scenarios succeeded in creating the intended prior beliefs, and quality ratings supported the hypothesized link between prior beliefs and the price-perceived quality relationship. We expect that the scenario paradigm may be applied similarly to the study of prior beliefs that are proposed to affect the relationship between CO labels and perceived quality.

DISCUSSION

We conducted a study using the scenario paradigm (See Obermiller and Spangenberg 1988). Due to space limitations we cannot present a complete report of the empirical study. Hence, we will briefly summarize the results of that study and discuss the implications of both the results and the overall framework.

The study was designed to test one small part of the framework -- the hypothesized mediation of CO effects by product heterogeneity and country heterogeneity. The results of the experiment provided mixed support for the model's hypothesized mediation of CO effects. By and large, evaluations of one of the product categories were influenced by CO labels as hypothesized; evaluations of a second category were not.

Despite the mixed empirical results, the study has provided valuable understanding. The model provides a framework for understanding some of the mixed results in past research and from it one can generate further testable hypotheses. Thus, it appears to be a useful framework for the effects of country of origin cues on consumer evaluations and preferences.

Care was taken in the design of the research to control the constructs under investigation by fictionally creating prior beliefs rather than merely representing these constructs with existing brands. This artificiality is necessary if one is to separate the effects of prior beliefs regarding the brand and country variances from any other beliefs. There are two risks to this paradigm of fiction we have used. The first is that subjects will refuse to believe it. The second is that its very artificiality will create demand effects. Our manipulation checks argue against the former and our mixed results argue against the latter. An explanation based on simple demand effects cannot account for one product supporting the hypotheses while the other product failed to do so.

We expect the differences across products resulted from one's being agricultural (coffee beans) and the other's being manufactured (camping stoves). Subjects may have relied on available stereotypes or schema for judging manufactured goods -- evaluating camping stoves according to beliefs about country specific appliances for example. The extent to which consumers make inferences from one product category to another is an area in need of research.

The role of schematic or stereotype processing in CO effects is but one question for future research. Although the model does not help us understand when consumers will regard an unfamiliar product as representative of some larger class or what that class will be (another consumer might make inferences about lawn mowers from prior beliefs about farm equipment), it could describe the processing of CO labels for that larger class as well as for a specific product.

The model also implies individual and contextual effects that could be examined in future research. Greater expertise and familiarity have been suggested to reduce reliance on the CO cue, reasoning that consumers who are more qualified will use other, better indicators of quality. The model predicts a more complex relationship: Greater expertise would increase confidence in the information value of the CO labels, but the perceived association between CO label and product quality may be high as well as low. Thus, an expert may feel confident that a "made in" label is a good indicator of quality; whereas, a novice may only weakly suspect so.

The model might be used to investigate the effects of "hybrids"--products with multiple countries of origin. A hybrid CO label might reduce the clarity of the cue and potentially create conflicting associations. With the increasing globalization of the marketplace, marketers will be interested in the effects both of alternative and combined CO labels.

A final question suggested by the model is the mediating effect of other indicators of quality. If consumers are able and predisposed to use it, they are predicted to rely on such information, when available, rather than making inferences from CO labels. The model does not give any insight into what other indicators would supply better information about quality, but future research might begin with physical composition information, price, non-commercial endorsements, packaging, and store image.

As a concluding comment, we wish to broaden the context of our work. The model has been presented as a framework for CO effects, but it should be seen as applicable to cue utilization in general.

The effects of price, brand name, package design, and other peripheral or extrinsic cues to quality are still poorly understood despite considerable research. We feel that our model provides an integrative framework, from which we can move beyond studies of isolated main effects to the more complex interactions and mediated relationships that characterize consumer evaluations. We hope that other researchers in the area will regard country of origin effects as an instance of the larger field of the role of cue utilization in consumer information processing.

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Product Familiarity, Information Processing, and Country-of-Origin Cues

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ABSTRACT

Past research on consumers' propensity to use a product's "made in" label shows conflicting findings regarding the role of product familiarity. When evaluating products, are country-of-origin cues used more by individuals familiar with the products or by novices? By interpreting the country-of-origin cue as a *heuristic or proxy* for intrinsic product attributes and adopting a *simplifying* information processing framework, the present study develops a theoretical rationale for why individuals familiar with a product class would make greater use of the product's "made in" label. The developed model is tested with empirical data.

Published research demonstrating the important role played by "made-in" labels in consumers' product evaluations has by now reached an age of acceptance and maturity (Bilkey & Nes, 1982). Although the exact workings of the country-of-origin cues remain controversial, there is little doubt about the basic fact that "made-in" labels powerfully influence people's perceptions and attitudes towards products and brands (Erickson, Johansson, and Chao 1984). On the other hand, there has been almost no published research on the question of *which* consumers are more likely to make use of country-of-origin cues or exactly *how* the cue is used in the evaluation process.

One of the earliest explanations for the effect of "made in" labels on product evaluation is that where little direct information about product attributes is available, more or less relevant indirect evidence (like the country-of-origin) is employed. In fact Schooler (1965), in the first country-of-origin effect study, relied on this assumption in his choice of products that had very few discernible attributes, thus enabling the subjects' biases to be projected onto the products to be evaluated. This has led to the notion that country-of-origin effects are strongest among consumers who have little or no product familiarity (e.g. Nagashima 1970). Such an argument is consistent with the usage of brand names described by Bettman and Park (1980). Further, many of the early studies showed strong country of origin imagery effects when intangible product concepts or general product categories were presented for evaluation (e.g., Reierson 1966; Nagashima 1970, 1977; Lillis & Narayana 1974).

It was then only a short step to the argument that the effect was in fact spurious, and that "made-in" labels merely substituted for the attributes omitted in the particular study. Partial evidence in support of this induction was provided by Schooler (1971). It follows then, that country of origin might merely be a proxy variable for missing product characteristics, only having value when more conclusive evidence is unavailable.

This approach leads to the notion that country-of origin effects are strongest among consumers who have little or no product familiarity. In the world of imperfect information on actual product attributes, individuals are forced to rely on stored prior knowledge. Since people with less familiarity have a lower supply of such stored information, they end up having to rely more heavily on the stored stereotypic biases they have toward the specific country identified in the "made-in" label.

Such an argument, however, is inconsistent with the greater usage of brand names among people with high familiarity described by Bettman and Park (1980). Furthermore, recent studies have yielded results involving product familiarity and use of the country-of-origin cue that are at odds with the low familiarity hypothesis. Johansson, Douglas & Nonaka (1985), for example, uncovered a positive correlation between product familiarity and influence from country-of-origin. Similarly, Johansson & Nebenzahl (1986) reported a positive and significant (.23) correlation between "Knowledge about the product class" and "Importance of country-of-origin."

These later studies suggest that individuals who consider themselves familiar with the brands in a product class are *more* willing to let country-of-origin cues enter their evaluations than are people who are less familiar with the product class. Therefore, while the earlier perspective suggests tht country-of-origin influences are "unwarranted biases" employed by the less familiar, the more recent findings indirectly suggest that country stereotypes are used more by people who should know better. This somewhat contradictory circumstance deserves further study, both to more clearly assess the direction of the effect that product familiarity has on contry-of-origin cue usage as well as for developing a greater understanding of the causal mechanisms involved in their relationship.

The purpose of this research is to try to reconcile the conflicting findings in the country-of-origin literature and to solve the apparent paradox of positive correlation between product familiarity and use of the country-of-origin cue. In this study, we will provide evidence that the use of "made-in" labels is partially a function of the *interaction* of two components: product class familiarity and the perceived variance in quality between the products marketed from within a single country and across all the countries offering products in the product class.

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CONCEPTUAL FRAMEWORK

Two conceptual approaches are integrated for understanding the linkages of product familiarity and use of the country-of-origin cue. First, a simplified information processing paradigm is introduced whereby consumers learn to assess the information value (in a sense, the validity) of the country-of-origin cue in order to minimize the processing effort involved in product evaluations. Second, through repeated product exposures, increased product familiarity is suggested to instill a sense of reliability in the assessed information value of the cue, thereby increasing the confidence in using the cue. This then provides the driving force behind the familiarity-cue usage effect.

Simplified Information Processing

One way to view country-of-origin is as a cue useful in the simplified information processing consumers employ in low involvement settings (Wright 1975). In order to handle complex processing tasks, consumers often attend only to a few features of the total bundle available for evaluation. One of the strategies employed is to look for "summary statistics" which encompass all or most of a set of correlated attributes. The most common of these summaries is the brand name. The country-of-origin cue, or "made in" label, could be employed as another such summary statistic.

Under this interpretation, the country-of-origin cue is used as a mental "short-cut", a way of avoiding unnecessary information processing. "If it is made in Hong Kong it is a fake" or "It's a Swiss watch--what else do you need to know?" are sentiments which exemplify the process of judging the product by a summary cue. Use of the country-of-origin cue as such a summary statistic, however, rests on there being some minimum level of perceived correlation between the cue and one or more relevant product attributes. In other words, consumers must somehow assess the information value of the cue--its predictive value.

Predictive Value

As discussed above, a cue, in order to be useful in simplifying information processing, must first be perceived as a valid predictor of some product attributes. For example, if people perceive various countries to be equally capable producers (perhaps because of standardized manufacturing technology), there would be little justification for attending to the "made-in" label. The cue, in this case, is not "informative." Thus, the first criterion for expecting the country-of-origin cue to be useful would be for consumers to perceive variations across countries. It is this perceived between-country variability which gives *information content* to the country-of-origin "summary statistic."

Cox (1965) introduced a similar notion in a cue theoretic perspective, labeling the perceived information value as the cue's *predictive value*. Cox posited that the use of a cue in product evaluations is directly related to the perceived probability that the cue is associated with a specific product attribute. In the country-of-origin case, the belief that a set of product attributes (e.g., workmanship, material durability and product reliability) vary consistently across countries gives meaning to the cue, making it useful as a summary stastistic for evaluating the product (e.g., on overall quality).

However, it is easy to see that when the variations in quality differences are large for the brands offered from a single country, the use of the "made-in" label will be inhibited rather than encouraged. For example, if American brands of the product vary widely in quality, the "Made in America" label will carry little predictive value as to quality. Conversely, where a country generally is perceived to possess brands within a narrower band of quality variations, the label is indeed useful. Shoes "Made in India" might be an informative label on this account, as might be "Swiss" watches.

Thus the incentive to pay attention to the "made-in" label varies (1) directly according to perceived variations in mean product quality *across* countries, and (2) inversely with variations of brands *within* a country. Pursuing the notion of "summary statistic" one can see that the ratio of the across country or "between" quality variations and the "within" variations can be viewed as an "F-statistic". Kelly (1973) employed this concept by suggesting that individuals calculate a "naive F" statistic in order to make causal attributions. The higher the F, the higher the predictive value of the cue. Similarly the "between"/"within" statistic can be thought of as a type of signal-to-noise ratio. When perceived "within" country quality variations are large relative to the "between" country differences, the noise is high, the F-value and the predictive value fall--the "made-in" labels convey very little information.

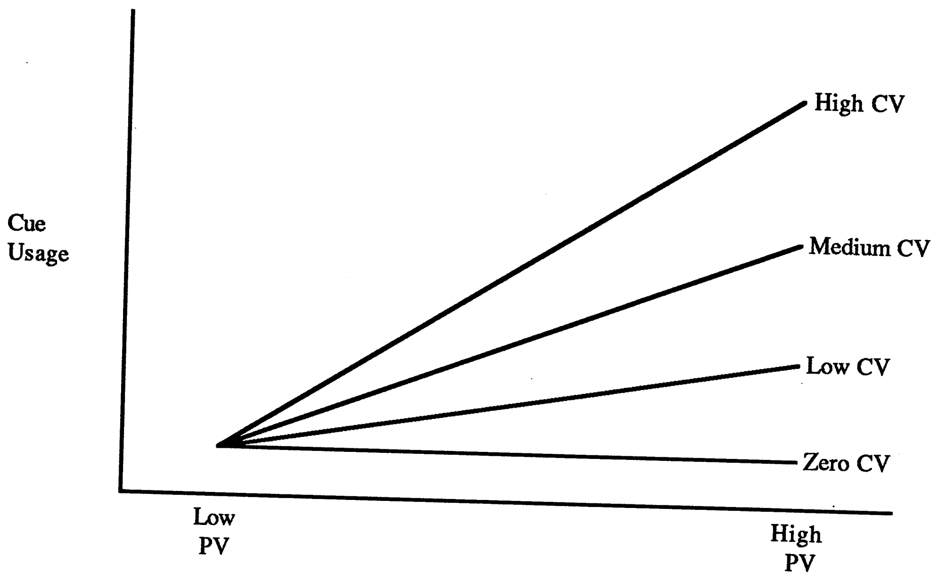
The relationship between this interpretation of a cue's predictive value and the individual's familiarity with the product class is not straightforward. First, it is not clear that product class familiarity is even a necessary prerequisite for an individual to be able to calculate an F-statistic. The beliefs of between and within country variances could be made through naive assumptions or inferences from other product classes. Further, even if it were assumed that at least a minimal amount of exposure was needed to establish estimates of the within and between variances, greater product familiarity, per se, would not necessarily increase the F-statistic nor lead to greater use of a cue. Instead, we argue that greater product familiarity will improve the true accuracy of the consumer's naive F-statistic, thereby allowing the individual to be more confident in his or her use of the cue.

Product Familiarity and Confidence in Cue Usage

Product familiarity, typically defined as the "number of product-related experiences that have been accumulated by the consumer" (Alba and Hutchinson 1987; p. 411), has been shown to have a complex role in product attitude formation and information processing. In particular, previous research suggests that product familiarity influences the choice and use of summary cues (such as price and brand) in the assessment of product evaluations. Park and Lessig

FIGURE A

Cue Usage as a Function of the Interaction Between the Cue's Confidence Value and Predictive Value



(1981) reported that a high product-class-familiar group was significantly more confident in their use of price and brand cues for making satisfaction-maximizing product choices than were low- and medium-familiarity groups. Wilkinson et al. (1984) reported further empirical evidence of a familiarity-confidence relationship for the price cue. These results suggest a causal mechanism of product-familiarity leading to confidence in one's use of summary cues followed by greater usage of the cues.

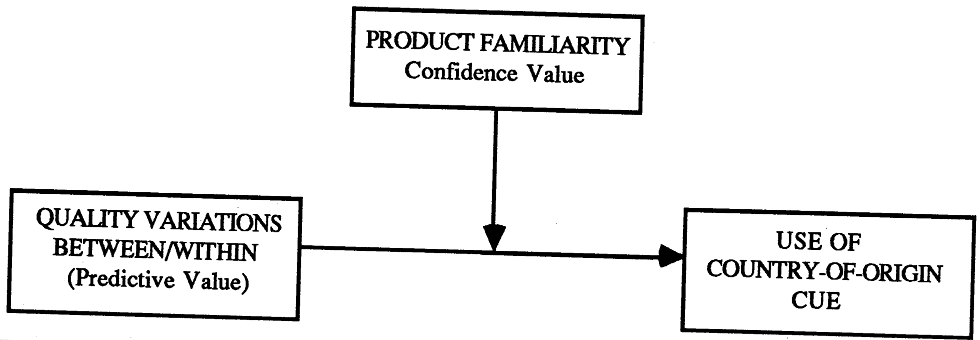
The linkage between familiarity and confidence in cue usage is also logically consistent with theories of covariation assessment and inferencing. Covariation assessment research (Bettman, Roedder John and Scott 1986) suggests that increased product familiarity reinforces the "real world" or actual correlations between product attributes and summary cues. Theories of inferencing (Alba and Hutchinson 1987) suggest that as familiarity increases, the inferences made from the cues become more veridical. When knowledge is low, inferences will still be made; however, they will also be less trusted since there is, by definition, less supporting evidence for the inference. Both of these perspectives support the proposition that increased familiarity increases confidence in the use of a cue.

Cox (1962) and Olson and Jacoby (1972) suggested a framework for the relationships between confidence in the use of a cue, the predictive value of a cue and the actual usage of a cue. In their framework, the degree to which a cue is used in a product evaluation is a function of the interaction between one's assessment of a cue's predictive value and his or her confidence in the use of that cue (termed the cue's *confidence value*). Thus the cue's confidence value has a multiplicative moderating role (what Sharma, Durand and Gur-Arie (1981) define as a *pure moderator*) where increased confidence enhances the effects of predictive value in leading to use of a cue. In other words, cues perceived to have high predictive value are used to a greater extent when confidence in the use of the cues is also high. It follows then that consumers with low confidence in their cue usage will, across the board, make less use of cues, regardless of their assessment of any particular cue's predictive value. In the extreme, complete lack of confidence would lead to complete disregard for a cue. This relationship can be seen in Figure A.

The distinction between the confidence value of the cue and the predictive value of the cue can be seen clearly through another statistical analogy. Whereas the proposed naive F-statistic is a point estimate of the predictive value of the cue, the confidence value of a cue describes the error term associated with the estimated F value. The greater the familiarity, the lower the error term and therefore the greater the confidence in using the cue.

It is important to distinguish between product familiarity and expertise. Expertise is defined by Alba and Hutchinson (1987, p.411) as "the ability to perform product-related tasks successfully." Product familiarity is a necessary but not sufficient condition

FIGURE B



for consumer expertise. "True" experts may not use cognitive simplification strategies. There is plenty of evidence, however, that one major benefit of product familiarity is the reduction of cognitive effort expended in making product judgments (Alba and Hutchinson, 1987).

To summarize, consumers, for the most part, can be seen as misers of cognitive resources and therefore employ summary statistics to simplify their evaluation tasks. The ratio of "between" to "within" country variances in product quality is presented as one such statistic in that it measures the "made-in" label's predictive value--an estimate of the degree to which the country of origin information summarizes a set of product attributes. Increases in product familiarity are expected to increase the consumer's confidence in the use of the cue, thereby moderating the effect of the cue's predictive value on cue usage. Finally, we suggest that at any level of predictive value for the country-of-origin cue, greater product familiarity will lead to greater use of the country-of-origin cue.

The Model

The driving effect of the perceived quality variations on the propensity to use the country-of-origin cue and the interactive role of familiarity can be portrayed in a simple diagram, Figure B.

As shown in the diagram, the hypothesized linkage between perceived quality variability and use of the country-of-origin cue is moderated by the degree of familiarity. As the predictive value increases, so does the propensity to use the cue--the basic relationship is positive. The moderating effect from familiarity is also positive, the cue utilization increasing as confidence goes up.

Hypotheses. There are three hypotheses that guide our research:

H1: The degree of country-of-origin cue utilization in attitude judgments is positively correlated with the perceived information value of the cue--i.e., the cue's predictive value.

H2: The degree of country-of-origin cue utilization in attitude judgments is positively correlated with a person's familiarity with the product class under consideration--i.e., the cue's confidence value.

H3: The degree of country-of-origin cue utilization in attitude judgments is a function of the interaction between the cue's predictive value and its confidence value.

Notice that the hypotheses concern cue utilization in making overall attitude judgments about the brands, not in making actual choices among the brands. Cue utilization would be expected to differ depending on whether one is investigating judgment or choice. See, for example, Johnson and Russo (1984) and Bettman and Park (1980), who found evidence for an inverted-U relationship between product familiarity and information acquisition in choice situations.

METHOD

Survey Questionnaire

To test the proposed linkages a survey design was employed. The target population consisted of teaching and research assistants (male and female) at a west coast school. The survey obtained respondents' evaluations of automobiles produced in three different countries (Germany, Japan, and the U.S.). It was expected that respondents would exhibit wide variations in familiarity with cars and also in their perceptions of the quality variations "between" and "within" these countries.

The questionnaire consisted of three parts. In the first section the respondents were asked to rate three described autos on expected price, overall quality, and interest in purchase. The profile descriptions of the cars were kept deliberately vague, incorporating fifteen attributes, so as to allow the country-of-origin cue to have differential impact across individuals. The order of the descriptions and the assignment of country labels (Germany, U.S., and Japan) were randomized across respondents.

A brief section on background variables, including ethnic background and country experience followed. The questionnaire elicited the makes of cars owned in the last ten years and asked for makes of cars which the respondent associated with each of the three countries (unaided recall). This section ended with an exercise in which the respondents named and rated the *best* and the *worst* car from each country in terms of "overall quality". This exercise generated the data necessary to measure both *within* and *between* country variability.

The last section of the questionnaire covered questions about familiarity with car magazines, autos from different countries, and ended with a self-reported assessment of the degree to which the country-of-origin information was used when rating the initial three automobiles.

Data

The data were collected during the winter term 1987. The mailout comprised 2226 questionnaires and, after eliminating those potential respondents who had moved and those who did not respond by the end of the term, the usable number of questionnaires returned was 541, resulting in a 24 percent response rate. After further eliminating those with incomplete responses (the country variability exercise created fatigue problems) the actual number of usable responses was 258. These were the responses used for the present research.

The incomplete responses to the country variability questions might have created a nonresponse bias. Fatigued respondents would be likely to have a relatively low level of involvement and familiarity with cars from different countries, making the exercise seem tiresome and pointless. Thus, the median level of familiarity in the final data base is probably biased upwards. This is a correlational study, however, and unless all non-familiar respondents have been eliminated (so that the familiarity distribution has been truncated), one would still expect the relationship between familiarity and the other constructs to remain unbiased. (Anticipating the results, the familiarity variable did in fact exhibit a full range from 0-10 in the data as in the questionnaire.)

MEASUREMENT

Familiarity

The familiarity measures were elicited for cars from each of the three countries separately. The responses were in the form of bipolar adjective items ("low" to "high") on a scale from zero to ten. The specific question asked was "In general, how much familiarity do you believe you have with: USA autos, German autos, Japanese autos?" These scales were then averaged to obtain an overall familiarity measure.

Such a self-report measure has been commonly used in the product familiarity research done to date. For example, Johnson and Russo (1984) employed a five-point familiarity scale (also for automobiles). On the other hand, Park and Lessig (1981) augmented such a five-point familiarity rating with self-reports regarding prior behavioral conditions such as the subjects' search experience, usage experience, and ownership status for the product under study. Similarly, in the present study responses were elicited on readership of auto magazines and the number of correctly recalled auto makes from various countries.

Quality Variations

The within and between country variations were computed from the responses given for quality ratings for the best and worst brands from each country. "Within" country quality variation was computed by taking the mean of the two quality ratings (scaled between 0-low and 10-high) for the best and worst brand within each country, then subtracting the average from the reported best and worst quality values. Squaring and summing these two differences yields a standard sum-of-squares *within* measure.

The "between" country variation measure was computed by using the average brand quality value (of best and worst) computed above and averaging these over the three countries to obtain an overall quality value. Then, in the same manner as described above, a between sum-of-squares was computed as the *between* measure.

Use of Cue

"Use of the country of origin cue"--the dependent variable--was measured by the self-reported assessment at the end of the questionnaire and scored between 0-low and 10-high. The specific question was "Lastly, to what extent did you use the country of manufacture information in your assessment of the automobiles described in the first part of this survey?"

Validity and Reliability

Familiarity. The measurement reliability of the product familiarity variable was tested through assessing the internal consistency of the three country specific product familiarity variables that were used to compute the overall variable. The Cronbach alpha for this analysis was .80, a quite acceptable value indicating that the average familiarity variable is reliable.

Multiple measures of product familiarity collected in the survey included (1) readership of auto magazines and articles on cars from *Consumer Reports* and the local newspapers and (2) the total number of correctly recalled brands from the three target countries (Japan, USA and Germany). The readership variables were combined into an average readership score and correlations between the familiarity measure and the two alternative measures were computed (see Table 1). The results evidence convergent validity, with each of the correlations being positive and statistically significant.

Use of the Cue. The reliability of this measure was tested for stability across sub-samples of the respondents. Two sub-samples were drawn randomly, one a fifty percent sample, the other a twenty percent sample. Comparing the values for the total sample against those of the sub-samples in terms of means and standard deviations, the differences were negligible (means: 5.14, 5.20, 5.00; SDs: 2.76, 2.73, 2.94, respectively).

Although some demand effect bias might exist in this measure, since it was taken at the end of the survey, one would expect that, if present, the bias

TABLE 1

Pairwise Correlation Of Multiple Familiarity Measures

	1	2
1. Familiarity		
2. Mean Readership	.58[a]	
3. Correct Brand Recall	.29[a]	.30[a]

[a]Significant at $p < .001$ level

would work against the hypothesized effects. That is, one would expect people familiar with automobiles to report less reliance on the country-of-origin cue than others, because they might have rehearsed or guessed what the attributes were.

ESTIMATION RESULTS

Descriptive Statistics

The simple correlation between *familiarity* and the *use of cue* variables equalled .21, very similar to the .23 value reported by Johansson & Nebenzahl (1986). The respondents more familiar with automobiles tended to use the country-of-origin cue more than other respondents did. Thus, the main result from previous work is replicated.

The mean levels, standard deviations, the minimum and maximum values of the relevant variables are given in Table 2. All measures had reasonably high levels of variation among sample elements. Some respondents obviously considered themselves very familiar with cars, others not at all. The wide variability in the quality variations was especially heartening, since only one product class was studied. One might have feared that the perceived quality variations would be similar across all respondents, but this was clearly not the case.

Regressions

Table 3 presents the results of the regression analyses used to test the research hypotheses. In part a of the table, we see that both H1 and H2 are supported. That is, use of the country-of-origin cue is positively associated with both Between/Within variation (the cue's predictive value) and product familiarity (the cue's confidence value). The regression coefficients are highly statistically significant.

When both main effects and the interaction term are entered in the equation (Table 3b), all coefficients become relatively insignificant (i.e., small standardized beta values and high significance probabilities), but the interaction term captures most of the variation in the use of the cue. Adjusted R^2 increases somewhat. It is apparent that multicollinearity is obscuring the true relationship between the variables on the left and right sides of the equation. (Indeed, the simple correlation between familiarity and the interaction variable is 0.74.)

The obvious next step is to regress use of the cue on the interaction variable alone. The result is given in Table 3c. This model captures the largest explanation of variation in use of the cue (i.e., it has the highest R^2), the standardized coefficient being large and significant. Therefore, hypothesis H3 is supported. This is evidence that use of the country-of-origin cue depends interactively upon product familiarity and the particular cue's predictive value.

DISCUSSION

The empirical results from the study have supported the notion that country-of-origin labels can be interpreted as cues which are used more by people with higher product familiarity. Because of the nature of the sample and the limitation to one product class, one can of course not infer that country-of-origin effects are of the same *magnitude* in other contexts. There is no particular reason to suppose, however, that the strength of the uncovered *relationship* between familiarity and use of the cue is not translatable to other situations. Allowed to interact with the predictive value of the cue, the explanatory power of familiarity amounted to about 10% of the observed propensity to use the "made-in" label, not a large percentage but quite significant.

The view of the "made-in" label as a *simplifying proxy* for underlying product attributes is well-supported by these results. So too is the distinction between a cue's *predictive* and its *confidence* value. The two constructs are empirically separable and the results validate previous theoretical work in the area (Cox, 1962; Olson & Jacoby 1972).

The low R-squares suggest that other factors might be equally or more important than familiarity in explaining the use of the country-of-origin cue. But there are no obvious variables omitted that would

TABLE 2

Descriptive Statistics Of Relevant Variables

Variable	Mean	SD	MIN	MAX
Use of Cue	5.14	2.76	.00	10.00
Familiarity	4.41	2.26	.00	10.00
Between/Within (B/W)a	.89	.66	.00	4.64
Familiarity * B/W	3.74	3.26	.00	19.50

[a] For this calculation, 0.05 was substituted for the few zero values of within variation.

TABLE 3

Regression Results

	Independent Variable	Standardized Beta	Significance
a.Main Effects			
Adjusted R^2=.085	Between/Within	.22	.0002
n=258	Familiarity	.23	.0001
b.Main Effects & Interaction			
Adjusted R^2=.092	Between/Within	.05	.65
n=258	Familiarity	.10	.32
	Familiarity* Between/Within	.23	.09
c.Interaction only			
Adjusted R^2=.095 n=258	Familiarity* Between/Within	.31	.0000

seem likely to render the estimated relationship spurious. Moreover, cross-sectional data across individual respondents are notorious for yielding weak explanatory relationships--there are simply too many individuals with idiosyncratic behavior.

Alba and Hutchinson (1987) have described convincingly the complexity of consumer expertise and have shown how product familiarity, as commonly defined, cannot capture this complexity. They argue, as is done here, that "the effects of knowledge on consumer behavior cannot be regarded only as main effects and must be studied along with a wide range of moderating variables." (p. 438). This study suggests that product familiarity yields confidence in a cue whose predictive value is also ascertained through product knowledge and that these factors interact to influence use of the cue.

CONCLUSION

The major contribution of this study is to explain why the correlation between *product familiarity* and use of the *country-of-origin* cue is so relatively high and significantly positive. According to our model, the correlation reflects the increased confidence that people with product familiarity have in the information value of the cue. If the model is correct, whatever systematic differences people with high familiarity perceive between countries will in fact be reflected in their actual use of the "made-in" labels in evaluative judgments, because of the higher *confidence value* of the cue.

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Are There Gender Differences in the Use of Country-of-Origin Information in the Evaluation of Products?

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ABSTRACT

Previous studies have produced seemingly conflicting results about the differences between males and females in the use of country-of-origin information when evaluating products. The purpose of the present study is to explore the hypothesis that gender differences in the use of country-of-origin information may actually be a function of how much an individual knows about a product. Consistent with theoretical predictions derived from the Elaboration Likelihood Model, the results of the present study suggest that specific product attribute information is more likely to be used in the evaluation of a product when individuals are relatively knowledgeable about the product. On the other hand, when individuals are less knowledgeable about the product, country-of-origin information is more likely to be used as a cue in product evaluation.

INTRODUCTION

The effects of country-of-origin information on the consumer's evaluations of products are gaining interest among managers as increasingly more firms seize international opportunities. A considerable amount of research conducted in the area of "country image" in the past two decades has provided evidence that country of origin is an important informational cue in the consumer's evaluations of products (for a review of the literature, see Bilkey and Nes 1982). The major issues in this research centered around: (a) the investigation of preconceptions about the products made in a certain country (cf. Anderson and Cunningham 1972; Erickson, Johansson, and Chao 1984; Gaedeke 1973; Hampton 1977; Han and Terpstra 1988; Johansson, Douglas and Nonaka 1985; Lillis and Narayana 1974; Schooler 1965); (b) the comparison of perceptions of foreign products between different cultures (cf. Etzel and Walker 1974; Nagashima 1970); and (c) the identification of the demographic factors of the people who favor foreign products (cf. Dornoff, Tankersley, and White 1974; Schooler 1971; Tongberg 1972; Wang 1978).

Although a country-of-origin effect has been frequently demonstrated, conceptual and methodological problems call its interpretation into question. Among the three issues identified above, the most controversial area is the effort to identify the demographic profile of those people who make greater use of country-of-origin information in their evaluations of products. For example, Schooler (1971) and Tongberg (1972) found that older people tended to evaluate foreign products more highly than domestic ones. Also, foreign products were typically rated higher by females than by males (Schooler 1971), higher by more educated people than by less educated ones (Anderson and Cunningham 1971; Dornoff et al. 1974; Schooler 1971; Wang 1978), and higher by liberals than by conservatives (Anderson and Cunningham 1972). However, others have found different results. For example, Wang (1978) found no effect of age, Tongberg (1972) found no effect of educational level, and Dornoff et al. (1974) found no effect of gender on preference for foreign products. These contradictory results may be due to the absence of a theoretical or conceptual basis for predicting *why* people who belong to a specific demographic category should (or should not) be favorably disposed toward foreign products.

The purpose of the present study is to gain a better understanding of how demographic profiles might be theoretically related to the use of country-of-origin information. In particular, this study uses the Elaboration Likelihood Model of attitude formation to understand gender differences in the use of country-of-origin information when evaluating products.

CONCEPTUAL FRAMEWORK

The Elaboration Likelihood Model (for discussions, see Petty, Cacioppo, and Goldman 1981; Petty, Cacioppo, and Schumann 1983) posits that individuals may form attitudes via one of two qualitatively different "routes" of information processing. The model suggests that arguments for a position (or attributes of a product) are important determinants of the attitude formed by an individual who is motivated and/or able to carefully evaluate such information. This thoughtful deliberative approach to attitude formation is called the "central route" of information processing. In contrast, a "peripheral route" of information processing is employed when an individual is unmotivated and/or unable to critically evaluate relevant information. In that case, (s)he will form an attitude about the issue or product based on simple associations or inferences.

The application of this model to country-of-origin effects is straightforward. If people use the central route of processing, information about the specific attributes of a product as well as information about where the product was made (i.e., country-of-origin information, if available) will be considered in the evaluation of the product. Thus, country of origin and specific attribute information will independently contribute to the overall evaluation of the product. However, if people are not willing and/or are not able to deliberately process the information, they may simply retrieve general concepts about the country and use them as heuristic criteria. In that case, the country of origin is used as a peripheral cue.

Hypotheses

Products used in gender difference studies could typically be categorized as either male or female products. Schooler (1971), for instance, used clothes (female product) and a desk pen (male), and Dornoff et al. (1974) used fashion, food (female), electronics and mechanical products (male). Findings for individual

TABLE 1

Knowledge Level by Subjects' Gender

Products	Male subjects	Female subjects	Mean difference
Male product (Car)	6.78	4.84	1.94[a]
Female product (Maxi pad)	1.34	6.25	4.91[a]
Neutral product (Camera)	4.53	4.06	.47[b]

[a] $p \leq .01$.
[b] not significant at .10.

products are not reported in these studies, but the overall results conflict with each other as mentioned previously. It is plausible that when people are knowledgeable about a particular product, they will engage in central route processing and will extensively use the product attribute information as well as the implications of the country of origin in forming attitudes toward the product. On the other hand, when people are not knowledgeable about a particular product, they will use the peripheral route of processing and will simply base product evaluations on the implications of country of origin. Since men presumably know more about male products and women presumably know more about female products, the gender relevance of the products which were used as stimuli in previous country-of-origin studies may explain their mixed findings. This possibility is examined in the present study.

METHOD

To examine the above research questions, a 2 X 2 X 2 experimental design was employed with product evaluation as a dependent variable, and gender of subjects (male vs. female), attribute information (positive vs. negative implication) and country of origin (favorable vs. unfavorable country) as independent variables.

Subjects and Design

Thirty-two male and thirty-two female undergraduate students were randomly selected as subjects for the experiment at a large mid-western university. Each subject received information about a passenger car (male product), a maxi-pad sanitary napkin (female product), and an SLR camera (neutral gender product) with names of the manufacturing countries. These products were selected based on the results of a separate survey on college students' knowledge level about each product (see Table 1). Subjects in the present study also received information about two filler item products (products without country-of-origin information). The country information provided to subjects varied in terms of the favorableness. Subjects were randomly assigned to different combinations of product, country, and attribute information.

Selection of Stimulus Information

To prepare the product attribute information for the experiment, sentences evaluating products were adapted from *Consumer Reports*. These descriptions conveyed either positive or negative attributes. The attribute information was accompanied by each product's country of origin. Three favorable image countries and three unfavorable image countries were selected on the basis of a pretest concerning subjects' beliefs that each of several countries had a favorable or an unfavorable image pertaining to the products they produce. The pre-test was conducted separately with a different group of 38 students. Based on the mean values of the countries (measured along a 1 to 10 scale), Japan (M = 7.76), Germany (M = 6.06) and Sweden (M = 5.91) were selected as favorable countries; and Korea (M = 3.56), Taiwan (M = 3.50) and Mexico (M = 1.85) were selected as unfavorable countries. The six selected countries were assigned to different products based on the plausibility that the particular country could have made the assigned product (see Table 2).

Procedure and Dependent Variable

The purpose of the study was introduced to subjects as an investigation about how people form an impression of new brands based on limited information about product features. Then, they were presented with information about the three products with different countries of origin as well as about two filler item products. Subjects, after reading each description, were asked to evaluate the products based on the information presented.

RESULTS

Ratings were reported on the overall quality of the products on the basis of both country-of-origin and product attribute information. No interaction involving both product attribute information and country of origin was significant, indicating that the two types of information contributed independently to

TABLE 2

Assignment of Products and Countries

Products	Countries: Favorable countries	Countries: Unfavorable countries
Car	Japan	Korea
Maxi pad	Sweden	Mexico
Camera	Germany	Taiwan

product evaluation. Therefore, the effects of each type of information will be discussed separately.

The effects of country-of-origin information on evaluations can be inferred from the differences between evaluations made when the implications of the country were favorable and evaluations made when its implications were unfavorable. These differences, pooled over positive and negative product attribute information, are presented in the mean difference columns of Table 3 as a function of subjects' gender. When subjects evaluated the car (male product), female subjects tended to be more influenced than male subjects by the product's country of origin, $F(1,56) = 3.03$, $p<.09$. However, in the evaluation of the camera (neutral product), no differences in the use of country-of-origin information were found between male and female subjects, $p>.10$. On the other hand, when subjects evaluated the maxi pad (female product), male subjects were more influenced by the product's country of origin than female subjects, $F(1,56) = 2.96$, $p<.10$. Therefore, it is conceivable that when the subjects lacked specific knowledge or interest about the product, they used country-of-origin as a heuristic criterion.

Gender difference, which is actually reflecting the difference in knowledge level (see Table 1), seemed to influence the usage of the country-of-origin information in the evaluation of the three products. However, most of the differences were statistically marginal. Therefore, the effects of country-of-origin information on evaluations should be utilized in conjunction with the effects of attribute information.

The effects of attribute information on product evaluations can be inferred from the differences between evaluations made when the implications of this information were positive and evaluations made when its implications were negative. These differences, pooled over favorable and unfavorable country of origin, are presented in the mean difference columns of Table 4 as a function of subjects' gender. When subjects evaluated the car (male product), male subjects were more influenced than female subjects by the product attribute information, $F(1,56) = 6.32$, $p<.02$. On the other hand, when evaluating products used exclusively by females (maxi pad), female subjects were more influenced than male subjects by the product attribute information, $F(1,56) = 34.20$, $p<.01$. When subjects evaluated the camera which was thought to be a neutral gender product, male subjects were more influenced than female subjects by the attribute information, $F(1,56) = 3.03$, $p<.09$. Perhaps, this effect reflects the difference in the knowledge level, although statistically insignificant, between male subjects and female subjects about the camera (see Table 1).

DISCUSSION

The question addressed in this study is whether there are gender differences in the use of country-of-origin information in product evaluation. The results of the present study suggest that the effects of country of origin may be a function of the subjects' general knowledge level rather than their gender. The experiment shows that when females evaluated a familiar product, such as maxi pads, they did indeed use the specific attributes of the product more than country of origin. However, when they evaluated a product about which they had less knowledge, such as a car, they used the country of origin as a heuristic criterion and evaluated the product based on the reputation of the country rather than the product's attributes. Similarly, males tended to rely on country of origin as a heuristic criterion when evaluating the female product, and they had less usage of country of origin as a cue when evaluating products with which they had more knowledge.

Considering the empirical evidence obtained in this study, the widely held idea that there are gender differences in the use of country-of-origin information appears to be artifact. Therefore, mixed results of the previous studies may be due to the specific products used in the studies. In other words, the products used, which were typically male- or female-oriented products, may have led to the biased results in each direction.

The finding is consistent with the reports of sex differences in other areas (cf. Chaiken and Eagly 1976; Cooper 1979; Eagly 1978). Eagly (1978), for example, notes that most of the previous persuasion studies were biased because they were conducted by

TABLE 3

Effects of Country-of-Origin Information on Evaluations As a Function of Subjects' Gender

	Male subjects			Female subjects		
Product	Favorable countries	Unfavorable countries	Mean difference	Favorable countries	Unfavorable countries	Mean difference
Male product	.69	.44	(.25)	.94	-.75	(1.69)
Female product	2.19	.25	(1.94)	.06	-.31	(.37)
Neutral product	1.00	.81	(.19)	2.25	2.44	(-.19)

TABLE 4

Effects of Product Attribute Information on Evaluations As a Function of Subjects' Gender

	Male subjects			Female subjects		
Products	Positive information	Negative information	Mean difference	Positive information	Negative information	Mean difference
Male product	3.13	-2.00	(5.13)	1.94	-.69	(2.63)
Female product	1.19	1.25	(-.06)	2.50	-2.75	(5.25)
Neutral product	1.75	0.06	(1.81)	2.37	2.00	(.37)

men who chose topics that typically were of more interest to men, and the male subjects in these studies also generally had more knowledge about the topics under investigation. On the basis of an extensive literature review, Eagly refuted the earlier findings that gender plays a major role in persuasion. The present study provides evidence supporting Eagly's argument.

In the overall product evaluations, larger differences were found in the use of attribute information, rather than in the use of country of origin, between the subjects who had much knowledge (using central route of processing) and subjects who did not (using peripheral route of processing). When subjects took the peripheral route of information processing, they may have used country of origin as a major cue. When subjects took the central route, they may also have used country of origin although merely as one of many product features. Since the country of origin may have been used in both conditions, a relatively small difference was detected between subjects taking the two different routes of processing in the use of country-of-origin information compared to attribute information of which subjects' knowledge level greatly influenced usage. Therefore, some of the previous studies in which country of origin was presented as a dominant cue in evaluating products probably exaggerated the effects of country of origin.

Our findings indicate that marketers should know more about consumers than merely their demographic profiles. Thus, marketers need to understand which types of information are processed via the central route and which types of information are processed via the peripheral route.

This study was limited by a small sample size (eight per cell). Further research may be conducted to see if similar results are obtained with other products. Also, only consumer knowledge level was considered in the study. Deliberate measures of motivation to process information, usage frequency of the product, or source effects may be added to increase our understanding of the use of country-of-origin information.

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Commercial Clutter: Effects of 15-Second Television Ads on Consumer Recall

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ABSTRACT

Fifteen-second television commercials are gaining acceptance among advertisers in spite of concerns about increased "clutter" in the television advertising environment. This laboratory research examines effects on copy point recall of configurations of chains of commercials containing 15-second commercials, and product relatedness. Results show both factors affect recall for 15- and 30-second commercials.

Advertisers are currently engaged in a debate about the effectiveness of 10- and 15-second television commercials. From the point of view of advertising economics, short commercials are attractive to the extent that they are proportionately less expensive than longer commercials. The crucial issue, however, is the relative effectiveness of short commercials. Some have argued that the main function of television commercials is to register brand name recognition, and the "short" commercials are appropriate and efficient for that task (see Bogart and Lehman, 1983); other argue that short commercials will appear in increasingly long chains of television commercials, and the result will be increasing advertising "clutter" and decreased effectiveness (Ray and Webb, 1986).

Still others argue that today's debate about the relative effectiveness of 10- and 15- second commercials merely mirrors the debate in the late 1960's when 30-second spots were touted as "less expensive but at least as effective" as traditional 60-second commercials. However, research in the area of advertising "clutter" raises the issue of the impact of short commercials, since they will appear on American television as part of increasingly long and complex chains, or "pods" of commercials. Data from large-scale surveys reinforce the fact that such concerns are justified: as the number of network and spot TV commercials increased 119% between 1967 and 1981 (from 1,856 to 4,079 and 2,413 to 5,300 per week, respectively) in one major market, recall of the "last commercial seen" within the last four minutes decreased from 26% in 1965 to 17% in 1974 and 12% in 1981 (Bogart and Lehman, 1983).

Despite these concerns, the advertising industry has sponsored considerable large-scale research aimed at the specific question of short commercial effects, without, perhaps, considering the larger issue of television clutter they certainly imply (Ray and Webb, 1986). Recent industry data suggest that 15-second commercials are between 50-80% as "effective" as 30-second commercials, at least in terms of recall (Mord and Gilson, 1985; Gay, 1985; Bogart and Lehman, 1983). Moreover, data suggest that effectiveness of 15-second commercials is not influenced by the length of commercials that precede or follow them, and, conversely, that 15-second spots enhance the effectiveness of surrounding 30-second commercials (although recall and affect measures of 30-second commercials are highest when a 15-second commercial follows, rather than precedes, a 30-second spot). However, the same data show that attitudinal responses to 15-second spots are quite negative, especially among 18-24 year-olds (Mord and Gilston, 1985). From a theoretical point of view, concepts from various psychological and information-processing research streams are quite useful in helping us to understand processes underlying consumer responses to short television commercials, and to formulate hypotheses for research. The issue of short commercials' effects is what Ray (1974) first called "initial processing," to mean cognitive processes that occur during and just after exposure to information, up to and including short-term memory. Research by Webb and Ray (1979) and by Webb (1979) examines multiple cognitive responses to television advertising environments varying in "clutter"--operationally defined in terms of number of commercials in a chain, ad length, and inclusion of other materials (such as program credits). While their research included only 30-second commercials, their findings refuted a commonly-accepted notion from earlier research (Burke, 1972), well-grounded in early learning theory (Ebbinghaus, 1902), that commercials at the beginning or the end of a chain were more effective than commercials in the middle. Webb (1979) found a monotonic relationship with highest attention scores initially, declining in the middle of a chain, but no "recovery" at the end.

It would appear that viewers do not know when to increase their attention during a chain of commercials, in anticipation of the program's return, and this problem will become greater with increasing use of short commercials. Webb's finding suggest that Krugman's (1968) view of the "bleary-eyed TV viewer" is correct, in that boredom and fatigue set in during viewing, and that either a high-involvement message or repetition is necessary to arrest decay, and regain attention and subsequent recall.

One possibility presented by 15-second commercials is that two short commercials for the same product could be used in the same "pod" or chain of commercials. Literature on advertising repetition invariably focuses on longer term effects. However, psychological theories of information-processing are

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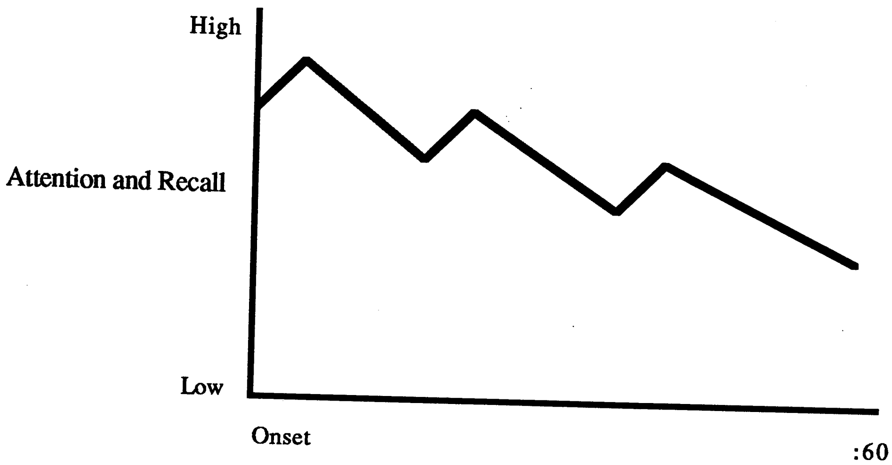
FIGURE 1

Consumer Attention During A Commercial Chain



helpful. In particular, the notion of stimulus trace (Hebb, 1949, 1959) would suggest that 15-second commercial effectiveness might be heightened when two commercials for the same product appear in the same pod. Conceptually, the notion of stimulus trace is similar to the "halo effect" in other areas of consumer behavior research.

The concept of stimulus novelty (Berlyne, 1959; 1960) would suggest that 15-second commercials appearing in a chain of commercials might temporarily increase arousal and attention because they present marked variations in the audio-visual environment. Indeed, such variations and their novel effects have been noted in children's attention to television, and even credited with the success of "Sesame Street" (Lesser, 1982).

Another psychological theory that is helpful in understanding potential effects of short commercials is interference theory (McGeoch, 1932; Postman, 1961; Sawyer and Ward, 1978). The essential idea is that association between two items, A and B, is not lost because of decay of associative strength, but rather that alternative associations gain strength in the absence of continued training on A-B. For the present problem, interference theory suggests that recall should be greater for two ads for the same product in a pod, compared to when all commercials are different, and opportunities for "interference" are, therefore, maximized.

Based on previous research and on these theoretical notions, our conceptualization of the effects of 30- and 15-second commercials in a one-minutes "pod" is that attention (and subsequently, recall) decays over the minute, but that 15-second commercials will "revive" attention and recall. While the strengths of these hypothesized relationships should vary depending on the particular configuration of 15's and 30's with a pod, and on whether or not the products in the commercials are related, our general model looks like Figure 1.

From some level of attention at the onset of a chain of commercials, attention will generally decrease, but will be "revived" when novel stimuli (new commercials) appear. Barring other influences, the extent to which new commercials revive attention will generally not reach previous attention levels. We assume that these theoretically-based patterns of attention will be reflected in levels of subsequent recall.

THE STUDY

Hypotheses

H1: Recall will be greater for related ("related" means 2 commercials for the same brand) 15-second spots than for unrelated ("unrelated" means 2 commercials for different brands) 15-second spots; additionally, recall for the 30-second spot will be greater when the 15-second commercials are related. Memory traces should be stronger for commercials for the same brand than for unrelated brands. Moreover, short commercials for the same brand should result in less degradation of recall of an adjoining 30-second commercial than when the other commercials are unrelated, since opportunities for interference are less when commercials are for the same brand.

H2: Recall for 15-second spots will be greater when they are separated by a 30-second commercial compared to when they are blocked. Adjacent commercials should blur memorable features of advertising, but the relative novelty of a third 15-second spot should revive attention and result in higher recall for separated 15-second spots.

H3: Recall for 15-second spots will be greater for unrelated brands than for related brands when they are separated by a 30-second commercial. Recall of separated 15-second spots should be stronger when the brands are unrelated since there is a larger pool of information to recall when three brands are different, as opposed to two. Additionally, the first commercial does not serve as a source of memory trace for subsequent commercials when they are unrelated, and opportunities for memory interference are high. The third commercial should gain more attention because it is novel, and there can be no blurring of brand-related features when the commercials are for different brands.

H4: Recall for a 30-second commercial will be greater when 15-second commercials surround it, as opposed to when they are blocked before it. The rationale is that greater cognitive effort is required to maintain attention through a chain of 2 short commercials, followed by a longer commercial, compared to attending to only 1 short commercial before the longer one. Consequently, attention and recall will decay by the time viewers are exposed to the 30-second commercial when it is in the last part of the chain.

H5: When a 30-second commercial follows two blocked 15-second commercials for the same brand, recall for the 30-second spot will be greater than when the blocked commercials are for unrelated brands. Again, greater cognitive effort is required in more cluttered situations: two unrelated short commercials should greatly inhibit recall for a 30-second commercial that follows them.

Methodology

A laboratory experiment was designed to test our hypotheses. Subjects were shown a specially-designed videotape, containing an episode from "Tales From the Dark Side," and eleven 30-second commercials in three commercial break periods, roughly approximating normal viewing conditions. The test minute, containing two 15-second commercials, and one 30-second commercial, was inserted approximately eight minutes into the program. Following Webb and Ray (1979), four versions of the tape were developed to execute the experimental design. Four food commercials were used to develop the four test minutes:

BY: 30-second commercial for Bryers' yogurt;

WW1: 15-second commercial for Weight Watchers Chocolate Treats;

WW2: 15-second commercial for Weight Watchers Bread;

H57: 15-second commercial for Heinz 57 Sauce.

The Weight Watchers commercials were specifically designed to be 15-second spots--an important feature considering Ray and Webb's (1986) admonition that previous research has typically used 15-second commercials that are edited version of 30-second ads, instead of commercials specifically designed and executed for 15-second airings. The four test minutes were configured as follows:

Cell I: Related with 30-second gap
- WW1 15-seconds
- BY 30-seconds
- WW2 15-seconds

Cell II: Related with 15's blocked
- WW1 15-seconds
- WW2 15-seconds
- BY 30-seconds

Cell III: Unrelated with 30-second gap
- WW1 15-seconds
- BY 30-seconds
- H57 15-seconds

Cell IV: Unrelated with 15's blocked
- WW1 15-seconds
- H57 15-seconds
- BY 30-seconds

We do not believe order effects other than those dealing with relatedness, blocking, or gapping (e.g., WW1 always came first) had a significant impact on result, since the experimental commercial pod was inserted 8 minutes into the 30-minute videotape, which contained eleven 30-second commercials. Moreover, S's were tested following exposure. We believed the intervening commercials and the elapsed time before testing mitigated any such effects.

Subjects were told that the study was about reactions to television, and that they would be asked questions about the tape they were to see. Following viewing, respondents were asked a series of questions, including the copy point recall items used as dependent measures in this research. Our operational measure of copy point recall was a broad one, including selling points, brand name, and executional events if they were related to selling points. For example, in an ad for yogurt, recalling "a car" in the ad would not be a copy point; recalling "grabbing the yogurt container because it tastes so good" would be since it is an executional event related to the selling point. Subjects were debriefed following the procedure, and none indicated knowing the true purpose of the experiment. Responses were recorded on cassette tape, and transcribed verbatim from the tapes to a reporting form constructed for the research. A limitation of our study is that we did not measure S's prior familiarity with the brands and commercials; moreover, we did not compute total copy points in the commercials.

The sample consisted of 78 graduate or undergraduate students recruited from classes at a large, private Eastern university. Forty-four were males and 34 were females. Respondents were randomly

TABLE 1

Overall ANOVA Results

		Copy Point Recall: :30 Means	S.E.	Copy Point Recall: :15s Means	S.E.
I:	15s separated, related	2.45	.29	2.65	.44
II:	15s blocked, related	2.37	.27	2.95	.54
III:	15s separated, unrelated	2.05	.25	3.25	.46
IV:	15s blocked, unrelated	1.58	.28	1.84	.38
	Overall Mean	2.11		2.67	

assigned to one of the cells. Total time per respondent averaged 60 minutes.

Findings

Overall ANOVA results are presented in Table 1. Since this is exploratory research, the test of significance level was set at .10.

Data in Table 1 show that average copy point recall for two 15-second commercials is greater than recall for the 30-second commercials, across all of the cells. The average of the means is 2.67 for the 15-second spots, versus 2.11 for the 30-second spot. However, the standard errors suggest that there is generally more variance around the means for recall of the 15-second spots. One could argue that we should average copy point recall across the two 15-second commercials (i.e., using "2" as the denominator for recall measure for the 15's, and "1" as the denominator for the 30's. Absent any theoretical reason for doing so, we compare total recall for the 15's with the 30-second commercials, since an important managerial issue is whether or not people recall more from pairs of 15-second commercials as opposed to a single 30-second commercial. In any case--and bearing our position in mind--the results go beyond previous studies that show 15-second commercials are "nearly" as effective as 30's. Our overall means suggest that they are more effective, at least in terms of this gross measure.

Data in Table 2 bear on our first hypothesis, that recall for both lengths of commercials would be greater when the 15-second spots are for related brands. The data provide modest support for our hypothesis: for 15-second spots, the overall mean is 2.80 when brands are related, versus 2.55 when they are unrelated ($p < .10$), but brand relatedness more strongly affects recall for the 30-second spot. An overall average of 2.41 copy points are recalled from the 30-second spot when the 15-second spots are related, compared to only 1.82 when they are unrelated ($p < .05$). Our rationale was that stimulus traces are strongest when brands are related and opportunities for interference are minimized, so recall for the 30-second spot would be less degraded by adjacent ads for related brands than for unrelated ones.

Table 3 shows results for our next two hypotheses, first, that recall for the 15-second spots would be greater when separated by the 30-second commercial, compared to when they are blocked. Back-to-back 15's should blur features and attributes in the commercials, but the 30-second commercial should give viewers a chance to "recover," resulting in greater discrimination between the short ads, and greater recall. The overall means in Table 3 show that the overall data are in the expected direction, but are not significant (2.95 - 2.40, n.s.).

Our third hypothesis was that recall for 15-second spots would be greater for unrelated brands than for related brands when they are separated by a 30-second commercial. Data support our prediction (3.25 versus 2.65, $p < .05$). There is a larger pool of information from 3 different spots, and less potential for "blurring" of recall when spots are for unrelated brands. Theory also suggests that the novelty value of the commercials would be greatest when brands are unrelated, thereby gaining greater attention and subsequent recall.

Our final two hypotheses concern effects of 15-second commercials on recall of a 30-second commercial. Hypothesis 4 is that recall of the 30 will be greater when it is surrounded by the shorter spots, compared to when they are blocked before it. Data in Table 4 offer modest support for this prediction: overall means for recall of the 30-second are 2.25 when surrounded, versus 2.98 when the 15's are blocked in front. Our expectation was that the third position in the pod was the worst, owing to attention decay for the 60-second pod, but data only weakly support our expectation.

Our fifth hypothesis was the recall of a 30-second commercial that follows two back-to-back shorter commercials will be greater when the blocked commercials are for related brands, as opposed to unrelated ones. Mean recall for the 30-second following blocked 15's was 2.37 when brands in the 15's were related, versus 1.58 when they were not related, supporting our hypothesis ($p < .05$). Of all the cells, 1.58 is the lowest copy point recall of all, indicating that conditions of maximum clutter (3 commercials for different brands) are maximized, with resulting recall loss, when 2 of the ads are short, and are blocked prior to a third, 30-second commercial.

Discussion and Summary

Overall, our results are consistent with previous research that indicates that 15-second commercials perform well, at least as indicated by copy point recall (and bearing in mind the limitations

TABLE 2

Overall Mean Copy Point Recall Of :15s and :30 by Brand Relatedness

Mean Recall	Brands in :15s Related	Brands in :15s Not Related
:15s	2.80	2.55
:30	2.41	1.82

TABLE 3

Recall of 15-second Commercials Depending on Pod Configuration and Brand Relatedness

	Recall of 15-second Spots	
Brands In :15s	Separated by :30	Blocked Prior to :30
Related	2.65	2.95
Not Related	3.25	1.84
Overall Mean	2.95	2.40

TABLE 4

Recall of 30-second Commercial Depending On
Pod Configuration and Brand Relatedness of 15-second Spots

	Recall of 30-second Spots	
Brands in :15s	:15s surround	15s blocked prior to :30
Related	2.45	2.37
Not Related	2.05	1.58
Overall Mean	2.25	1.98

of this small-scale study). However, our research is not consistent with some previous research in that we do not find that 30-second commercials are consistently "unharmed" by shorter commercials in the same pod. In fact, our results show that the configuration of the pod, and the relatedness of commercials in the pod, have significant implications for recall of both shorter and longer commercials.

The phenomenon of 15-second commercials is complex, since the duration of the spot is only one variable in the equation. Equally important are length of the entire chain, the configuration of the chain (meaning the sequencing of shorter and longer commercials), and the brand relatedness.

Overall, our results are reasonably consistent with our theoretical expectations. A chain of commercials presents an array of information that is relatively broad or narrow depending on many factors, including relatedness of the brands advertised in the chain and sequencing of the commercial elements of the chain. In general, ads for related brands narrows the information array and increase recall. However, sequencing has effects, such that recall is heightened even for unrelated brands when commercials for them are separated. Perhaps the novelty of a third commercial, for a brand unrelated to others in the chain, momentarily arrests the slow decay of attention and recall. We also find that duration of a single commercial is not nearly as important as its place in a chain of commercials, and the nature of surrounding advertising.

This study is tentative and exploratory, owing to the small sample size and the laboratory environment, which may have heightened attention more than might have occurred in the "natural" viewing environment. More importantly, our study used only four commercials, and a considerably broader sampling of commercials is required for a valid picture of these complex effects. This is particularly true since previous research has found considerable variation depending on messages used (Mord and Gilson, 1985). Additionally, our design was limited in that we only tested "blocked" 15-second commercials when they preceded a single 30-second ad.

Finally, although our study did use commercials specifically designed as 15-second spots, rather than edited 30-second versions, a significant limitation is that our "chain" was only one minute long. American television viewers are typically exposed to considerably longer chains, and responses may be different in future research that uses longer chains. Hopefully, the present study presents some theoretical ideas on which to base future research, and a pattern of results that can be useful in designing additional work.

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The Impact of Advertising Copy Testing: Is the Advertiser Getting More Than He Bargained For?

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ABSTRACT

An agency's effort on behalf of its clients consists of message development and creative execution. The message determines the effectiveness of the ad; the execution, its efficiency. The paper examines how copy testing procedures affect the balance between these two components.

THE PROBLEM

Ideally, an advertisement would be evaluated as a message and as a medium. By message, it is meant the content or substance of the advertising communication; in other words, "what is communicated." By medium, it is meant the execution or presentation of the message; that is, "how the message is communicated."

The message is at the heart of advertising effectiveness. If the information conveyed in the advertisement is not credible, if it is not relevant to the consumer's decision process, the advertiser has little hope of effectively persuading the consumer to follow his directives. To the extent that the information conveyed is relevant and important to the consumer's choice process, the ad's ability to influence consumer behavior increases. Such information can be conveyed either directly through product claims or indirectly through visual images or other sensory cues.

While "what" is conveyed in an ad is important to the effectiveness of the advertisement, "how it is said" is key to the ad's efficiency. If the ad is not interesting, if it is not creative, the consumer is less likely to attend to the ad. Or, if he does, he is likely to allocate only part of his processing capabilities to it. To the extent that the ad is creative, it is more likely to attract the consumer's full attention and perhaps to even generate discussion among consumers. If so, the number of repetitions needed to deliver the product message decreases, thereby reducing media cost.

The profitability of the overall marketing program is enhanced by both an effective message and an efficient medium. The message contributes to sales; the medium affects the cost of delivering the message. Obviously both are desirable; but delivery of the message is essential. Regardless of how creative a campaign is, if it does not deliver the intended message it will not contribute significantly to the marketing program.

Some fear that a highly creative execution will decrease the ad's ability to effectively deliver the message. The medium may overpower the message so that consumers pay attention to the ad without learning what it says about the product. Another problem is that a highly creative execution may offend part of the audience; what engages some, may offend others.

The necessity of conveying the product message and the risk involved in using a creative approach lead risk-averse managers to opt for more conservative advertising executions. After all, dull and boring ads may eventually get the message across, even though it requires more repetition. Unfortunately, few companies in today's competitive environment can afford this approach. It has been estimated that consumers are bombarded with over 2000 commercial messages every week. With rising media costs, many advertisers have resorted to shorter commercials and smaller ads. The net result is increased clutter, reducing the ability of advertisements to communicate effectively. In addition, today's technology has given the consumer the ability to avoid commercial messages altogether. With a VCR and remote control in hand, viewers can simply "zap" their way through commercials.

Obviously there is a strong need to balance the message and medium, to convey product information through creative execution. But the balance is often difficult to achieve. The process is further complicated by the fact that a client firm usually employs an outside advertising agency to develop the advertising campaign, and the agency's goals may not match the client's goals.

This paper reflects on some of the factors that affect the relative emphasis placed on message development versus creative execution. We consider the goals of both the client and agency, the client's reliance on standardized copy testing procedures to monitor the agency's efforts, and the agency's allocation of effort as a result of the monitoring process. Before we look at the client/agency interaction, let us first examine the process involved in developing the message and medium.

THE MESSAGE AND THE MEDIUM

Message Development

The development of the message, for all its importance, is relatively straightforward. Open any basic marketing or advertising text and there are several chapters on the analysis of the industry, of competitors, of target markets. The purpose of these chapters is to lay out a logical and systematic program for developing "what to say" to consumers. In addition, marketers have a sophisticated repertoire of statistical tools and procedures to aid in message identification and development. All of these provide the marketer with tools for developing an effective message.

In short, the development of "what to say" to the consumer follows a routine script. This is not to imply that creativity is not involved in the development of the message. Interpreting data and identifying opportunities are an art in themselves. However, the process is well structured, and consequently is amenable to standardized evaluation procedures.

Medium Development

In contrast, the script for "how to communicate the message" is not well defined. Such advertising giants as William Bernbach and Leo Burnett have long advocated the position that innovativeness and creativity are essential components for effective execution. As Bernbach (Mayer 1958) said:

> "Why should anyone look at your ad? The reader doesn't buy his magazine or tune in his radio and TV to see and hear what you have to say ... What is the use of saying all the right things in the world if nobody is going to read them? And, believe me, nobody is going to read them if they are not said with freshness, originality and imagination ... if they are not, if you will, different."

And Burnett (1961):

> "I believe the public is unable to sort out messages, not just because of the sheer flood of messages assaulting it every day, but because of *sheer boredom*!"

More recently, advertisers themselves have taken up the call for more creative advertising. This theme was reflected in a recent *Business Week* review of the advertising industry (1988, p.76):

> "... most clients ask one crucial and highly subjective question during the agency review process: Who produces the most creative and effective commercials? Clients have always wanted attention-getting campaigns, but with spiraling media costs and the rising clamor of competing messages, hot ads are needed more than ever."

The question is: what makes an ad "hot"? We all recognize it when we see it, but it is difficult to put our finger on exactly what makes the ad work.

Take, for example, celebrity endorsements. Celebrities have been used so often and for so many products, many advertisers fear celebrities have lost their pull despite their enormous fees. But every now and then, a campaign comes along that uses this standard technique in an innovative and creative way.

Consider a recent ad for Spiegel catalogs (Garfield 1988). On a stark white background, the ad pictures a silk nightgown draped from a wire hanger. The headline: "Bianca Jagger's Silk Gown: Purchased November 9, 1987." The copy:

> "When it came time to go shopping one afternoon last fall, Bianca Jagger didn't hop into a limousine. Or even a taxi cab. Instead, she hopped on her exercise bike. And after pedalling a mile with the Spiegel Catalog resting on the handlebars, she found just what she wanted."

No picture of Bianca. No personal recommendation. Just the fact that Bianca buys from Spiegel.

The ad is based on the same principle as hundreds of other ads: if the product is good enough for the jet set, it's good enough for you, the average consumer. And yet, this ad is distinctively different from most celebrity endorsements. The deliberate understatement of the ad compels the reader to stop flipping through the magazine and read it.

Certainly, we can think of other "spokespersons" that captivate our attention, some that have absolutely nothing in common with Bianca. Morris the Cat sells cat food by insulting us; Spuds McKenzie sells beer by being the ultimate party animal; Charlie the Tuna sells tuna by never being good enough to make the team.

The point is that it's difficult to draw any principle about the effective use of celebrity endorsements, or any of the other creative formats for that matter. As spokespersons, Bianca, Spuds, Morris and Charlie have little in common. But every time the ad appears, we stop to read and to watch. Why? They reward the consumer with 30 seconds of cheap entertainment. And in return, the advertiser gets the undivided attention of the audience.

Since there are an infinite number of ways of communicating product attributes and any number of spokespersons (real or animated) to choose from, how is one selected? And on what grounds can the client evaluate its potential? Who could have predicted, for example, that a tuna with a Brooklyn accent (and a loser to boot) could sell so much tuna? Imagine the nerve it took to go into the client's office and say, "We've got this great idea for a spokesperson..."

In playing out this last scenario, it becomes obvious that innovation and creativity require the support of both the agency and the client. Innovation is not just the result of mystical processes employed by creatives. Rather, the magic of the creative process is significantly and predictably constrained by the client/agency relationship.

To understand the nature of the relationship between the client and the agency and its impact on innovation and creativity, we borrow from the framework developed by Principal-Agency theorists. Agency Theory was developed by economists interested in the question of how to develop optimal incentive packages under conditions of uncertainty. While our present context is far-a-field from the principal domain of the theory, the theory nonetheless provides a rich framework for analyzing the complex relationship between the advertiser and the agency.

THE CLIENT/AGENCY RELATIONSHIP

The first step in understanding the impact of the client/agency relationship on the advertising program is to consider the client's and the agency's objectives. Are they compatible? What are the sources of potential conflicts?

The client's objective is to maximize the incremental profit gained from advertising. Profits derive from additional sales due to advertising minus the cost of advertising. As we previously indicated, the advertising message and execution affect both dimensions of the profit equation. The right message creates sales by influencing consumer choice. The right execution reduces cost by minimizing the number of repetitions needed to communicate the message.

The agency has multiple objectives in creating an advertising campaign. One is to maximize profits which is generally achieved through satisfying current clients. Their income is directly related to the client's purchases of their service, and cost is related to client acceptance of the advertising.

In addition, the agency is driven to develop a highly creative product. From an idealistic viewpoint, there is the inherent satisfaction derived from artistic expression. From a pragmatic viewpoint, the long run success of the agency depends on its creativity. Agencies develop their reputations and attract new clients on the basis of their creativity. A recent article in *Advertising Age* illustrates the reward of creative excellence for both the individual and the agency (Pendleton 1988).

> "In many ways creative awards have become the means by which creative executives - and agencies - build careers and make reputations. ... For creative people, the rewards can be enormous: from awards flow promotions, money and visibility. ... It can work for agencies, too. Fallon McElligott didn't exist seven years ago. But today it has a reputation as one of the hottest agencies in the country, attained through a calculated strategy of pursuing creative excellence - and creative awards."

A reputation for creativity increases the agency's marketability to other clients. This reduces the agency's dependence on current clients and its uncertainty about long term profitability.

In considering the individual goals of the client and agency, it is evident that their goals can be compatible with one another. The client's goals are served as long as the agency derives satisfaction from servicing the client and from the creative expression allowed by the client. However, conflict can arise when the agency's need for creative expression comes at the expense of the client's program or when the client stifles the agency's creativity. The question becomes: how can the client ensure that the agency works to maximize the client's outcomes? For insight into this question, we borrow from the framework developed in Agency Theory. Let's first outline some of the major points of the theory and then apply it to this context.

Agency Theory

In its simplest form, Agency Theory involves the relationship between a principal, the owner of a firm, and his agent, the manager. The owner's objective is to maximize his firm's profits; however, his ability to do so depends on the manager's efforts. The model assumes that there is a correspondence between the manager's level of effort and the impact of that effort; in other words, the harder the manager works, the higher the owner's profits, other things being equal. (A similar assumption is made in other applications of Agency Theory in marketing; see Basu, Lal, Srinivasan and Staelin 1985; Lal and Staelin 1986). The owner also recognizes that the firm's outcomes are affected by exogenous events in addition to the manager's efforts.

The owner's problem is to write an employment contract to ensure the necessary level of effort on the manager's part. Since the owner can't force the manager to work, the contract is written to appeal to the manager's self-interest. Consequently, the first constraint is that the contract must be as good as the manager could attain elsewhere for the same level of work.

If the manager's efforts can be directly observed, all that is needed for an optimal contract is a penalty clause. By including a penalty clause to punish the manager for shirking his duties and evading obligations, the owner is assured that the manager will expend the level of effort needed to maximize the firm's profits. The contract is self-enforcing. The optimal employment contract pays the manager a fixed wage contingent on his effort but independent of the observed outcomes of the firm. This contract allocates all of the risks involved in uncertain outcomes to the owner, who is assumed to be risk neutral, and none to the manager, who is assumed to be risk averse.

If the manager's efforts are not observable, writing the optimal employment contract is more difficult. Since the owner cannot directly observe the manager's behavior, he has to rely on the firm's outcomes as a signal of the manager's effort. But the signal can be distorted by exogenous factors. High outcomes may result when the environment is kind and the manager's effort is low. Conversely, low outcomes may result when the environment is unkind and the manager's effort is high. Given limited information, the owner can only make probabilistic inferences regarding the impact of exogenous events and the manager's behavior.

Since the manager can blame poor outcomes on exogenous factors, he has no incentive to work hard on the owner's behalf. To overcome this, the owner has to impose some risk on the manager. By tying the manager's compensation to the firm's outcomes, the manager is motivated to work harder to overcome the uncertain environment and thereby improve his own outcomes. Thus the optimal incentive package is no longer a fixed wage contract, but a reward paid contingent on the firm's outcomes.

Extensions of the model have investigated alternative mechanisms for increasing the owner's information when the manager's behavior is unobservable. One mechanism available to the owner is to monitor the manager's behavior. Monitoring improves the owner's ability to distinguish between the impact of the manager's actions and the environment. To that extent, monitoring activities reduce the level of risk imposed on the manager.

Because monitoring efforts are costly, there is a tradeoff for the owner between the expense of monitoring and the potential payoff. Monitoring may make the manager work harder. On average, the increased effort will increase the firm's output. However, the incremental output gained from monitoring may not compensate for the cost involved.

The problem is further complicated when the monitoring technology itself is imperfect. In this case, monitoring can introduce additional uncertainty for the manager for it increases the probability that the manager will be blamed for events that are not under his control. Because imperfect monitoring systems actually increase the manager's uncertainty, the *threat* of being investigated may be enough to motivate the risk-averse agent to act conservatively.

It is the effect of monitoring systems, the schedule of implementation, and their impact on creative execution that is of interest to us here. Before exploring the impact of the monitoring system, let us first make a few observations about the incentive scheme used in the client/agency relationship.

The Incentive Scheme

To those familiar with the client/agency relationship, the correspondence with Agency Theory may at first be obscure. For one thing, agency compensation has rarely been used as an incentive. Instead, the traditional methods of compensation for agencies are based on fees or, more typically, the fifteen percent commission on billings, a hold over from the days when agencies acted as brokers for newspaper space.

There are obvious deficiencies with the fifteen percent commission. Rather than encouraging the agency to develop an efficient program for the client, the commission is a disincentive. The agency potentially benefits from a less efficient advertising program which requires more media time and space. Only their inherent desire to develop creative expression acts to balance their efforts on the client's behalf.

Despite its limitations, clients continue to use the fifteen percent commission. In part, this is due to the difficulty of writing an optimal contract in this situation. The client cannot observe the agency's activities. More importantly, the client cannot use the firm's outcomes as a signal of the agency's effort. The impact of the agency's efforts (the quality of the advertising) on the client's outcomes (sales) is confounded not only by exogenous factors but with the client's efforts as well. The advertising program developed by the agency is only one part of the overall marketing program which is under the client's control. Since the agency's and client's efforts are entwined, it would be very difficult to fairly allocate the risk involved in an uncertain environment.

Given the difficulty in evaluating the agency on outcome criteria, process criteria become more important. The risk averse agency will focus its abilities on satisfying the criteria established by the monitoring process.

The Impact of Monitoring

Given that clients cannot evaluate the agency's efforts through direct observation or even through their outcomes, they rely on monitoring procedures. In Agency Theory, monitoring is used as a means of gaining information. The impact of monitoring is simply to increase the agent's level of effort. In the client/agency relationship, however, the impact of monitoring is more complex. Not only does monitoring increase the level of effort, it also affects the actions taken by the agency.

In order to understand the affect of monitoring on the agency, one first has to understand the nature of the monitoring technology. Independent research organizations provide the client with the means for evaluating or monitoring the agency's efforts. Such firms as Burke, ASI, McCollum-Spielman, etc., have all developed standard criteria and procedures for evaluating advertising effectiveness. While each one uses a different methodology, each has certain limitations. One limitation is the inability to accurately evaluate the efficiency with which the ad delivers the message.

Take Burke Day-After-Recall (DAR) as an example. Burke DAR judges advertising effectiveness on the criteria of consumer recall of the advertising message. Twenty-four hours after a commercial has been aired, a sample of 200 program viewers are called and asked if they can recall any commercials in a particular product category. If they cannot identify the brand correctly, they are prompted. If the respondent recalls the ad, copy points are elicited. The results of this test can then be compared against norms developed from the DAR test bank. The average score on the DAR is 24 percent recall. That is, 24 percent of the people remember seeing the ad and can play back some part of the advertising message.

Recall of *message content* is the criterion used in the DAR test. Assuming that the client is satisfied with the process by which the agency developed the message, the copy test validates the effective communication of the message. The test results provide the client and agency with a measure of the advertisement's effectiveness in conveying the message.

But do copy tests evaluate efficiency? On one hand, this seems that they do. If the ad stands out from the clutter of other advertisements, then the respondent should be able to recall the ad. But on the other hand, recall may also be high due to past exposure to advertising for the brand or product. Given the high repetition used by some companies, respondents simply expect to see their ads. For example, if a respondent were asked to recall ads for fast food restaurants, the respondent may say to himself "commercials for X are on all the time, I must have seen one last night." In contrast, he may actually recall seeing a commercial for Y because the commercial was engaging enough so that he paid attention to it. Obviously, Y's advertising dollars are buying more than X's; but a recall test can not distinguish between the two situations.

This should not be taken as a condemnation of copy tests. It is just a recognition of their inherent limitations. Copy tests provide a measure of whether the message is communicated, but they may not accurately capture the quality of the ad that grabbed the consumer's attention. To the extent that this is a result of the creative process, it will be inherently difficult to measure with a standardized test. As Bernbach indicated, creative ads are different; and it is difficult to develop a standard procedure for testing something that is different with each execution.

Since the incentive program rewards inefficiency and the monitoring system cannot detect it, there is little incentive for the agency to develop its creativity for the client. Fortunately, the agency itself has the internal motivation to develop creative campaigns. In the next section, we consider different monitoring schedules and how these schedules interact with the agency's development of effective and efficient programs for their clients.

Monitoring Schedule

Clients differ in their philosophies regarding copy testing. On practice, it seems that clients take one of two extremes. Some insist that each and every ad be tested using a particular testing procedure. Others never test their ads.. Based on the agency theory literature, we now examine the potential impact of the testing *schedule* on the agency's efforts for the client.

Continual Schedule: By a continual schedule, it is meant that monitoring has become a standard operating procedure. That is, the agency expects that every ad will be evaluated using a syndicated research service. It is not important whether every ad is actually tested. As long as the agency *thinks* that the ad will be tested, it is likely to be more conservative in the development of the advertising campaign. The agency will not want to risk preparing a highly creative campaign that might interfere with message delivery and cause the ad to fail the test.

If the agency thinks that the ad will be tested and that a "go"/"no go" decision will be made on the basis of the results, the risk-averse agency opts for writing an ad that will pass the copy test. As any seasoned copy writer will attest, formulas exist for passing standardized tests: identify the product early, repeat the name often, use a catchy jingle, and so on.

Knowing the criteria for evaluation, a risk-averse agency is more likely to adhere to the tried and true rather than risk the unknown. If the client is going to rely on a DAR score, the agency is more likely to invest its time and money in producing ads that pass the test and win client approval.

The net result is an advertising campaign that is effective in the sense that it delivers the message, but is likely to be inefficient. As David Bernbach (Rowsome 1970) indicates:

> "One of the disadvantages of doing everything mathematically, by research, is that after a while, everybody does it the same way. ... If you take the attitude that once you have found out what to say, your job is done, then ... you've lost your impact completely."

A continual monitoring scheme has the effect of reducing creative or innovative execution. Clients who engage in continual monitoring will benefit from effective message development. Their ads will probably be on track, communicating the right message to the right audience. But they are less likely to be innovative, attention-grabbing ads.

The irony is that the agency is more likely to sacrifice creative expression for more important accounts. Recall that the tradeoff for the agency is between the utility derived from satisfying the client and that of creative expression. The more important the client, the more willing the agency is to forego creative expression.

To the extent that the client insists on testing ads, the lack of creativity will not hurt the agency's reputation. The agency has no choice but to comply with the client's evaluation process. Given this constraint, potential clients will not hold the lack of creativity against the agency.

Absence of Monitoring: While some advertisers test every ad, others never engage in monitoring activities. Perhaps this is because they cannot afford the additional expense involved, or they simply do not believe in research.

In this case, the agency's need for creative expression is more likely to surface. Without monitoring, there is no mechanism to focus the agency efforts on a strong strategic program from which to develop the message. They are more likely to allocate less effort to message development and more effort to the creative execution. The result for the client may be award-winning creative campaigns. But they may also be a much higher risk. Some campaigns may succeed despite the lack of strategic planning, but many others will fail.

CONCLUSION

In summary, copy testing has more of an impact on the advertising program than one might think. Not only does the process of copy testing ensure that the agency is working on the client's behalf, but it also directs the agency's efforts. Continual monitoring tends to focus the agency's attention on message development at the expense of creative execution. This leads to an effective but potentially inefficient advertising program. The total absence of monitoring, on the other hand, allows the agency to express its creativity, but at the expense of the discipline imposed by a strong strategic program. Consequently, this is a potentially high risk strategy for the client.

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Background Music as an Influence in Consumer Mood and Advertising Responses

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ABSTRACT

Consumers' moods and emotional responses to advertisements have received increased attention from consumer researchers. A major component influencing audience responses is background music accompanying commercials. This paper reviews key research on the role of music's structural elements in influencing audience responses, from a music theory perspective, and highlights major findings relevant to emotional responses to music. A study is presented that suggests audience moods and purchase intentions may be affected by background music, without necessarily affecting intervening cognitions. Directions for future research and generalization are discussed.

INTRODUCTION

This paper examines the relationship of music and consumers' moods, attitudes, and behaviors. A seminal paper in the *Journal of Marketing* by Gorn (1982) studied music's influence from a classical conditioning perspective and sparked renewed interest in music and other "background" elements of commercials and stores. The present paper will discuss, integrate, and build upon the work of Gorn and others who have provided theoretical and empirical insight into the ways in which music may influence consumer responses.

The purposes of this paper are to: 1) review major conceptual bases relevant to discussing music and other non-verbal influences on mood, as well as theory regarding the roles of informational and cognitive vs. non-cognitive means of influencing buyer behavior; 2) expand upon existing research to investigate whether background music can influence moods and common measures of advertising effectiveness; 3) begin to derive principles for predicting these effects, given analysis of the musical content of an ad; 4) provide some suggestions for the construction of effective musical influences on emotions and product orientations; and 5) indicate directions for future investigations of musical content of advertising and testing of its influence.

THEORETICAL BASE AND LITERATURE REVIEW

In a recent paper (Gardner 1985), mood was defined as a fleeting, temporary feeling state, usually not intense, and not tied to a specifiable behavior. Moods can be positive or negative, such as cheeriness, peacefulness, or guilt and depression. According to Clark and Isen (1982), feeling states are general, pervasive, and occur frequently, and do not usually interrupt on-going behavior. Feeling states or moods are distinguished from emotions, which are usually more intense, obvious, and are said to involve a cognitive component. A number of studies have shown that mood has an impact on attitudes and behavior. One useful framework for integrating affect and emotional communication influences is that of central and peripheral information processing.

Central and Peripheral Processing

Petty, Cacioppo, and Schumann's review of research in psychology and consumer psychology (1983) concludes that neither central nor peripheral information processing alone can explain the diversity of attitude change results observed. The critical feature of the central route views attitude change as resulting from diligent consideration of information a person views as central to the merits of an issue or product. Research following this route focuses on the familiar topics of cognitive consistency, cognitive algebra, perception, learning, retention, and a series of related issues. Petty, *et al.* have presented research and arguments supporting the relevance of central route processing of information under conditions of high involvement.

They contrast this approach with a more peripheral route, in which attitude change is due to the presence of simple positive or negative cues, or simple decision rules, and attitudes are less affected by issue-relevant arguments. In both routes, information or stimuli may be conveyed visually, verbally, or in source/message characteristics. What distinguishes the route seems to be the amount of conscious information processing, weighing of evidence, and the like. It is believed that peripheral processing is likely under conditions of low cognitive involvement, as the lower motivation to process information via the central route may evoke simpler heuristics and cues to attitude formation (Petty *et al.* 1983).

Affect and Behavior Conditioning Via Peripheral Processing

A stream of conditioning research in which direct transfer of affect (or liking) results from message execution tactics such as music, humor, visual imagery, color, and sex has been shown to influence consumers' feeling states (e.g. Gorn 1982; Watson and Rayner 1920). This research suggests that pairing a conditioned stimulus (a brand) with an unconditioned stimulus (e.g., music, humor) produces emotional responses which may then be associated with the brand. Here, attitude change is alleged to have occurred due to the presence of simple positive or negative cues, without the necessity of intervening cognitive reactions. In fact, many have argued for and/or demonstrated behavioral change due to conditioning stimuli, even without attitude or preference change (Kroeber-Riel 1984,; Allen and Madden 1985; Staats and Staats 1957; Zajonc 1968; Zajonc, Markus, and Wilson 1974). This may be especially relevant to non-informational, low involvement ads, where there is minimal motivation for cognitive processing, and the goal is to leave

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consumers with a favorable (but not necessarily conscious) "feeling" toward the product. When a product does not possess objective advantages, and is a simple product with few attributes, persuasion may be more successful by using background features such as visual imagery or music (Batra and Ray 1983). In addition, visual and other non-verbal aspects of an ad fit in well under low involvement conditions because they are effective in generating feelings, and because they are more easily and quickly processed than verbal stimuli (Zajonc 1980; Paivio 1971).

On the other hand, there is diversity of opinion whether feelings automatically transfer between stimuli (affective conditioning), or if affective states can influence attention and perception by affecting audiences' moods and prompt cognitive activity. At this point no definite conclusions can be made whether or not cognitions are included in original affective reactions, although the assertion that cognitive participation is not necessary for the occurrence of affect has been made (Zajonc 1980; Zajonc and Markus 1982; and Kroeber-Riel 1984) and countered by others (Lazarus, 1982, 1984; Tsal 1985). Where feelings are concerned, there can be arguments supporting their effects coming through central as well as peripheral processing. Indeed, both processing routes may be involved to one degree or another, leading to variations in the resulting patterns of "stimulus--perceptions--beliefs--attitude--behavioral intention--behavior." A view of this phenomenon from a mood perspective is presented next.

MOOD EFFECTS ON EVALUATION AND BEHAVIOR

Research has shown that mood states have an important influence on behavior, evaluation, and recall (Gardner 1985). While this general conclusion may not hold in all cases, Gardner notes that mood states appear to bias evaluations and judgments in similar directions to mood, and she reviews studies detailing this process.

The association between mood states and affective responses, judgments, and behavior can be seen as both direct and indirect. A direct affective reaction may be viewed as a conditioned response when there are direct linkages in associations in memory between mood states and affective reactions (Griffitt and Guay 1969), and mood states and behavior (see Gardner 1985 for references). Indirect associations between feeling states and affective responses and/or behavior include the influence of information processing, or cognitive activity. Mood may affect evaluations by evoking mood-congruent thoughts and affect the performance of the behavior by increasing the accessibility of positive associations to the behavior (Clark and Isen 1982; Goldberg and Gorn 1987; Isen *et al.* 1978). To the extent that associations are direct and involve little conscious information processing, mood's effects may be seen as via the peripheral route. Indirect associations may operate via the central route when other salient cues are processed to yield attitudes in a manner affected by mood.

The likelihood that a host of behaviors may be performed appear to be enhanced by positive moods (Gardner 1985). Negative moods' effects on behavior may be more complex than the effects of positive moods (Isen 1984; Donnerstein, Donnerstein, and Munger 1975; Cialdini and Kenrick 1976). For example, helping may be enhanced by some negative mood states such as sadness (Baumann, Cialdini, and Kenrick 1981) and not by others such as frustration. This may be due to some evidence that negative mood states are not as homogeneous as positive ones (Isen 1984), and that behaviors seen to reverse unpleasant mood states (e.g., helping) may overcome tendencies to enact mood-congruent behavior (e.g., withdrawal).

Moods can be affected by many different variables. Gardner and Vandersteel (1984) discuss studies of independent variables found to induce mood states. Although much work has been accomplished in the study of mood induction, there remains a need for more theory regarding the reasons why communications (and other inducers) influence moods.

In view of the fact that music is a common element in commercials, and one which has a long history of mood inducement in a variety of contexts, the next section will briefly review how music has been used as an independent variable to effect moods, as well as other dependent variables of interest to marketers. Additional references, a comparative exhibit for these studies, and methodological details are available from the authors.

Music Effects

Music has been used in consumer behavior research, as well as communications, psychology and music therapy research to determine its effects on behavior, preference, and mood. Research investigating music effects may be divided into those which analyzed and/or manipulated the structural and the sound elements of music and those which did not. Structural elements refer to the properties making up musical sound such as melody, rhythm, harmony, major or minor modality, dynamics, and tempo.

Non-Structural Musical Studies

Gorn (1982) suggests that peripheral influences such as background music used in commercials may become associated with the advertised product (in memory, even if not consciously), and influence product choice through classical conditioning. Mere exposure did not lead to liking, which apparently depended on whether the target product was presented with liked vs. disliked music. Gorn's second experiment supported his hypothesis that when subjects were not in a decision making mode, the commercial's impact appeared to be more influential in its appeal when presented with musical background as opposed to product information. He concluded that through classical conditioning, the product becomes associated with the positive feelings of liked music.

Bierley, McSweeney, and Vannieuwkerk (1985) extended Gorn's studies. Preference ratings for stimuli that "predicted" (preceded) pleasant music were significantly greater than preference ratings for stimuli that predicted the absence of music. In another extension of Gorn's work, researchers questioned the theory of affective-conditioning and suggested the mood position theory of Bower (1981) and Isen (1984) as a possible explanation (Allen and Madden 1985). Results indicated that there was an interaction between subjects' thought processes and the moods invoked by the "background" stimulus in the ad (in their case, liked vs. disliked humor). Music in advertising's possible effects on audience moods may thus complicate the effects of "simple" conditioning by the music.

Park and Young (1986) extended this work by examining the impact of music vs. no music on attitude toward the brand, the ad, and behavioral intention under conditions of high cognitive, high affective, and low involvement towards the advertising situation. Under high cognitive involvement, they found music to be a distraction, lowering these dependent variable scores, because it was unrelated to attribute-based message contents. In the low involvement condition, they found that music (which had been preselected as popular and liked) was associated with more positive attitudes towards the brand than was no music. Under high affective involvement, the expected positive effect of music on brand attitude was not found, probably because the music selected did not really fit the image of the product and affective theme.

Since many commercials are viewed in situations which involve consumers who are interested in the programs, and not in the commercials, the audience may be largely comprised of potentially uninvolved, nondecision making consumers rather than cognitively active problem solvers. In this context, emotionally arousing components such as music, colors, or lighting may exert strong but subtle influence on viewers' product attitudes and choices. Some of this impact may come via associations conditioned and linked to the advertised products. Others may come through an indirect route resulting from music's influence (for example) on respondents' mood and other emotional responses, which in turn affect information processing.

An illustration of music's power to affect subjects' emotional responses was reported in a study by Rhoner and Miller (1980), where sedative music showed a trend to decrease anxiety. Subjects had greater affective arousal, persuasion affect, and attitudinal acceptance of the song's message with guitar accompaniment than without guitar accompaniment (Galizio and Hendrick 1972). Thus changes in the presentation of music influenced subjects' responses.

Structural Music Studies

The above studies have provided some insights into the effects of liked music on brand attitudes under some conditions. However, a recent replication of the Gorn study (1982) by Kellaris and Cox (1987) failed to reproduce the positive effect of liked vs. disliked music, after controlling for musical structural elements and possible demand effects. They call for research on the influence of music's structural characteristics on cognitive and affective responses (e.g., mood) toward the ad and the product.

A study by Milliman (1982) suggests that slow tempo of instrumental background music can significantly slow the pace of in-store traffic flow of supermarket customers, as opposed to fast tempo. In a follow-up study diners stayed longer and consumed more alcoholic beverages when slow tempo instrumental background music was playing than when fast tempo instrumental music was used (Milliman 1986). An early study dealing with the question of music's effect on shopping behavior found that significantly less time was spent in the stores when the music was loud compared to when it was soft (Smith and Curnow 1966).

Infante and Berg (1979) investigated the effects of using two identical melodies, one in major, and one in minor, on perceptions of communications. Major modality had the greatest positive effect on viewers' perceptions when facial expressions were sad or neutral, and when a situation was unpleasant. Music modality did not affect perception of a happy facial expression nor how favorable a pleasant situation was perceived by viewers.

The key basic research relating musical elements to emotional responses was reported by Hevner (1935), who presented subjects with identical pieces, controlling for all elements but major and minor modes. She concluded that all of the historically affirmed characteristics of the two modes were confirmed in her study. In later research, she also reported associations between musical elements such as fast tempo, loud dynamics, lively and varied rhythm, and high register with perceptions of the music as happy, merry, graceful, playful. Musical elements such as slower tempo, quiet dynamics, unvaried rhythm, and low register were reported to be sad, dreamy, and sentimental (Hevner 1935, 1936). She noted that, although mode is never the sole factor which determines the way music is perceived, it is the most stable, generally understood, and influential of any of the elements in expressing the affective mood of music.

Meyer's (1956) theory of deviations from expectations in music supports Hevner's findings. He explained that expectations of more regular and typical musical progressions occur in the major mode, and therefore are associated with the more normal emotional states of contentment and calm. The minor mode usually has more forceful, complex, ambiguous departures from tones found in major scales. These deviations have become associated in western culture with (also less frequent) feelings of sadness, anguish, and suffering (or other atypical feelings such as agitation). Minor modes also tended to be played in slower tempi because their disjunct melodies with unusual skips were technically more difficult to play or sing rapidly.

HYPOTHESES

The design for the present study involves exposing subjects to a range of musical "mood" selections and a range of mood-evoking products within a given category. We test for the effect on subjects' moods and product evaluations of presenting products accompanied by music with varying musical structural profiles. Following from the music research reviewed above, it is expected that:

H1: All else equal, music whose structural profile is "happy" will influence listener moods to become more positive than music analyzed *a priori* as "sad."

In addition, we believe that music evokes emotional responses, which may inhibit cognitive processing in the context of an ad with little objective product information. In this instance developing attitudes might not require as much focused mental processing, and is consistent with the classical conditioning framework. In fact, it has been argued and shown that behavior may emerge without the necessity for clearly developed attitudes. Thus, from a conditioning perspective, we might hypothesize that music structure, if it has impact on subjects' mood, would be more likely to cause variability in purchase intentions, and to a lesser extent, on perceived attributes and evaluations of the cards. Therefore:

H2: Variations in musical structure may not necessarily influence perceptions of the "happiness" or "sadness" of the greeting cards.

H3: Variations in musical structure may not necessarily influence overall attitude towards the greeting cards.

H4: Variations in musical structure will influence behavioral intentions towards the greeting cards.

The subject would, in effect, be induced into a happy or sad mood while looking at cards and hearing happy or sad music in the background. If this mood is appropriate to the one which s/he feels when thinking about communicating with a friend who is away, then the subject may FEEL this card as appropriate in expressing feelings, even if the card itself is not consciously, cognitively processed as "happy" or "sad". When conditioning behavioral responses appears to be contingent upon stimulus-feeling association, as in this instance, it may reflect a low-cognitive and peripheral processing situation.

METHODOLOGY

Three different friendship greeting cards were used as conditioned stimuli, pre-tested and rated as happy, sad, and neutral. Three cards per subject were used in order to improve statistical power through repeated measures, as well as improve generality by sampling from the domain of emotional range for greeting cards. Thirty-five millimeter black and white slides of these cards were used to present them to subjects in the main experiment, accompanied by music.

Next, 10 relatively unfamiliar and stylistically similar piano Preludes were selected from from Book I of J.S. Bach's *Well Tempered Clavier*. Two pieces rated by subjects as unfamiliar and approximately equally liked but having the Gestalts of happy and sad were analyzed for music structure. Elements analyzed inlcuded the number of major and minor harmonies occurring on the strong beats (Hevner 1935), fast and slow tempi, loud versus more quiet dynamics, and fast, lively, energetic, versus slower, listless, unvaried rhythms. Supporting Hevner's earlier findings, the two pieces rated as happy vs. sad appeared to be those which had internal definiteness and uniformity in harmony, tempo, dynamics, and rhythm. Each of the elements was close to ends of the spectrum that would be associated with happy vs. sad music, in a consistent and typical profile for each type.

Design and Procedure

The experimental subjects were students in three Principles of Marketing classes (the groups). The design was a mixed factorial, with repeated measures on 2 factors (card and music) and between subjects for the third factor (group). The key treatment manipulation was the sad, vs. happy, vs. no music, paired with different cards, since each group heard the same musical selections randomly matched with identical greeting cards. Across the three groups, each music type appeared 1st, 2nd, and 3rd an equal number of times to balance for order of musical exposure.

Each treatment session was given once during regularly scheduled class periods. Each group heard the experimenter's introduction explaining that the researchers were interested in consumers' preferences for greeting cards and their feelings about their advertisements. They were asked to view the simulated greeting card ads, some of which would be accompanied by music such as might be found in a commercial.

Next, the measures were explained and two trial runs of the mood monitor were administered along with sample cards and music. Each trial was followed by practice ratings of the subject's mood, perceived attributes of the greeting card, including overall impression and purchase intention. Then came the first treatment card and music combination, during which subjects used the mood monitor. Subjects then rated card attributes, evaluations, and purchase intention. Measures were obtained between treatments, to lessen memory problems and mitigate moods of prior treatment levels. The second and third cards were seen next with the appropriate musical background, accompanied by the same measurements.

Measurements

Prior to the treatment, subjects were told that the researchers were interested in how they *feel* while viewing the ads. The mood monitor used here is an adaptation of the warmth monitor developed and used by Aaker, Stayman, and Hagerty (1986). It had five scale labels to reflect feelings of "sad, moderately sad, neutral, moderately happy, and happy." Subjects moved a pencil down the paper, to the left (sad), or to the right (happy), while viewing the card and hearing the corresponding music, indicating how sad or happy their feelings were at any given time. The monitor was scaled from 0 (sad) to 100 (happy), depending on the pencil line's height from the left anchor, and readings were taken at five evenly spaced percentiles of the respondent's drawn line. Since the illustration was constant, as was the prevailing musical mood throughout the 30 second excerpt, we defined subject mood as the average of five scores.

Following the exposure to stimulus slides and music and the simultaneous measurement of mood, respondents turned the page and evaluated the greeting card on ten semantic differentials. Imbedded in this instrument of mostly "placebo" characteristics of cards (e.g., "original - unoriginal") was a scale designed to measure the perceived mood of the card, scaled as happy___:___:___:___:___sad. The next two measures were overall impression: favorable___:___:___:___:___:unfavorable and purchase intention: "If you were going to send a card to a friend, how likely is it that you would buy this card?" would buy it___:___:___:___: ___:would not buy it.

RESULTS

To restrict the sample to those for whom the product had relevance, persons who did not purchase greeting cards were discarded from the analysis, leaving 48 usable subjects. An SPSS partial factorial ANOVA, with repetitions within subjects, was run to test for differences across groups, as well as cards, and music types, for each dependent variable (Nie and Hull 1981). None of the variables had different mean responses across the three different groups, indicating that all groups responded similarly to the same cards and music conditions. This is useful for two reasons: 1) it enables the analysis of main effects for music and cards in MANOVA and single ANOVAs, which would have been confounded by between-group differences, if present, and 2) it enables a test for interactions between music and card effects (Edwards 1972, chapter 16, and Hayes 1985). Normally partial factorial designs assume no interactions. However, repeated measures and absence of differences due to the "groups" blocking variable enable the use of 2-way ANOVA to test for interaction between music and card treatments.

The repeated measures MANOVAs showed that musical background and greeting card variations had approximately equal influence on the overall profiles of responses. Wilks' Lambda for music was .847 ($p = .031$) and .850 ($p = .033$) for cards. The music x card interaction was insignificant. Each dependent variable was then examined with 2-way ANOVAs, computed with BMDP 2V, incorporating the repeated measures within subjects. Music had a significant effect on the subjects' moods ($F = 6.07$, $p < .01$), as did the greeting cards ($F = 3.13$, $p < .05$). Happy music produced the highest average mood monitor scores (60.5), followed by no music (53.0) and sad music (50.9), and did so for two of the three cards. For the multiple comparison tests, happy music produced an average subject mood that was higher than either of the other two music conditions. Thus, *H1* was confirmed.

This pattern was different for perceptions of the card's "mood" *per se*. The different cards were seen as differently "happy" across the entire sample, controlling for music ($F=22.34$, $p < .01$). This may be taken as a manipulation check, as the card pre-tested as "happiest" was highest in the experiment as well (4.2), followed by the cards pre-tested as neutral (3.3) and sad (2.5). However, controlling for cards, music did not produce significant variations ($F=1.31$, ns) in perceptions of card mood (*H2*).

Overall impressions of the three cards were not significant ($F=1.10$, ns). The musical background also had no significant impact ($F=1.79$, ns) on this measure of card attitude (*H3*). This was the one significant interaction effect found for music x cards ($F=3.08$, $p=.05$), which inhibits the ability to interpret the significance of main effects for this measure.

A cleaner and perhaps more useful pattern emerged for purchase intention. Cards did not differ overall in purchase intent ($F=1.26$, ns). However, the music background did make a difference ($F=3.55$, $p < .05$). Further, the multiple comparison results showed the cards appearing with sad music were significantly more likely to be selected (3.3) than those with happy music (2.4), while happy and no music (2.8) grouped together. Thus, *H4* was confirmed.

DISCUSSION

Variations in the formal music structure of background music in commercials may have significant influence over the emotional responses of an audience. Prior research in consumer behavior had shown that varying specific background music selections along dimensions of familiarity and liking could affect responses to "advertised" products. The present paper extends the discussion to begin to examine what it is about the musical content that may lead to emotional and affective responses among consumers.

Equally liked musical backgrounds that differed in their profile of these structural elements were shown to affect audience moods in directions predictable from analysis of the musical structure, across a set of simulated greeting card advertisements. Simultaneous variation of the entire profile of elements precludes inferences from this study regarding their specific influence. While other research suggests the dominance of major vs. minor melodies, all else equal, it may be appropriate to extend the present work with carefully controlled manipulations of specific structural elements of music. To this end, the methodologies employed by Holbrook, et al. (e.g., 1981, 1988) may be productively used.

The effects of varying musical structure were less clearly demonstrated for subjects' perceptions of the greeting cards' moods and their stated liking for the cards. Some advocates of classical conditioning might criticize the use of a single exposure to the messages and lack of reinforcement. However, evidence of mood-induced conditioning is found in the effect on purchase intent. That this may occur in the absence of significant intervening effects on the perceived sadness and even stated liking for a card may be supportive of peripheral path processing in this setting. Given that the advertisements presented no verbal claims, motivation to process information via the central route may have been diminished. The presence of music that evokes emotions and other "non-informational" aspects of the ad may also stimulate peripheral processing. Accordingly, one might expect to find influence on behavior (here proxied by behavioral intent) without the necessity of intervening attribute perceptual changes or even significant changes in liking. Although these findings should be considered tentative, given the study's limitations, they were consistent with a conditioning perspective, and the views of those who would classify reactions to greeting card advertisements as a low cognitive involvement situation. If so, intervening cognitions might not be affected while behavioral intentions and perhaps behavior could be (Batra and Ray 1983; Krugman 1965; Robertson 1976; Zajonc 1968).

It was also interesting to note that sad music was more effective in influencing purchase intent than were happy music and silence. As noted earlier, research cited by Gardner (1985) has generally found positive correlations between mood inducers, moods, and a number of dependent variables such as evaluations. However, studies such as Cialdini and Kenrick (1976) found that older children were more generous when self- generated thought made them sad. As Gardner (1985), and Park and Young (1986) have stated, a key factor is the congruence between associated feelings and behaviors consistent with that advocated in a message. In this situation, college students may have responded more positively to sad emotional evocations (induced by music) in the context of sending greeting cards to distant friends (with messages like "missing you"). Hallmark and AT&T have used both verbal and nonverbal appeals to this market segment and situation. What the musical structure may have been able to do in this study was evoke a feeling of melancholy, which may have affectively linked the audience to responding positively to sending greeting cards which were associated with that feeling. Visits to an amusement park, on the other hand, may be more effectively advertised with happy music than with sad. Thus future research to test interactions among music type, product, *and* situation may be fruitful.

Happy and sad may well be multidimensional constructs. Different gradations within these emotions may require different inducers and may in turn produce different responses and behavior. For example, there may be different kinds of sadness (or happiness), influenced by different factors, and may lead to different responses (relaxation after completion of a difficult task, expressions of joy, and the like). In addition, music has a host of elements that may be influential, beyond the musical structure. These include the words, artistic interpretation, specific memories that may be associated with the selection, type and period of music, and the interaction of all of these with the product and use-situation stressed in the advertisement. Additional research may eventually be able to decompose overall effects into elements of all of these components, taking into account the effect of moderator variables such as the audience demographics, personality and life-style, cognitive and affective involvement in the communication setting, and familiarity with the music. The tasks in pursuing these issues are considerable, but it seems worthwhile to decompose factors such as musical influence into theoretical elements and their combinations. It is encouraging in this process of inquiry to find that predictions from musical theory may be derived that show correspondence in the emotional responses of audiences. To the extent that this phenomenon might be validated in future experiments, it may be possible to provide better explanation of this source of emotional response to commercials, as well as screen potential advertisements for predicted influences.

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Context-Induced Mood and Brand Selection Strategy

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ABSTRACT

The general purpose of this paper is to examine the effects on brand selection strategy of one aspect of context -- i.e., the mood or feeling state induced by context. More specifically, the relationship between mood (an affective state variable) and choice strategies that are primarily affective (experiential strategy) or cognitive (informational strategy) is examined. Findings of one study published earlier by Gardner and Hill (1988) are discussed, a second study is described, and future research directions are delineated. Particular emphasis is given to the mood management perspective advocated by Hill and Gardner (1986).

INTRODUCTION

Recently, Hill and Gardner (1986) recommended that researchers explicitly consider the dynamic and interactive nature of the relationship between consumer behavior and consumers' mood states. This approach suggests mood may influence and be influenced by different factors at different stages of the buying process. Included in this discussion were need recognition (Berneman and Heeler 1986; Rook 1986), product evaluation (Holbrook 1985; Isen and Means 1983), product purchase (Rook and Gardner 1986), product consumption (Hirschman and Holbrook 1982; Holbrook and Hirschman 1982), and post-consumption outcomes (Barber and Venkatraman 1986).

The result of this discussion was several recommendations for researchers:

> First, there is a need to consider the differential effects of mood within and across positive and negative mood states on the buying process. Second, researchers should begin to look at mood as a determinant as well as a result of various stages and activities in the buying process. Third, an attempt should be made to determine the extent to which consumers are aware of their mood-related needs and desires, and whether they consciously or unconsciously utilize the buying process to manage their mood states. (p. 410)

Consistent with this perspective, Hill (1987) used an interactive approach to discuss the relationship between consumers' mood states and their evaluations of advertisements. His article proposes that the current literature in the mood area has enhanced our knowledge concerning the ability of advertisements to elicit particular mood states and the role of mood in the processing of advertisement information. In addition, the article suggests that more attention should be paid to understanding the interaction among: (1) the consumer's pre-exposure mood, (2) the mood induced by the ad, and (3) the information contained within the advertisement. The paper seeks to fill this void by providing a revised perspective, hypothesizing possible mood management strategies associated with advertisement exposure, and presenting a framework for understanding this phenomenon. The framework posits that advertisements may be viewed as composed of three parts: the focal product, attribute-based information, and contextual factors. These components are hypothesized to have the ability to interact with pre-processing mood to produce resulting mood. The article's hypotheses postulate that consumers prefer ads that extend positive mood states or transform (reduce) negative mood states.

STUDY I

Consistent with the mood management perspective described earlier, Study I examined the relationship between mood (an affective state variable) and choice strategies that are primarily affective (experiential strategy) or cognitive (informational strategy). (For a complete description of this study and its findings, see Gardner and Hill 1988.) The major objective of Study I was to describe an exploratory investigation of mood as an antecedent and consequence of brand choice strategies. Therefore, the key experimental questions were: (1) Can mood state affect the use of experiential vs. informational strategies for brand choice? and (2) Can the type of strategy selected by individuals in a given pre-processing mood influence their post-processing mood states?

A review of the literature found feeling states affect the incidence of purchase (Berneman and Heeler 1986; Weinberg and Gottwald 1982), but past research did not provide a clear prediction of which feeling states lead to which brand selection strategies. Results of studies involving cognitive effects of mood suggest that pre-processing mood states may be associated with informational strategies for brand selection, while results of studies involving behavioral effects suggest positive mood states may be associated with experiential strategies.

In order to investigate this issue, a two-group experimental design was used. To avoid the self-selection bias inherent in studies that assess subjects' pre-experimental mood states, subjects were randomly assigned to positive vs. negative mood conditions, and mood was experimentally induced using contexts similar to those in which marketing messages commonly appear. Prior laboratory research has found such contexts are strong enough to affect mood states (Veitch and Griffitt 1976; Johnson and Tversky 1982).

Although Study I was exploratory and primarily concerned with investigating the *existence* of a relationship between mood state and brand selection strategy, findings regarding the *nature* of the relationship are quite interesting. Specifically,

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findings indicate subjects in positive context-induced moods are more likely to use an experiential strategy than those in negative context-induced moods. Further, results indicate subjects in negative context-induced moods are more likely to use an informational strategy than those in positive context-induced moods.

Results also indicate the context-induced mood condition and processing strategy interact to affect post-processing mood. Findings indicate subjects in positive context-induced moods were not only more likely to use an experiential strategy than those in negative moods, but that those who did so had more positive post-processing moods than those who did not. Further, findings indicate subjects in negative context-induced moods were not only more likely to use an informational strategy than those in positive context-induced moods, but that those who did so had more positive post-processing moods than those who did not. This is consistent with the use of appropriate strategies for mood management. Additional support for the role of experiential strategies as mood enhancers and of informational strategies as mood disruptors comes from an analysis of post-choice moods: Subjects who used an experiential strategy maintained their induced moods more than those who used the informational strategy. In fact, examination of experimental data suggests those in the positive induced-mood condition who used an experiential strategy and those in the negative induced-mood condition who used an informational strategy had similar post-selection mood states.

The results of Study I suggest strategies for brand selection should be viewed as an important part of consumers' emotional lives, and models of brand choice should consider consumers' feeling states. Findings indicate mood state can influence brand selection strategy. In addition, they indicate the type of strategy selected by individuals in a given pre-processing mood can influence their post-processing mood states.

STUDY II

To clarify and extend these findings, Study II was conducted. This investigation differed from Study I in several important ways. First, Study II provides additional insights into the mood states induced by the experimental manipulations of context. In Study I, mood was assessed with the Peterson and Sauber (1983) Mood Short Form. This manipulation check indicated that the positive mood context was associated with more favorable moods than the negative mood context. It did not, however, provide insight into the subjects' absolute mood valence. To ascertain whether the positive (negative) mood context induces a positive (negative) mood or simply one which is more (less) favorable than that induced by the negative (positive) mood context, additional data were collected in Study II. Subjects were asked to complete the statement, "As I read this story, I felt:". Their written responses were coded as positive, negative or neutral. Additional insights into subjects' mood states will be obtained by examining the number of positive statements minus the number of negative statements.

Second, Study I involved a "forced-choice" where subjects were required to select either an experiential or informational strategy for their decision and were to maintain the selected strategy during the entire decision process. While this procedure may have captured their strategy preferences, in reality "pure" experiential and informational strategies may be the extremes of a continuum, with most consumers lying somewhere in between. In Study II, subjects made their decisions as they wished. Upon completion of the experimental session, the number of experiential and informational statements elicited during the decision process were coded and used as indicators of experiential and informational processing.

Third, Study I allowed subjects to select any product category for the decision task. This experimental procedure may have introduced a confound since it is difficult to determine whether the post-processing mood states were the result of the product category or the decision strategy selected. In Study II, all subjects utilized the same product category (automobiles) to ensure that differences are due to the choice of strategy.

Fourth, Study II extends the investigation of the interplay between decision making and consumers' mood states by examining decision protocols. There is a need to go beyond the "global" categories of experiential and informational and focus on more specific methods of categorization. For example, do subjects express different needs in positive versus negative mood? Study II investigates the hypothesis that consumers in negative moods tend to focus more on "necessities" and consumers in positive moods may focus more on "luxuries". Maslow's Hierarchy of Needs (Maslow 1970) may be helpful in the development of an appropriate coding scheme. Also, do subjects invoke different or a wider array of senses during the decision process in positive versus negative moods? Study II also investigates the hypothesis that consumers in negative moods tend to "withdraw" from stimuli and, subsequently, utilize fewer senses when evaluating products.

FUTURE RESEARCH

Further work is needed to extend our understanding of the interplay between context-induced mood and brand selection strategy. Conceptually-based research is needed to enhance our understanding of the role of the dimensions of mood states in processing for brand selection. Research also is needed to examine the generalizability of the findings reported to specific types of positive and negative moods, and more ecologically valid settings. Also, researchers might consider different products within the same investigation to examine main and interaction effects of product category and brand selection strategy.

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Testing the Selection Processing Model: The Influence of Program Related Needs

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Over the past three decades, the study of television context effects has been rapidly expanding (Schumann and Thorson, 1987; Singh, Churchill and Hitchon, 1987). In particular, questions concerning the impact of programming on commercial effectiveness have resulted in a number of interesting studies. However, like much empirical work in advertising communication, the research has been characterized by various theoretical frameworks, disagreement about definitions of critical variables, and diverse methodologies. In an effort to integrate and explain the results of 30 years of program context effects research, we have recently presented the Selection - Processing Model of program context effects (Schumann and Thorson, 1987). The model has been proposed as a means of tying together past research and making predictions concerning how and when programs will affect commercial processing.

The model dissects the television viewing experience and provides a set of possible viewing states (see Figure 1). For each viewing state, a predicted outcome is offered. These outcomes center around whether or not the program has influenced the effectiveness of advertising as measured by memory for commercials and attitude toward the advertising and product (brand). Indeed, if a context effect is predicted, the model characterizes the nature of the effect (i.e., memory enhancement - memory damage; positive or negative attitude influence).

The defining feature of the Selection - Processing Model is that it distinguishes two different actions by which programs can affect commercials. "Selection" is defined in terms of choosing to watch television as opposed to doing something else (STATES 1, 2, and 3A). Issues concerning selection include whether television is watched to the exclusion of all other overt behavior, or whether television watching shares time with other behaviors (e.g., eating, talking, reading). The second action, "processing" activity, occurs only after selection to watch television has occurred (STATES 3B, 4, 5A, 5B, 6A, 6B, 6C). It involves covert occurrences in the viewer and includes motivation, attention, thinking, and feeling.

LEVEL OF PROGRAM RELATED NEED

Each of the presented actions contains key conceptual elements that help define the respective states. Within the "processing" action, the level of program related need is presented as a critical variable that is predicted to moderate the nature in which programming can influence attitudes formed from advertising (STATE 5A). It is believed to be dependent on the presence of a rather intense state of program-induced affect (STATE 4). In support of this contention, Isen and her colleagues (Isen et al., 1982) have suggested that intensity may interact with valence to mediate the influence of emotion on cognition and behavior. These researchers contend that

> "...really intense emotions may have quite different consequences for cognition than do weaker feelings of the same valence."

Berlyne (1971) has suggested that very low and very intense levels of arousal result in unpleasant feelings. Furthermore, a decrease in intensity and/or an increase toward moderate intensity is believed to lead to a more pleasant affective response.

In reacting to a program that has evoked a strong positive or negative affective response, the model posits the necessity to determine whether this viewing situation contains a strong drive toward the fulfillment of a program-related need. This need is analogous to the classical "approach/avoidance" conditions found throughout the study of motivational psychology.

McClelland (1985) has suggested that stimuli that result in an approach type response may include small variations from what was expected as well as exposure to something highly attractive or agreeable. Responses would include interest-surprise-curiosity and excitement. Stimuli that result in an avoidance type response may include exposure to something that results in a large variation from expectancy, inconsistency, conflict, or pain. Responses to avoidance type stimuli include distress (leading to attempts to relieve distress and increase consistency), and fear (leading to attempts to avoid fear). For example, studies with animals have found curiosity (exploratory behavior) present with moderate amounts of novelty, and freeze or escape behavior present with extreme amounts of novelty (Fiske and Maddi, 1961).

Applied to program context effects, if a viewer is watching an extremely violent scene in a program and is highly repulsed, then the need to have the program be interrupted (avoidance) may be present. However, if the same scene proves to be less offensive and perhaps even exciting to another person (which may occur as a result of desensitization from years of viewing violent scenes), then that person may be curious as to how the plot will conclude and thus resent interruption in any form. Towards this end, Berlyne (1967) has even suggested that

> "...higher animals often find access to stimulation gratifying and properties known to raise arousal--such as novelty, surprisingness, complexity--may enhance the reward value of exteroceptive stimuli. Even pain can apparently be rewarding in small doses."

FIGURE 1

SELECTION-PROCESSING MODEL

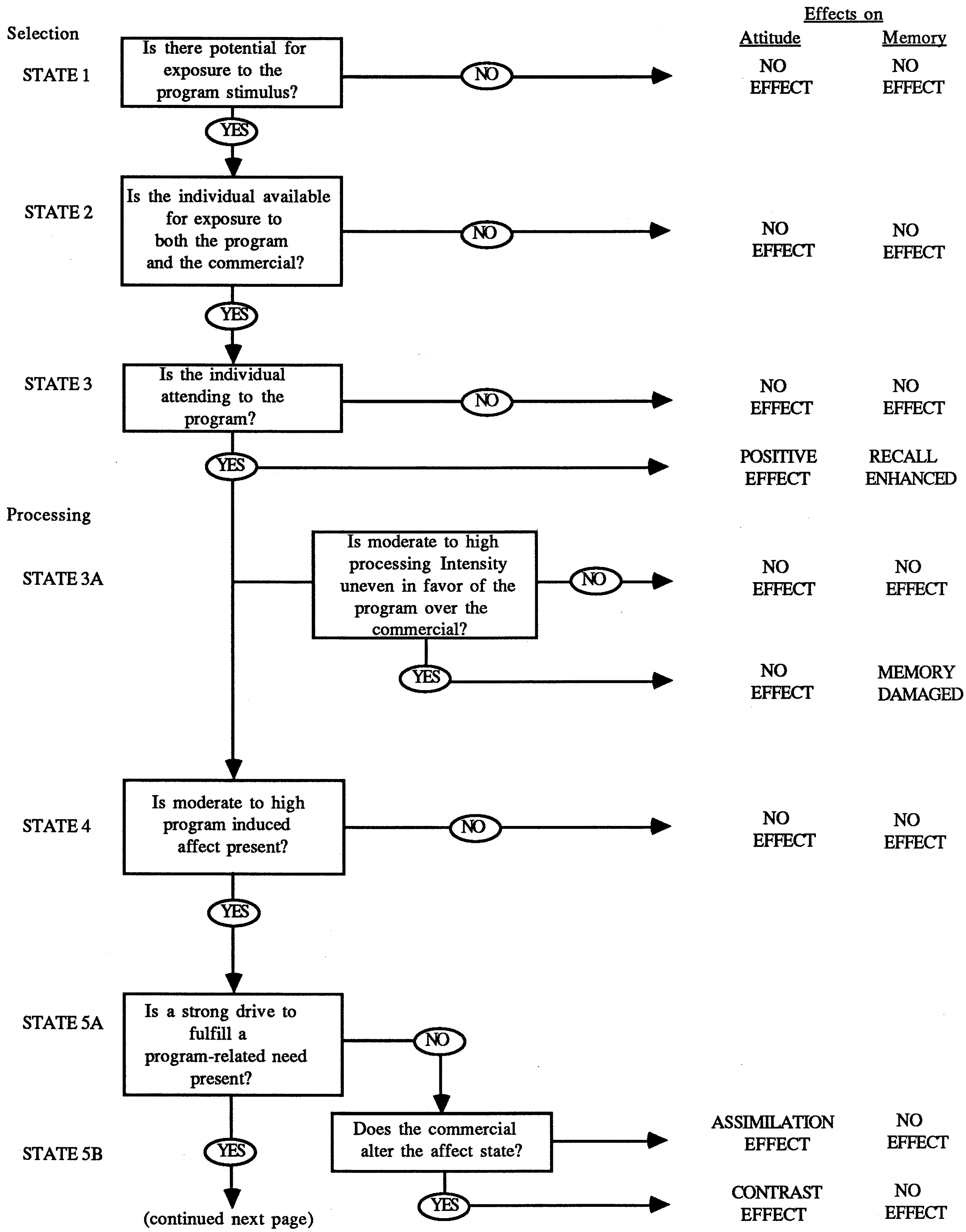
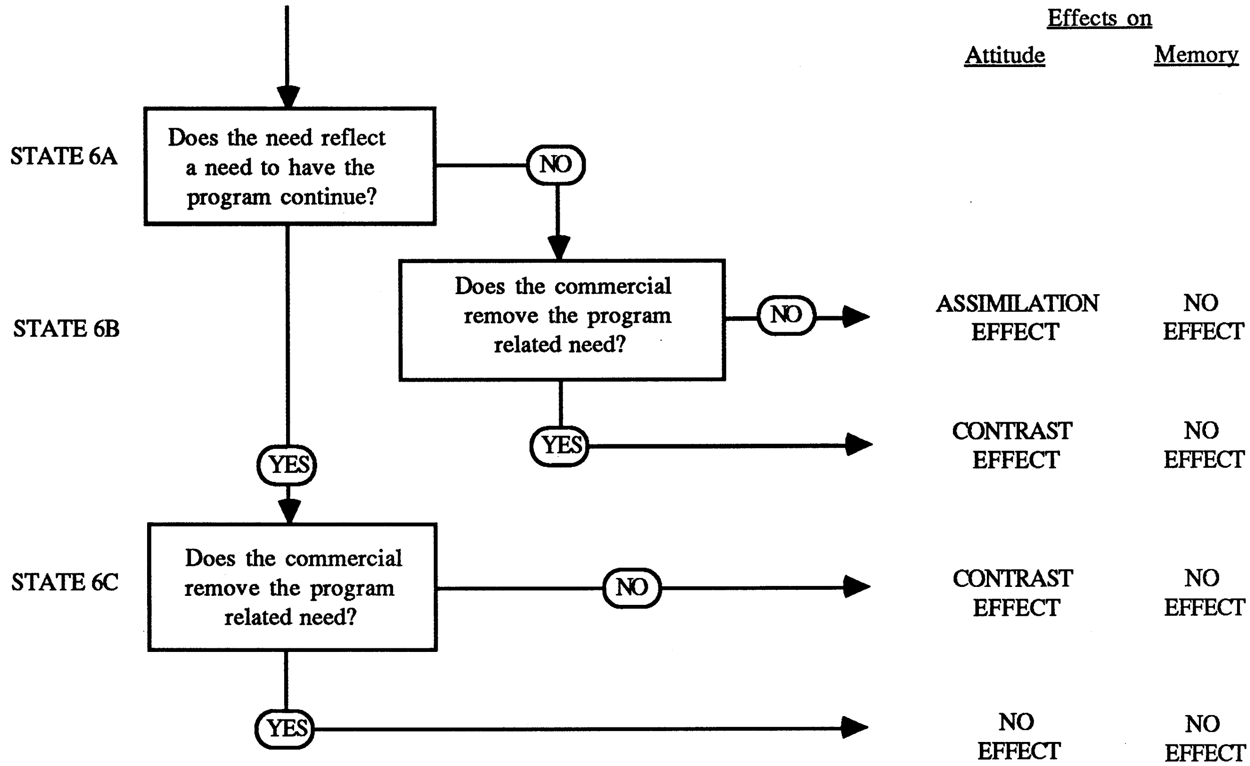


FIGURE 1 (continued)



It is also possible that some viewing experiences provide the viewer with a desire to maintain a positive mood. In these settings the viewer may be laughing at a dialog between characters in a situation comedy, feeling warmth from a romantic love story, or getting wrapped up in an mystery or adventure. Under these conditions, viewers may actually resent being interrupted by commercial messages.

It was decided to explore the nature of program related needs by exposing individuals to high impact programming and measuring 1) intensity and direction of affective response and 2) the reported need for interruption/continuation. What follows is the description or methods and initial findings from an exploratory study.

METHODS

Forty-four students from a large southeastern state university were employed as subjects for this exploratory study. All subjects viewed an hour long program with commercials removed. Half the subjects viewed an episode of "Thirtysomething" while the other half watched an episode of "MacGyver".

Subjects entered a laboratory and were seated at desks. They were given initial instructions concerning the apparatus in front of them, and were then exposed to one of the two programs. Upon completion of the program, subjects were asked to fill out a brief questionnaire. Once completed, the subjects were debriefed and dismissed. In order to minimize any social influence (hearing or seeing another subject react to a program segment, e.g., laughing, crying), subjects were visually isolated from each other and provided with headphones which served to communicate the audio portion of the program and screen out extraneous noise. Two measures were employed in the study. To monitor affect intensity and direction on a continuous basis, a potentiometer was used. Subjects were provided with a dial that contained a marked midpoint. The subjects were instructed that as they viewed the programming, they were to use the dial to reflect the direction and intensity of their mood. By moving the dial to the right they were noting positive affect. Moving the dial to the left noted negative affect. They were told that increased intensity of feeling should be reflected by moving the dial toward the endpoints. They were given a brief time to try the dial before viewing the program.

After viewing the program, subjects were given a brief questionnaire to complete. The questionnaire described separate scenes in the program and was used to remind the subjects of particular program segments. Using a 7-point semantic differential scale, subjects were asked to reflect on their need "...for the show to be interrupted" versus their need "...for the show to continue without interruption" for each scene described. Subjects viewing Thirtysomething responded to seven different scenes while those viewing MacGyver were asked about six separate scenes. These particular scenes were employed because they were believed to be ones that would evoke high affect intensity levels.

RESULTS AND DISCUSSION

Each scene was analyzed separately. The potentiometer allowed for a response to be recorded every 2 seconds employing a range from 0 to 255 (with 127 serving as the midpoint). Thus each subject had approximately 1400 data points during the span of the program. The points at which the scenes began and ended were used to frame the scores for that scene. Because 1) a subject might take a few moments to move the dial upon a scene change (if they choose to move the dial at all), and 2) the scenes differed in length, it was decided to take the last 40 seconds of a scene as the best representation of the viewer's mood related to that scene. A mean score for each scene was derived and employed in the analysis. These scores were plotted against the need for interruption/continuation scale (see Figures 2 and 3, Thirtysomething and MacGyver respectively).

As one can easily see (and as might be predicted given the discussion on approach/avoidance above), with one exception, no within scene correlations emerged. This can be explained by the notion that any one scene might affect two people differently. One person might have a high need to have the program continue while another might have a need to have the program interrupted. Indeed, this bi-modal trend appears to occur with scenes that potentially contain both approach and avoidance conditions (as dependent upon the interpretation and response of the individual).

Thirtysomething: In the first scene in Thirtysomething, one spouse is informing the other that he is moving out. Since it is early in the show, subjects scoring near the midpoint in affect appear to vary in terms of need for interruption/continuation. Those that have a more severe negative reaction appear to be more inclined to want the program to continue without interruption. In the second scene, the couple are together in the bedroom and the husband is packing. For this scene, a significant positive correlation between the measures emerged, $p=.02$. This finding suggests that for this scene, the stronger the intensity level for negative affect, the more likely subjects wanted the program interrupted. Since all but one of the points is at or below the midpoint, as subjects neared the midpoint, the likelihood of wanting the program to continue increased.

The third scene was judged by the researchers to be one of the more emotionally involving scenes in the program. It shows the mother with her children reading them bedtime stories. From the scatter plot, it is clear that the scene provides both approach and avoidance conditions. For those subjects scoring at the midpoint or less, with the exception of two subjects, the remaining eighteen were split evenly, with half wanting the program to continue (as interpreted by scores of 6 or 7) and the other half desiring a break from the scene (scores of 1 or 2). The forth scene which depicts the wife talking with a friend, reflects less overall affect intensity and more variance on need for interruption/continuation.

The last three scenes reflect continuing buildup and increasingly more extreme scores on need for interruption/continuation. Each scene gets increasingly more depressing which is reflected by the potentiameter scores. In the last two scenes, it is clear that one group of subjects preferred to have the program interrupted while another segment wanted to see how the program concludes.

MacGyver: In the episode of MacGyver, five of the six scenes depicted action. For example, in the first scene, MacGyver (the hero in this program) has lost contact with his friend and unless communication is restored, he will be in danger of being subject to a military bombing run. Although affect direction and intensity varied across subjects (which was characteristic of all the scenes in this program), most of the subjects wanted the program to continue without interruption. There were, however, a few viewers that would have welcomed a break, even at the beginning of the show. As the program progressed, the subjects appeared to report more need for continuation without interruption.

The fifth scene provided an exception. The scene dealt with a scientist exposed to a bacterial compound that advanced the aging process. Despite the efforts of MacGyver and his friend, the scientist and her dog could not be saved and both died. As was similar to the depressing scenes in Thirtysomething, the subjects appeared to be split in terms of need for interuption/continuation. The last scene in MacGyver has the main characters trying to escape the secured laboratory before it self-destructs. For this exciting scene, the subjects obviously desire closure and thus do not want to be interrupted.

CONCLUSION

The results of this initial exploratory study suggest some promise for both the existence and importance of STATES 4 and 5A of the Selection - Processing Model. These initial findings reflect rather large individual differences in reporting direction and levels of affect intensity within scenes. It also appears that individuals differ in their program related needs. While some clearly wanted a depressing scene to be interrupted (avoidance), others desired to have it continue without interruption (approach). In the adventure scenes, subjects generally wanted the programming to continue without interruption (approach).

As Figure 1 denotes, the Selection - Processing Model makes predictions based upon these program related needs. STATE 6A assumes the presence of a program related need and asks "Does the need reflect a desire to have the program continue?" If relief is desired (reflecting a further desire to have the program interrupted) then STATE 6B goes on to further define the viewing state and offers predictions. On the other hand, if continuation is desired, STATE 6C offers a further viewing state with predictions.

From this exploratory study, subsequent research must focus next on how these program related

FIGURE 2
Affect Intensity By Need For Interruption/Continuation
Thirty Something

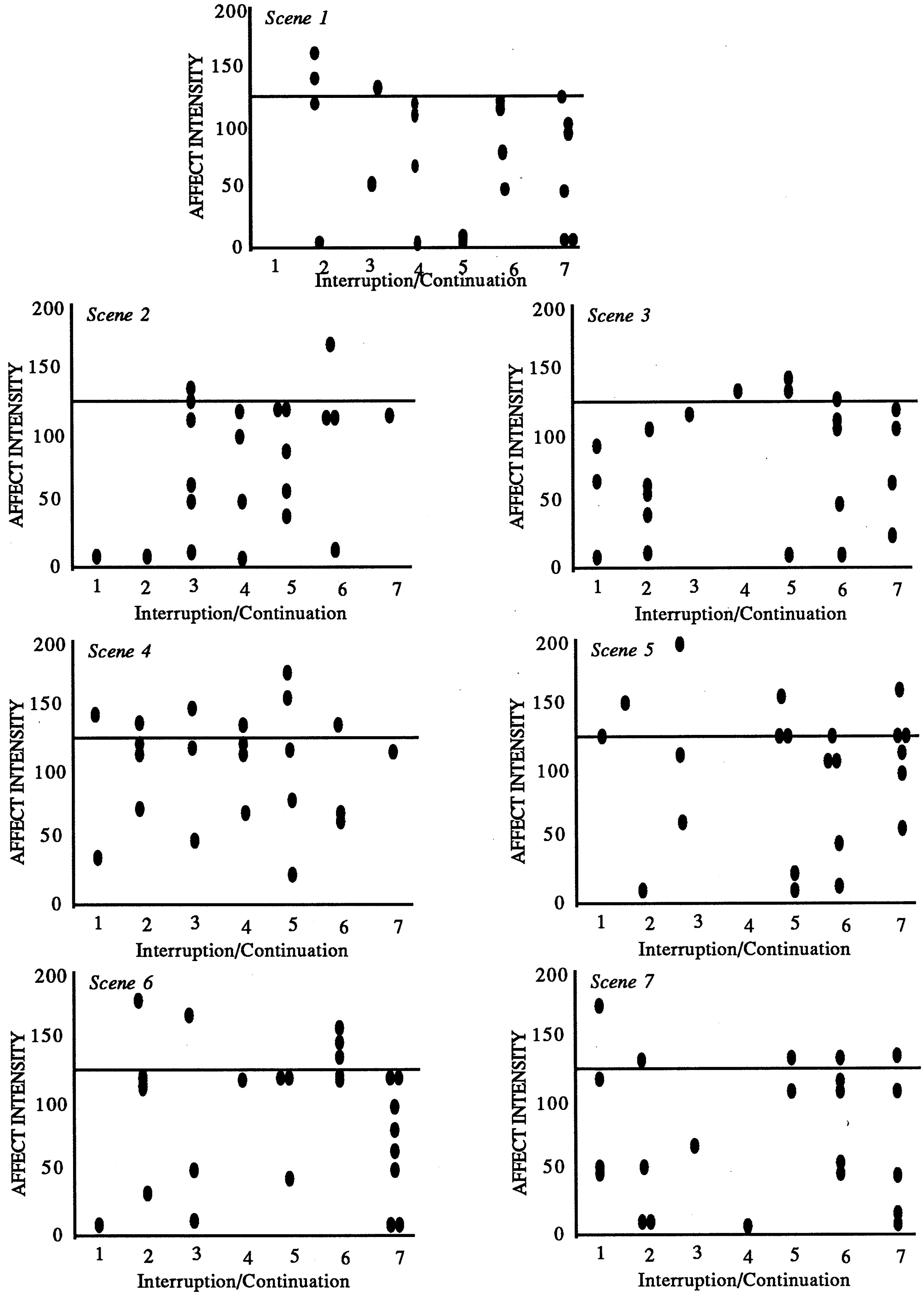
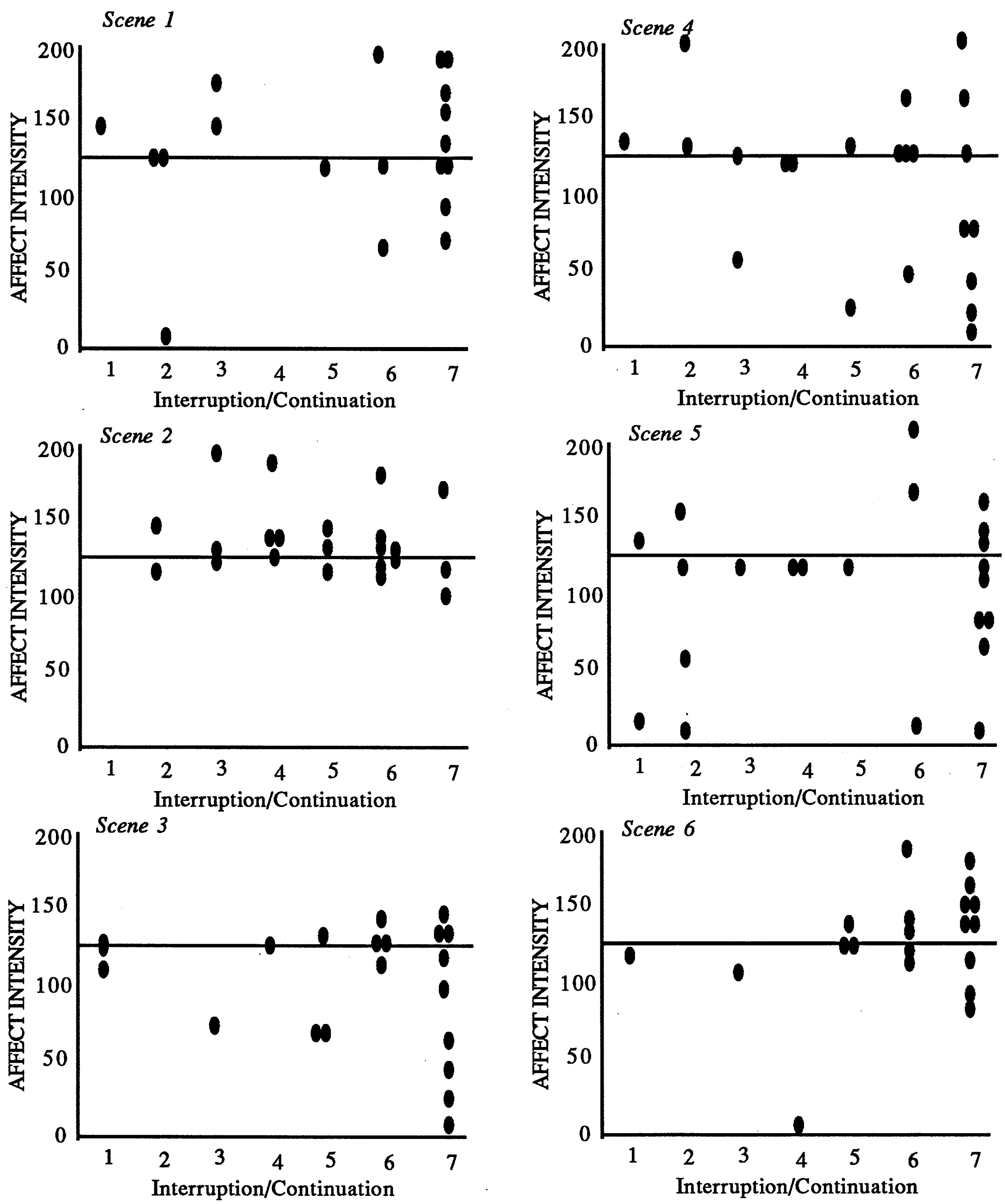


FIGURE 3
Affect Intensity By Need For Interruption/Continuation
McGyver:



needs influence the effectiveness of commercials. Will the predictions of the Selection - Processing Model be supported? These questions and others await future tests.

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Selecting an Appropriate Standard of Comparison for Post-Purchase Evaluations

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ABSTRACT

Current models of consumer satisfaction/dissatisfaction are limited in that they do not take into account time-related factors, purchase situation variations, and individual difference factors which may result in the use of different standards of comparison in post-purchase evaluations. It is suggested that a variation of the expectations model using current versus prior expectations will yield better predictions of post-purchase evaluation outcomes.

Consumer satisfaction results from a comparison of product performance to some evaluation standard (Cadotte, Woodruff, and Jenkins 1987). While several types of standards have been proposed (Miller 1976; Morris 1976; Westbrook and Reilly 1983; Woodruff, Cadotte, and Jenkins 1983a), no consensus exists concerning which standard might be most appropriate (that is, which standard best predicts product satisfaction). The prevailing satisfaction paradigm uses prior expectations about product performance on desired attributes as the standard of comparison (Oliver 1980; Olson and Dover 1979). Several different theories exist concerning the exact nature of these prior expectations (Oliver 1980; Cadotte, Woodruff and Jenkins 1987), but a key element of each theory is that expectations about brand performance are formed during the prepurchase process and are later used as a standard of comparison. In other words, the standard of comparison is *prior performance expectations.*

Westbrook and Reilly (1983) have proposed value-percept theory, an alternative view of post-purchase evaluation processes. They suggest that satisfaction is determined by evaluating a product's ability to fulfill one's *current* desires, wants, and needs. In their view, there are no prior standards of comparison -- only current needs and desires are considered.

These two views of the standard of comparison are not entirely unrelated. Assuming sufficient information, prior expectations and need fulfillment should be closely related. At the time prior expectations are being formed, consumers usually will determine what kind of attribute performance is necessary to satisfy their needs. They select a particular brand because they have formed prior expectations regarding the brand's performance on these selected attributes. Since attribute performance determines the extent to which desires are fulfilled, there is a close relationship between prior expectations and need fulfillment. In other words, if prior expectations are met, consumer needs and desires should be satisfied. To the extent that prior expectations are not met (positive or negative disconfirmation), then needs and desires will be satisfied to a greater or lesser degree than expected.

All other things being equal, comparing prior expectations or perceived needs to post-purchase product performance should yield the same results; clearly, however, this does not always happen. In some cases, comparing prior expectations to post-purchase product performance correctly predicts satisfaction or dissatisfaction; in other cases, current needs are a better standard for comparison. Given the close relationship between prior expectations and consumer needs and desires, why do they not always predict satisfaction/dissatisfaction equally well? The purpose of this paper is to answer that question, first by outlining the limitations of current theories of satisfaction, and then by offering an alternative to them.

LIMITATIONS OF CURRENT SATISFACTION MODELS

As noted earlier, under normal conditions there is a close link between attribute importance and need fulfillment. Examining the factors which affect this relationship provides insight into the limitations of the prior expectations and value-percept models of satisfaction. By identifying the limitations of the current models, an alternative model can be constructed which overcomes these limitations.

Three general factors can influence the standard of comparison used by a consumer: time-related factors, purchase situation factors, and individual differences. Each of these is discussed in more detail below.

Time Related Factors

Time-related factors often will not influence the standard of comparison because prepurchase search, purchase, use and disposition of the product usually occur over a short period of time. In such cases, a close relationship between needs and expectations will still exist. However, when the purchase/use process is extended over time, shifts in the standard of comparison may occur. In particular, either needs may change, or performance for the product class may change over time.

It is not uncommon for consumer needs to change over time. For products consumed over relatively short periods of time, such changes may be taken into account when prior expectations are formed. However, if the product is used over long periods of time, the similarity between needs and prior expectations may change. For example, when purchasing a car, a young couple's expectations may be based on needs related to excitement (performance), status, or style. If the couple starts a family, however, needs are likely to change and interior space may become more important. Although the car the couple purchased may perform as originally expected, it no longer meets their current needs and their satisfaction with the vehicle is likely to decrease. In this case, the value-percept model should be more appropriate in predicting and explaining satisfaction/dissatisfaction outcomes, because it compares post-purchase performance to current, post-purchase needs.

A similar problem may occur when needs do not change, but the way in which a need is expressed changes over time. This commonly occurs when the performance of all brands in the product class improves. Recent examples of this include micro-computers and digital sound equipment, where technological advances have made previous products or models obsolete. In these cases, original expectations may be consistent with current product performance. However, dissatisfaction may occur because the product does not meet the current standard of comparison (product norms). Changing fads will also change how needs are expressed (Swan and Combs 1976). In such cases, the value-percept model should be superior to the disconfirmation of expectations model, since prior expectations no longer reflect the product's ability to satisfy current needs.

In summary, the amount of time between information search or purchase and current use can, in part, determine the appropriate standard of comparison. The above arguments suggests that the value-percept model may be more appropriate if market offerings change frequently or a product has been owned over a long period of time.

Purchase Situation Factors

Earlier, it was assumed that there would be a match between attribute importance (expectations) and needs. However, there are cases where this link does not exist. Consumers do not always buy the "optimal" product. Compromises are often made when selecting a brand. The consumer can recognize that the product attributes will not completely satisfy their needs, but purchase the product anyway. Four such cases are: tradeoffs between need fulfillment and price; unavailability of preferred brand; "satisficing" when no brand perfectly satisfies needs; and the case of conflicting needs (LaTour and Peat 1979; Westbrook and Reilly 1983). In such cases, a discrepancy between needs and expected product performance will exist. In particular, the consumer will know that needs are not being satisfied as well as they might be satisfied -- however, dissatisfaction should not occur if the product performs as the consumer expects it to perform. The consumer is aware of the discrepancy and has made a conscious decision to purchase the product in spite of it. In these cases, an expectations-based model should be more appropriate than the value-percept model.

Individual Differences

Numerous individual difference factors may influence the standard of comparison a consumer uses (Day 1977; Kennedy and Thirkell 1983; Westbrook 1980). Only three will be discussed in this paper: variety seeking, the tendency toward hedonic or experiential consumption modes, and product involvement. Consumers may sometimes engage in behavior based on variety seeking (McAlister and Pessemier 1982). In these cases the consumer expects novelty, but is likely to have insufficient information to permit formulation of specific expectations. The formation of "best brand" or "brand" expectations cannot occur; at best, a consumer may be able to develop "product based" expectations. In such cases, however, it seems most likely that the consumer will evaluate product performance in light of how well it satisfies his/her desire for novelty. In other words, the value-percept model is likely to be more appropriate when variety-seeking drives purchase behavior.

It has been suggested that the predisposition to engage in hedonically driven consumption constitutes an individual difference factor (Hirschman and Holbrook 1982), presumably because the hedonic response can be a characteristic way for the individual to respond to purchase tasks. The effect of hedonically driven consumption on the standard of comparison and the evaluation process is similar to that observed in variety-seeking behavior: the consumer seeks "multisensory images, fantasies and emotional arousal" (Hirschman and Holbrook 1982, p.93), not levels of particular product attributes related to functional needs. In the post-purchase evaluation process, product performance is compared to this need for sensory stimulation and emotional arousal, and consequently the value-percept model should provide better prediction of satisfaction or dissatisfaction. This is consistent with Hill's (1985) suggestion that some products have "experience quality attributes" which would only be considered during or after consumption. He argues that precise expectations are difficult to develop for these types of products.

Levels of involvement may affect the standards of comparison used. Hunt (1983) suggests a value-percept model might better fit a high involvement product, while an expectations model might be more appropriate for low involvement products. Though Hunt does not develop any rationale for this position, it does deserve further consideration. Involvement may influence the process used to evaluate performance in numerous ways, affecting the clarity and strength of prior expectations, the perceived similarity between needs and expectations, and the range of acceptable performance (Barber and Venkatraman 1985; Oliver and Bearden 1983). Any or all of these may help determine which model is appropriate to evaluate consumer satisfaction.

AN ALTERNATIVE MODEL OF SATISFACTION

The limitations of the disconfirmation and value percept models indicate that neither provides a sufficient explanation of satisfaction in all situations. An alternative model could incorporate both a prior expectations component and a value percept component. However, this may be unnecessarily cumbersome. A more parsimonious approach is to adapt the expectations model so that *current expectations* (expectations at the time of evaluation), rather than *prior expectations*, are used as the standard of comparison. This minor change should allow an expectations model to account for all the problems presented above. Current expectations should be more closely related to current needs and should also account for satisficing decisions. Below we clarify what is meant by current expectations and discuss how this adapted expectations model can account for the problem situations discussed earlier.

Several types of prior expectations have been proposed, including product norm, "best brand," and brand expectations (Cadotte, Woodruff and Jenkins 1987). Our conception of current expectations is most similar to product norm expectations. They are expectations about brands in the current evoked set. Current expectations differ from prior expectations in the timing of the measurement. Rather than assessing expectations at the time of purchase, current expectations assess product norm expectations now (at the time the respondent answers the question). Current expectations would match performance and needs since consumers' expectations regarding the brand's performance will be closely related to need fulfillment. They will also include those factors that restrict purchase such as limited resources or other satisficing behaviors. The construct could be measured by identifying those brands in the respondent's current evoked set. They would then compare the performance of the product they now own to products in their current evoked set. In the case where the owned brand and the brand(s) in the current evoked set are identical, the model would be identical to a prior expectations model.

Our conception of current expectations may be clarified by an example. Suppose a person owns an Osborne Executive computer. This product may have performed quite well, meeting expectations that were formed at the time of purchase. However, technology has progressed rapidly and the consumer may be very dissatisfied with the machine since it is heavy, incompatible with current technology, and lacks power. If the person were making the purchase in today's market, their expectations would be very different than in 1983. The current evoked set might include laptop computers like the Toshiba 1200, NEC Multispeed HD, and Zenith 183. These machines would represent a balance between performance and cost, whereas machines like the Gridcase, Toshiba 5200 and 1000, or the IBM convertible might not be in the evoked set for numerous reasons including cost, availability, and performance factors. While the Osborne may meet prepurchase expectations, it would not compare favorably with the respondent's current expectations which are derived from the performance characteristics of current machines.

The use of current expectations should help eliminate several problems inherent in both the prior expectations and value-percept models. The relationship between needs and expectations can be affected during the passage of time by changes in needs or changes in product class performance. As needs change, the importance of various product attributes will also change. As a result, prior product expectations are no longer appropriate standards of comparison. Current product expectations, however, change as needs and product class performance change. Using our earlier example, the young couple's current expectations about "desirable" cars would reflect the increased importance of roominess, whereas prior expectations would not. Current expectations would more accurately reflect current needs and should predict satisfaction better than prior expectations and as well as value-percept models.

Both the current expectations and value-percept models can account for the effect of time-related factors on evaluation processes. However, as noted earlier, the value-percept model has difficulty accounting for situations where compromises are made when purchasing a product (tradeoffs between need fulfillment and affordability; unavailability of preferred brand; "satisficing" since no brand perfectly satisfies needs; and the case of conflicting needs). Prior expectations or current expectations models would both be superior in compromise situations, and in many cases, current and prior expectations would perform equally well. However, the current expectations model could better account for changes in purchase restrictions. For example, as income increased, the tradeoff between need fulfillment and affordability would be less restrictive. Satisfaction with the owned product would be reduced, as the preferred product can now be purchased.

When the desire for variety drives consumption, the post-purchase comparison process will involve evaluating the extent to which the product or service purchased fulfills that desire. As noted earlier, it may not be possible for consumers to formulate specific prepurchase expectations regarding product attributes or performance, but current expectations will exist with respect to fulfilling the need for variety. In addition, to the extent that factors limit choice, the current expectations will be superior to the value-percept model. When consumption is hedonically driven, essentially similar relationships should exist.

The current expectations model will also perform better than (or at least as well as) other models under varying levels and types of involvement. Consider the case of situational product involvement: purchase behavior under situational involvement focuses on prepurchase evaluation and is unlikely to involve changes in performance expectations between pre- and post-purchase evaluations (Bloch and Richins 1983). All other things being equal, the current expectations model should perform at least as well as other models. Under conditions of enduring involvement, however, consumers' level of involvement with products persists long after the actual purchase, and may be associated with changes in the post-purchase standard of comparison. In such cases, the current expectations model should perform better than prior expectations and at least as well as the value-percept model.

CONCLUSIONS

Two general models of consumer satisfaction have been proposed, prior expectation models, and the

TABLE 1
Summary Evaluation of the Prior Expectations, Value-Percept and Current Expectations Models

Condition	Prior Expectations	Value Percept	Current Expectations
Time Related Factors	model can not account for changes in needs or how needs are expressed since expectations may no longer reflect current needs	model not affected by changes in needs or how needs are expressed since current needs are related current expectations	model accounts for changes in needs or how needs are expressed since current needs are related to current expectations
Purchase Situation Factors	model accounts for purchase restrictions since consumer recognizes and account for fact that needs can not be adequately satisfied	model can not account for purchase restrictions since model only examines how well needs are fulfilled	model accounts for purchase restrictions since consumer recognizes that needs can not be adequately satisfied
Individual Differences	model can not account for variety seeking or hedonic consumption since product specific expectations can not be formed prior to consumption	model accounts for variety seeking and hedonic consumption since need fulfillment can be assessed after consumption	model accounts for variety seeking and hedonic consumption since expectations are formed after consumption
	model less able to account for enduring involvement since product specific expectations are more likely to change over time	model better able to account for enduring involvement since need fulfillment can be assessed during or after consumption	model accounts for enduring involvement since it measures expectations after any possible change in them has occurred

value-percept model. Both these models are limited since they do not take into account time-related factors, purchase situation variations, and individual difference factors. These factors affect the appropriateness of the models (see Table 1). In particular, prior expectation models may be inappropriate if consumption occurs over a long period of time or meaningful expectations are not be formed. The value percept models may be inappropriate if tradeoffs are made at the time of purchase. It is suggested that a variation of the expectations model using current versus prior expectations will yield better predictions of post-purchase evaluation outcomes (see Table 1).

Previous research has implicitly defined satisfaction as an end result of a single evaluation procedure. We propose that satisfaction is more usefully viewed as dynamic and that it changes over time. It may be measured at any given point in time; therefore, a person's level of satisfaction will depend on the point at which it is assessed. This complicates how satisfaction is viewed. A number of types of satisfaction may be distinguished, for example, satisfaction with past use experiences, satisfaction with current performance, or anticipated satisfaction with future product or service use. An example may best illustrate the problem. A car may have provided years of exceptional service. However, it currently has 120,000 miles and often breaks down. When asked about satisfaction, a subject may reply, "It was a great car and I'd buy another one, but it's pretty much a piece of junk now." The subject was satisfied with past performance, but is not currently satisfied with the product, and questions its ability to perform satisfactorily in the future.

All of these types of satisfaction may be of interest to researchers. In order to predict satisfaction accurately, the expectations measured must be time-consistent with use. That is, prior expectations would be more appropriate to assess satisfaction with past experiences and current expectations would be appropriate for current or future product satisfaction. Thus, while measurement issues remain as much an issue in satisfaction/dissatisfaction research as they do in other areas of consumer research (Cote and Buckley 1987; Peter 1981; Woodruff, Cadotte and Jenkins 1983b), the present discussion focuses our attention on an additional dimension of measurement: not only must we be concerned with what is measured (e.g., expectations or values and needs) and how, but *when* constructs are measured (especially expectations).

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Influence of Expertise and Purchase Experience on the Formation of Evoked Sets

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ABSTRACT

The role of expertise in consumer decision-making is explored in relation to the dynamics of evoked set formation and transformation. Investigation of the relationship of knowledge about alternatives, task knowledge, width and depth of previous purchase history provides a more detailed picture of the various influences on the brands considered during the purchase process.

Introduction

Expertise and its role in the consumer decision making process has been receiving increasing research attention lately (Alba and Hutchinson 1987; Chi, Glaser and Rees 1982). As noted by several researchers, expertise primarily consists of two types of knowledge. The first type deals with how knowledge is structured and processed, and includes the related functions of cognition, encoding, retrieval, and information usage in the performance of a choice task. The second type deals with the content relating to the decision problem, i.e. knowledge about the different alternatives available for choice (Brucks 1986; Dacin and Mitchell 1986).

The concept of the evoked set has received continued attention since its introduction into marketing by Howard (1963). Several terms, including available set, feasible set, awareness set, consideration set and choice set have been used to depict the various sets of alternatives which a consumer uses while making a choice.

The two constructs of expertise and evoked set are clearly related. Increased product knowledge implies a greater awareness of alternatives and the ability to assimilate more product information, thereby influencing the size and composition of the brands considered for purchase. The exact nature of this relationship is, however, not fully understood. This paper seeks to investigate the relationship between these two important constructs, thereby furthering our understanding of an important phase of the consumer decision making process. We propose and test several hypotheses relating the two constructs with a view toward formulating a preliminary model of the relationship between them.

Importance of the topic

Expertise plays a critical role in structuring the choice problem and in the consideration of alternatives for purchase. A major consequence of a consumer's expertise is the formation of the evoked set soon after the problem recognition stage in the consumer decision making process. As the consumer progresses through the choice process, expertise plays a role in how the evoked set is transformed into the final choice set, as a result of the processing of new information. Eventually an alternative is selected. Research which focuses on the interplay between expertise and evoked set is thus likely to enhance our understanding of the how a brand enters and is retained in the evoked set. From a practical standpoint, this is a significant topic for study, given that much of the task of practitioners is to seek inclusion and retention of the company's brand in the consumer's choice set.

Definitions of Expertise

Consumer researchers have long recognized the importance of expertise, though not in an elaborate manner. The construct, in its various forms of product knowledge, attention to new information, etc., is a part of the comprehensive models of consumer behavior proposed by Howard and Sheth (1969), Hansen (1972) and Bettman (1979).

Chi, Glass and Rees (1982) defined expertise as "the possession of a large body of knowledge and procedural skill." Following a similar perspective, Johnson and Russo (1984) suggested that familiarity with a product class results in three different kinds of expertise: (1) a superior knowledge of existing alternatives (2) a superior ability to encode new information and (3) a superior ability to discriminate between relevant and irrelevant information.

Punj and Staelin (1983) refer to two aspects of knowledge, related to expertise. One is the amount of prior knowledge directly associated with the available alternatives, and the other is information stored in memory which helps a consumer obtain and process newly acquired information. Brucks (1985) also proposed two components of expertise: objective and subjective knowledge. Subjective knowledge can be thought of as including an individual's degree of confidence in his/her product knowledge while objective knowledge refers to only what the individual actually knows about the choice alternatives.

Alba and Hutchinson (1987) define expertise as "the ability to perform product related tasks successfully (p 411)." They explicitly distinguish expertise from familiarity and define the latter as "the number of product related experiences that have been accumulated by the consumer."

Multi-dimensionality of Expertise

Though conceptualizations of the domain of expertise have been varied, two important components of the construct may be recognized and identified: (1) the possession of alternative specific information, and (2) a more abstract level ability to perform the choice task. These two aspects of expertise exist across the various definitions of the construct. The first aspect represents the information which the consumer possesses on the choice alternatives or information which is directly and immediately suitable for the choice decision. The second aspect deals with the consumer's knowledge structure and represents the ability to deal with the procedural aspects of the choice task, such as drawing inferences from information which may not be exactly suitable for the current decision. In the present study, we use two dimensions of expertise similar to the ones outlined above. These components may be referred to as "alternatives knowledge" and "task knowledge" respectively.

Another element of expertise, relates to the knowledge gained through past purchase experiences in a product category. While the exact feedback mechanism from previous purchases to current knowledge is neither simple nor clear, there can be little doubt that there is such an influence.

One approach to understanding this influence is to partition its effect along two dimensions. In this research we use the term "width of purchase experience" to denote the diversity of an individual's purchase history in terms of the number of different brands the person has owned in the past. A complement variable "depth of purchase experience" is used to signify the total number of purchases an individual has made in the product category.

Definitions of Evoked Set

Since the introduction of the term by Howard (1963), the concept of an evoked set has become an accepted part of consumer decision making models (Bettman 1979; Howard and Sheth 1969). Howard (1977) defined evoked set as "the subset of brands that a consumer considers buying out of the set of brands that he or she is aware of in a given product class." Campbell (1973) defined evoked set as "the set of brands of a product which the buyer actually considers when making a specific brand choice." Silk and Urban (1978) use the term "relevant set" of alternatives to describe the "subset of available brands which are familiar to the respondent regardless of whether they are judged favorably or unfavorably as choice alternatives. A more comprehensive conceptualization of the concept is provided by Narayana and Markin (1975) who proposed three different sets of brands relevant to a choice decision: evoked set, inert set and inept set. The evoked size consists of the select brands the consumer considers while making a purchase as a result of having given them a positive evaluation.

The above definitions fail to be precise about the point in time at which the evoked set is being measured and also tend to view it as a static construct. Myers (1978) has suggested the need for a longitudinal analysis of changes in the evoked set to model its dynamic nature.

Multiple Conceptualizations of Evoked Set

The definitions given above vary from one another, in terms of the interpretation that may be given to the notion of a brand being "acceptable" for purchase. Also, it is clear that the time dimension is an important element in the definition of an evoked set. Of the various characteristics of evoked sets that have been studied, it appears that the size and composition of the evoked set and how they change over time capture the essence of the construct.

One way of modeling the dynamics of evoked set formation is to use two or more measurements of the construct during the course of the decision process. In this paper, we conceptualize the "initial evoked set" to represent the set of brands which a consumer considers soon after the onset of problem recognition. The term "final evoked set" is used to refer to the set of brands which a consumer considers just prior to purchase. Such a conceptualization while being meaningful is, however, hard to operationalize. One potential difficulty is identifying the duration of the purchase decision in natural settings, such as in new car buying. The dependence on recall information appears to be unavoidable. A second potential problem is that the size of the evoked set is easier to measure than its composition, which has earlier been reasoned to an important dimension.

Hypotheses

The hypotheses regarding the effects of expertise on evoked set are based on prior empirical findings using these constructs. They are exploratory and should be viewed as contributing to theory development since the available previous research is not conclusive enough to permit definitive predictions concerning the relationships between expertise and evoked set. The hypotheses center around the two (alternative) explanations that have been forwarded about the effects of product knowledge on the subsequent processing of information.

According to the "facilitating explanation," consumers with greater expertise are more capable of considering a broader range of choice options because they possess the requisite information processing skills. Thus we would expect these consumers to have large initial choice sets. It is possible to argue that only a particular type of product knowledge, i.e. that directly related to the alternatives is likely to facilitate the formation of a large initial evoked set. A statement of this proposition is:

H1: Higher levels of knowledge about alternatives are more likely to be associated with larger initial evoked sets.

An alternate view of the effects of product knowledge on subsequent information processing is provided by the "efficiency explanation." Under this justification, consumers with a greater degree of expertise are likely to have developed superior abilities to discriminate among alternatives and are thus likely to have a lesser need to consider several of them, avoiding the need for additional information search and deliberation. Hence, one can postulate that experience with the procedural aspects of making a choice decision is likely to result in the formation of a smaller initial evoked set due to efficiency considerations. Hence,

H2: Higher levels of task knowledge are more likely to be associated with smaller initial evoked sets.

Once the initial evoked set has been formed, consumers are likely to add and/or delete alternatives to their choice sets as a consequence of additional information processing. Few (if any) research findings are available on how the initial evoked set is transformed to arrive at the final evoked set. At one extreme is the possibility that there is little difference between the initial and final evoked sets in terms of both size and composition. At the other extreme it is plausible that the final choice set bears little resemblance to the initial evoked set in terms of content or size. In the absence of any guidance, the hypotheses relating expertise to final evoked set should be viewed as speculative. Under one likely scenario, consumers with a higher level of expertise are likely to have small final evoked sets, because of their ability to narrow down choice options to a final few. Consumers with little product knowledge may not have this ability, leading to an increase in the size of the alternatives considered during the decision making process. Such a reasoning would be consistent with both the "facilitating" and "efficiency" explanations of product knowledge discussed earlier. Hence:

H3: Higher levels of alternative knowledge and task knowledge are likely to lead to smaller final evoked sets.

As mentioned earlier, the diversity of a consumer's previous purchase experiences is another element which influences evoked sets. Perhaps reflecting a brand loyalty effect, the narrower the assortment of brands a consumer has owned in the past, the more likely it is that s/he will consider a smaller set of alternatives, leading to:

H4: Greater depth of purchase experience is likely to be associated with smaller initial evoked sets.

Another aspect of the influence of expertise on evoked sets relates to the diversity of the consumer's previous purchase experiences. The broader the assortment of alternatives a consumer has purchased, the more likely it is that s/he will consider a wider range of choice options at the start of the decision process, provided that preferences for the most recent brand bought are not dominant. Hence,

H5: Greater width of purchase experience is likely to be associated with larger initial evoked sets.

The impact of previous purchase experience on the final evoked set is more difficult to discern. One possibility is that consumers with a narrow (i.e. less diverse) purchase history are not likely to alter their evoked sets from the initial to the final stages of the decision process thus causing them to have smaller final evoked sets. However, those with a diverse purchase history are also likely to arrive at smaller final evoked sets, as a result of pruning down their choice sets through an elimination and selection process, rather than selection alone as in the former case. In fact, the only type of consumer likely to have a large final evoked set is the one who is unable to narrow down the choice options either because of a lack of previous purchase experience or expertise (implied in H3). Hence:

H6: Limited purchase experience is likely to be associated with larger final evoked sets.

Taken together, the hypotheses postulate relationships between expertise, previous purchase experience and evoked sets. The relationships are listed and depicted pictorially in Figure 1, which may be viewed as a flowchart for representing the effects of expertise on the formation of evoked sets.

DATA DESCRIPTION

The data used for this research were collected as part of a study of new car buyers conducted in three geographically separate major metropolitan markets. Potential respondents were first contacted by telephone to solicit their participation in the study, with a view towards enhancing response rate. Approximately 2400 questionnaires were mailed and 1046 usable responses were received. Prior to their submission for analyses, the responses were subjected to an extensive series of checks to identify possible biases, which could be controlled for during the analysis stage (for details, see Punj and Staelin 1983). In almost all instances the data held up well to the verification tests. However, like in most survey research, it is difficult to assess the respondent's ability to retrospectively recall the information requested in the data collection instrument, given that some of the questionnaires were completed up to six months after the purchase. A test to reveal any systematic bias due to forgetting (across subsamples) did not turn up any differences.

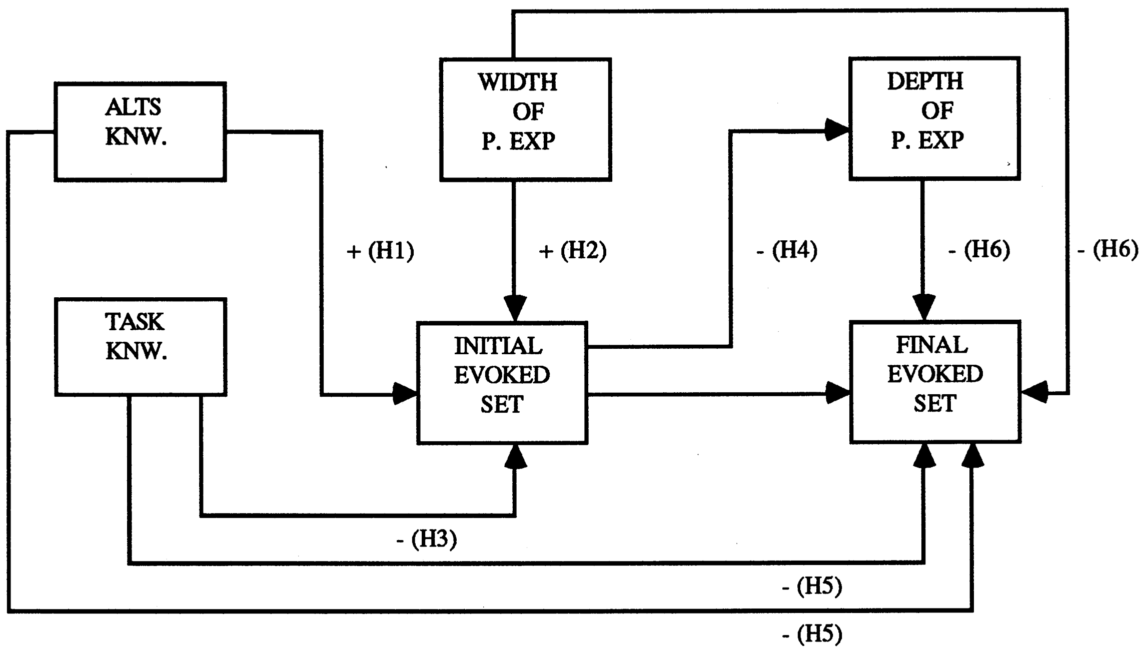
Information was requested on the two aspects of expertise (alternatives knowledge and task knowledge), purchase histories and evoked sets identified earlier. The exact operationalizations used are provided in Table 1. In this context it should be mentioned that the two expertise variables, while conceptually meaningful, are only psychological scale approximations of a complex construct. Thus the results corresponding to them should be interpreted with caution. For the purchase experience and evoked set variables there is a better correspondence between the measures employed and the underlying constructs. However, it should be kept in mind that the distinctions between "initial" and "final" should be viewed only in a relative sense, because of the difficulty of anchoring the consumer decision process in very precise terms.

RESULTS

The plan of analysis adopted for testing the hypotheses called for the sequential use of simple correlation and canonical correlation analysis. It was felt that these techniques were particularly suited given the nature of the data, the type of relationships being

FIGURE 1

A PROTOTYPE REPRESENTATION OF THE INFLUENCES OF EXPERTISE AND PURCHASE EXPERIENCE ON THE EVOKED SET



Hypothesis	Construct	Influence On	Direction
H1	ALTS. KNW.	INTL. EV. SET	+
H2	TASK KNW	INTL. EV. SET	-
H3	ALTS. KNW & TASK KNW	FNL. EV. SET	-
H4	DEPTH OF P. EXP.	INTL. EV. SET	-
H5	WIDTH OF P. EXP.	INTL. EV. SET	+
H6	DEPTH EXP & WIDTH EXP	FNL. EV. SET	-

tested, and the desire to test all the hypotheses collectively, rather than in a piecemeal fashion.

Table 2 displays the means and standard deviations for all the variables employed in the analysis. The variables used to measure expertise appear to exhibit the most variation, while those used to measure the size of the final evoked set and the depth of a consumer's past purchase experience appear to vary the least. The pearson correlations for the variables of interest are shown in Table 3. Most of the coefficients are significant at the $p < 0.05$ level.

An examination of the table shows the two expertise variables to be correlated with each other ($r = .30$, $p < .001$). This was to be expected due to the definitional overlap in these variables. Also, the two experience variables are positively correlated with the expertise measures, while the latter are negatively correlated with the evoked set variables. Thus, one might be led to expect a negative correlation between the evoked set and the experience variables. However, this appears not to be the case. The experience variable representing the diversity of a consumer's previous purchase experiences is positively correlated with both the evoked set variables. Broadly speaking, the interpretation which may be ascribed to the correlation coefficients is that both depth and width of previous purchase experience affect the development of expertise. But they are not singular influences, since *only* the expertise variables appear to be related to the formation of smaller evoked sets.

In order to further understand the nature of the relationships among the constructs of interest and to provide a collective test of the hypotheses, the matrix of correlation coefficients were subjected to a canonical correlation analysis (using BMDP6M) with the evoked set variables comprising the criterion set. The strength of the relationships between the predictor set of variables (expertise and purchase

TABLE 1

OPERATIONALIZATIONS OF VARIABLES USED IN THE ANALYSIS

Variable	Measure
TASK KNOWLEDGE (TASK.KNW)	A self report measure of the decision maker's ability to judge cars, as measured on a five point scale.
ALTERNATIVES KNOWLEDGE (ALTN.KNW)	A self report measure of the decision maker's opinion on how good a buy s/he would have gotten at the beginning of the purchase decision, as measured on a seven point scale.
INITIAL EVOKED SET (INTL.SET)	A count of the number of brands in the decision maker's evoked set after the onset of problem recognition but prior to the start of retail visits.
FINAL EVOKED SET (FINL.SET)	A count of the number of brands in the decision maker's evoked set after the commencement of retail visits but prior to the purchase decision.
DEPTH OF PURCHASE EXPERIENCE (DPTH.EXP)	The number of new or used cars bought in the last ten years.
WIDTH OF PURCHASE EXPERIENCE (WDTH.EXP)	A count of the number of different makes of cars owned by the decision maker in the last ten years.

TABLE 2

MEANS AND STANDARD DEVIATIONS

VARIABLE	MEAN	STD DEV
CHPR.KNW	3.65	0.96
ALTN.KNW	5.02	1.25
INTL.SET	3.00	2.02
FINL.SET	2.03	1.28
DPTH.EXP	4.11	3.20
WDTH.EXP	2.48	1.46

TABLE 3

PEARSON CORRELATION COEFFICIENTS

	T.KNW	A.KNW	I.SET	F.SET	D.EXP	W.EXP
TASK.KNW	1.00					
ALTN.KNW	0.30 P=0.00	1.00				
INTL.SET	-0.10 P=0.00	-0.17 P=0.00	1.00			
FINL.SET	-0.04 P=0.11	-0.16 P=0.00	0.58 P=0.00	1.00		
DPTH.EXP	0.22 P=0.00	0.13 P=0.00	-0.01 P=0.36	-0.00 P=0.49	1.00	
WDTH.EXP	0.12 P=0.00	- 0.01 P=0.35	0.18 P=0.00	0.19 P=0.00	-0.49 P=0.00	1.00

experience) and the evoked set variables can be assessed by examining the canonical correlation coefficients, canonical weights and loadings and the canonical cross loadings depicted in Table 4.

The canonical correlation coefficient of (r = 0.29) provides a measure of the overall association between two linear combinations of variables (canonical variates) constructed from the predictor and criterion sets respectively. The square of this statistic (0.084) can be interpreted as the amount of variance explained in the evoked set variables by the purchase experience and expertise variables. The canonical weights are indicative of the relative contribution of each variable to the linear combination (canonical variate) of which it is a part. The canonical loadings can be interpreted as within set variable-variate correlations, while the canonical cross loadings represent the between set variable-variate correlations.

An examination of the entries in Table 4 shows that both the expertise variables appear to be inversely related (cross loadings = - 0.18 and - 0.11) to the two evoked set variables. Hence there is support for hypotheses 3 and 5 but not for hypothesis 1, thus indirectly advancing the efficiency explanation of the role of knowledge on the subsequent processing of information. The relationship between the purchase experience and evoked set variables shows that purchase experience (width) has a positive (cross loading = 0.20) while purchase experience (depth) has a negative (cross loading = - 0.01) relationship, thus providing support for hypotheses 2 and 4. However, the effect of the depth of experience is very weak and the results appear to be driven by the width of consumer's past purchase experience. There appears to be only marginal support for hypothesis 6, with purchase experience (depth) showing a mild negative relationship with the evoked set variables.

Although not explicitly stated, a positive relationship between the initial evoked set and final evoked set is implied by the hypotheses, subject to the relative magnitude of the effects in hypotheses 1 through 4. Such a relationship can be observed in the criterion variables set (the simple correlation of 0.58 is significant; the canonical loadings are 0.91 and 0.87 for the initial and final evoked sets respectively).

DISCUSSION AND CONCLUSION

Overall, the results appear to support the relationships postulated in the Figure. However, as indicated earlier the hypotheses are exploratory and can best be viewed as contributing to theory development, rather than providing confirmatory evidence of one. In light of the results obtained, it seems that there is strong support for the efficiency explanation of how expertise influences the evoked set formation process. Consumers appear to use their knowledge to narrow down their consideration set, even at the very initial stages of the decision process.

If expertise facilitates the consideration of additional choice alternatives, this probably occurs only after the initial choice set has been formed. The influence of past purchase experience is less certain. For one, it appears that only the diversity of one's purchase history influences the formation of the initial evoked set. Furthermore the effect appears to be counter to the influence of expertise, thus supporting the facilitating explanation of knowledge on the subsequent processing of information. Here it appears that consumers use their past purchase experiences to broaden their choice set of alternatives at the early stages of the choice process. Thus, if past experience is used to limit the consideration set, this occurs only after the purchase process is well underway.

A simple explanation which is consistent with the results (but is not necessarily the cause of them) is that consumer's rely on the diversity of their purchase

TABLE 4

RESULTS OF THE CANONICAL ANALYSIS

Variables	Canonical Weight	Canonical Loadings	Canonical Cross Loading
Predictor Variables Set			
Alternatives Expertise	-0.52	-0.62	-0.18
Choice Process Expertise	-0.16	-0.29	-0.11
Previous Purchase Exp(Depth)	-0.36	-0.02	-0.01
Previous Purchase Exp(Width)	0.89	0.70	0.20
Criterion Variables Set			
Initial Evoked Set	0.61	0.91	0.27
Final Evoked Set	0.51	0.87	0.25

Canonical correlation coefficient (r) = 0.29
Canonical root / eigenvalue (r^2) = 0.084

$X^2 = 87.6$
df = 8
$p < 0.001$

experiences to form their initial evoked sets. Once this is accomplished, they use their expertise to narrow down their choice options as they proceed along the decision process.

The nature of the transformations occurring on the evoked set from the initial to the final stages is a fruitful area for additional research. Of particular interest would be a conceptualization which accounts for both size and composition changes in the evoked set over the course of the decision process. Such a model would permit a more precise characterization of the various expertise and purchase experience effects explored in this study.

Future research directions include generalizable studies using different samples and different product categories. Two critical issues to be borne in mind are (1) the need to develop/test alternate and possibly improved measures of expertise and experience using scale development procedures, and (2) the need for process research, rather than the traditional static, cross-sectional analyses. The latter approach permits integration with research studies in message comprehension, persuation, recall and product choice.

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Determinants of Choice Set Size: An Alternative Method for Measuring Evoked Sets

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ABSTRACT

An evoked set consists of those brands which the consumer is aware of and considers for purchase. It is proposed that actual choice data be used to investigate determinants of evoked set size for mature, frequently purchased products in stable markets. The measurement of choice sets is free of the problems of previous research: serial recall interference and limitations on processing capabilities. An empirical test of this assumption using a grocery product found that education and product importance had a positive association with choice set size. The finding with respect to education differs from previous studies and is consistent the literature in variety seeking behavior.

INTRODUCTION

An evoked set is a set of products of which a consumer is aware and which are considered for purchase (Howard and Sheth, 1969). Since the evoked set is a subset of the products available in the marketplace, the evoked set formation is seen as an information load reducing mechanism used by consumers to reduce the cognitive complexity of the brand choice process. The existence of evoked sets has been confirmed in the choice process for non-durables (grocery products - Campbell, 1969), consumer durables (cars - Gronhaug, 1974) and services (retailing - Spiggle and Sewall, 1987).

The demonstrated existence of evoked sets has important implications for marketers. It is assumed that a brand competes only with others in the evoked set of the consumer and not necessarily with all other brands in the market. Therefore, the size of the evoked set and the determinants of its size are important. In this paper, the determinants of evoked set size for a common food product, instant coffee, will be explored.

A number of previous studies have looked at the same problem with other frequently purchased products (Campbell, 1969; Jarvis and Wilcox, 1973; Brown and Wildt, 1987). For example, Campbell (1969) found that brand loyalty and importance of product class affect the size of the evoked set for grocery products (non-durables) whereas there are no effects due to demographic variables such as the age or education of the consumer. On the other hand, in studies of the choice process for consumer durables (Maddox, Gronhaug, Homans and May, 1978) the demographic characteristics of age and education of the purchaser *do* affect the size of the evoked set. This discrepancy is attributed to differences in the type of product studied (durable vs. non-durable). However, there are some limitations to the methodology used to study grocery products which may affect the validity of the measurement of evoked set size. The primary limitation is due to the use of unaided recall to measure evoked set size.

In this paper, new information about evoked set formation and new data sources will be used in an attempt to reconcile this discrepancy. Specifically, it is proposed that brand choice data be used to measure the size of the evoked set for mature, frequently purchased products in stable markets. In an empirical investigation, scanner panel data is used to determine the demographic determinants of choice set size. This methodology suffers from none of the limitations of previous studies of this type. The results can be used to cross-validate previous research findings and shed some light on the differences found between the Campbell (1969) and Maddox, et al. (1978) studies.

In the next section, an introduction to the research of evoked sets is presented. The past literature concerning the determinants of evoked set size is reviewed and a critical discussion of the measurement methodology used in the past follows. A new methodology for measuring evoked set size is proposed and used in an empirical study. The results and discussion sections conclude the paper.

DEFINITION OF EVOKED SET

It is hypothesized that evoked sets form in response to the complex choice problem which arises when a large number of brands must be evaluated before a choice is made. In order to reduce the cognitive load of the choice process, the consumer considers only a subset of brands. As defined by Howard and Sheth (1969), there are two conditions for inclusion of a product in a consumer's evoked set: 1. the consumer must be aware of the product and 2. there must be some intention to purchase the product. Since there is often a large number of brands available in a product class, consumers may be aware of only a subset of brands. It can also be assumed that of all the brands of which a consumer is aware, she may only consider a small number for purchase.

The awareness of a brand is typically measured by unaided or aided recall (recognition). The evoked set is determined by asking the consumer which brands would she *consider for purchase* or *find acceptable for purchase*. Myers (1979) suggests that alternative ways of measuring evoked sets are actually measuring different constructs. He conjectures that some brands which are "acceptable" may be marginal brands which are not actually "considered" in the routine choice process unless the preferred brands are not available. However, Troye (1984) found that there were no significant differences in the evoked sets when elicited with either question.

Although this research is concerned with the size of evoked sets, other research has focused on the formation and composition of evoked sets. One important example is Parkinson and Reilly (1978). Using both recall of evoked sets and rating of brands in the awareness and evoked set, they examined which decision rule best explains inclusion or exclusion from the evoked set. It was found that the unweighted linear compensatory or lexicographic evaluation models both explained their findings well. In the next section, the literature examining the determinants of evoked set size is reviewed.

DETERMINANTS AFFECTING THE SIZE OF EVOKED SETS

The determinants of the size of an evoked set has been a very active research topic. The types of factors studied can be broken down into two groups: 1. characteristics of consumers and 2. characteristics of products. In this paper, I will be concerned with those demographic factors which affect evoked set size. Some of the other characteristics of consumers studied were the ability to discriminate (Ostlund, 1973), self-confidence and familiarity with product class (Gronhaug, 1974). Some of the product characteristics studied in the past include: number of choice criteria (Belonax, 1979; Belonax and Middlestaedt, 1978) and level of abstractness of information processing (May and Homan, 1977). In the next section, I will describe the determinants of evoked set size used in previous research that will also be used in the empirical study.

Factors used in previous research:

The following paragraphs describe possible factors which could affect the size of evoked sets and the rationale behind the choice of these factors.

A. Number of brands that consumer is aware of - It has been shown that there are limitations to the amount of information that can be processed simultaneously in short-term memory (Miller, 1956). This limit is hypothesized to affect the number of products considered as well as the number of choice criteria used. It is expected that as the number of brands a subject is aware of increases beyond a certain limit, the evoked set size (those brands actually considered) will asymptotically reach some upper limit.

B. Importance of product category - The impact of the importance of a product category on evoked set size is based on Social Judgement Theory (Sherif, Sherif and Nebergall, 1965). The theory states that the number of acceptable positions on a social issue is inversely related to the level of involvement of an individual in that issue. Applying this theory to brand choice, with rising importance of a product category, we should observe smaller evoked set sizes. It is equally plausible, however, that increased category importance leads to more search and trial since the product class is so important to the consumer and a mistake would be costly. The importance of the product category may have a positive or negative influence on the evoked set size.

C. Education - May and Homans (1976) found that people who used concrete information processing in the brand choice process had smaller evoked sets. Since well-educated consumers have more experience with abstract thinking, it is assumed that such thinking will occur more frequently with increasing levels of education. The increased probability for abstract thinking will thus lead to larger evoked sets as the level of education increases.

D. Brand loyalty - Campbell (1969) and Ostlund (1973) conjecture that brand loyal customers use more concrete information processing than others. The use of concrete attributes to evaluate alternatives is expected to lead to smaller evoked sets since the range of acceptable brands is constrained by the specificity of the choice attributes. The choice attributes are assumed to be defined or at least affected by the preferred brand.

E. Age - It is assumed that the longer that a consumer has been using a product, that the more time she has had to form stable preference orderings (Howard and Sheth, 1969). This would lead to smaller evoked sets with increasing age. However, time in the market may also teach you that quality does not vary across brands and therefore, price (or another attribute) should guide brand choice.

F. Income - A risk averse consumer should have a smaller evoked set than others since an acceptable brand may be repeatedly purchased in order to avoid a "mistake" by purchasing an unknown, possibly unsatisfactory brand. However, the larger the income of the customer, the lower the risk of making a "mistake" since the unsatisfactory product can be discarded with lower penalty. The higher income allows a consumer to sample a wider variety of brands with, all else equal, less risk.

There are two types of products studied in previous research, durables and non-durables. From Table 1, it is clear that the various demographic variables have differential effect on the evoked set size depending on the type of product studied. For example, both age and income affect the size of the evoked set when the product being considered is a consumer durable (car). However, these variables have no affect on the evoked set size for grocery products like toothpaste and laundry detergent. The constructs being measured in the different studies are not too different since brand loyalty impacts the evoked set size over both types of products. Product importance also affects the evoked set size for both types of products, but in opposite ways.

The question then arises as to the reason for these discrepancies. Are they due to the product types chosen (durables vs. non-durables) or could they be due to measurement errors? In the remainder of the paper, new insights into the evoked set formation process and new data sources will be used to try to answer this question. In the next section, a critical review of the previously used methodology will be

TABLE 1.

Table of Previous Results.

Study:	Campbell	Jarvis/Wilcox	Gronhaug et al.(*)	Brown, Wildt
Products:	toothpaste, laundry soap	napkins, reg. coffee, dishwashing liquid	cars	soft drinks, fast food
Brand Loyalty	(-)		(-)	(-)
Importance	( )	(-)	(+)	
Family Size	( )			
Age	( )		(-)	
Income	( )		( )	
Education	( )		(+)	

Note: (+,-) indicates statistically significant relationship.
Empty braces ( ) indicate no relationship and (*) indicates that the results are from 3 different, related studies.

presented. A description of the proposed methodology will follow.

CRITICAL REVIEW OF PREVIOUS METHODOLOGY

The review will focus on the methodology used in the Campbell (1969) study since its results are the source of the apparent anomaly. In the study, housewives were asked which brands they would consider before making a purchase in the category being studied.

This question would yield a relevant measure of the evoked set if the housewife made up a shopping list at home from which she never deviated once in the grocery store. However, if the researcher wants to know which products were considered in the store, the woman might not have access to that information. As Nisbett and Wilson (1977) point out, consumers may have little access to higher mental processes. This may include the narrowing process from the brands she is aware of and the evoked set. In other words, this question constructs evoked sets from retrospective self-reports without controlling for time since the choice was made or exposure to other stimuli like advertising or point of purchase displays.

Assuming for the moment that the consumer does know which brands were considered, can she accurately recall and report them to the interviewer? Since the housewife is asked to recall the products that she would consider, they must be either recalled serially or as some type of set. If recalled serially, we know that the recall of the first brand can inhibit recall of subsequent brands. Alba and Chattopadhyay (1985) found that in the case of non-cued recall, the items recalled first interfered with the ability to recall subsequent items. The output interference might lead to the *reporting* of smaller evoked sets than are actually used. In either case of serial or set recall, it has been shown that the short-term memory stores can hold only 7 + 2 chunks of information (Miller, 1956). A number of authors of evoked set studies point out that the limit to the size of evoked sets reported is also about seven. They conclude that this is a further confirmation of Miller's Magic Number. It is assumed that since consumers can only report up to seven alternatives that only about seven are actually evaluated. This is an incomplete observation since the limits on cognitive processing by consumers may also limit the ability to report. Consequently, the consumer may evaluate and consider more than seven alternatives but is unable to recall and report these alternatives.

Since serial interference and the limits on cognitive processing can limit the size of the evoked set reported, it is proposed that other measures be used to determine the size of evoked sets. It is proposed in this paper that *actual choice behavior* can be directly used to measure the evoked set. The next section will present those conditions under which the choice set can be used as a proxy for the evoked set.

PROPOSED METHODOLOGY

In this study, the actual purchases by a household will be used to measure the size of the evoked set for that household. Although this procedure will not be appropriate for all situations, it can be

TABLE 2.

Determinants of Choice Set Size

Variable	Statistic	Result	Sample Size	t-test
Income	Kendall	.026	776	.953
Male Age	Kendall	.034	622	1.117
Female Age	Kendall	.039	769	1.478
Male Education	Kendall	.094	575	2.941
Female Education	Kendall	.067	717	2.280
Importance (No. of Purchases)	Correlation	.239	784	$p < .01$
Brand Disloyalty	Correlation	.049	707	not sig.

Note: Different sample sizes were due to missing data. The choice set size ranged from 1 to 11. For the analyses using Kendall's Tau, the measures for evoked set sizes of 7 to 11 were collapsed into 1 range to make the cell sizes more equal.

argued that for the product being studied, instant coffee, there are conditions which make purchase data an excellent indicator of the evoked set. These conditions include a mature product in a stable environment (without product introductions or deletions).

Awareness and the Size of Evoked Sets

The first condition for using purchase data concerns the effect of awareness of brands on the size of reported evoked sets. Although Jarvis and Wilcox (1973) found an insignificant relationship, a more recent study (Brown and Wildt, 1987) found a significant relationship between awareness and evoked set size. Furthermore it has been shown that there is situational awareness of a brand based on other brands recalled (Alba and Chattopadhyay, 1985). Since one of the mediating factors of including a brand in an evoked set is the consumer being aware of it, any awareness bias will be removed if consumers are made aware of all brands.

It is assumed that a consumer will be aware of all brands available in the market when brand choices are made in thesupermarket. So long as all brands are available (in stock) in every store, the set of alternatives is clearly defined and stable. In this case, the outcome of the choice process is based on stimulus-based processing (Lynch and Srull, 1982) rather than recall-based processing. Recall-based processing is subject to the limitations proposed by Miller (1956) and serial recall interference effects (Alba and Chattopadhyay, 1985) discussed above. Since store brands are not a factor in this market (instant coffee) and no product introductions or deletions occurred in the period of study, the set of brands was stable across time and outlet.

Howard's Theory of Concept Learning and Evoked Sets

The second condition concerns the maturity of the product category. Applying Howard's (1977) theory of Concept Learning, May (1979) conjectured that the composition of the evoked set would change as consumers became familiar with the product category. For a new product category, the consumer has little information on products or the criteria to be used in the choice process. In this Extensive Problem Solving stage, evoked sets are assumed to consist of untried brands only. As the consumer gains experience with the product category through trial of various brands, the choice criteria become more well-defined. In this Limited Problem Solving stage, evoked sets are assumed to consist of both tried and untried brands. Finally, the consumer reaches a stage of Routine Response Behavior in which she has formed a predisposition towards a set of brands. In this stage, the evoked set will consist only of tried brands (as long as there are no new introductions). The prediction of May (1979) with respect to Routine Response Behavior has been confirmed by a study of Canadian beer drinkers by Brisoux and Larroche (1980).

In the case of instant coffee, sales of the product category have been flat or falling in the years previous to the study. It can be safely assumed that instant coffee is a mature product. May (1979) further assumed that in the maturity stage of the product life cycle, most consumers are in the Routine Response Behavior Stage. Therefore, for mature products, the choice set (set of brands purchased over time) will be the same as the evoked set (set of brands considered for purchase). So if we can observe the choices of a consumer over time, we can use this set as the evoked set.

Inert, Inept and Evoked Sets

At this point there can be some question whether the choice set is a true reflection of the evoked set. Since the choice set can include brands which may be subsequently judged as inadequate, it may be a larger set than the actual evoked set. In order to better understand the role of trial and evoked set formation, we turn to the evoked set taxonomy developed by Naryana and Markin (1975).

The entire set of brands available in the marketplace is called the "total set". The set of brands of which the consumer is aware is termed the "awareness set". The awareness set is subdivided into three sets based on the consumers evaluation of the individual brand. A brand for which the consumer has a positive evaluation is considered in the "evoked set". A product with a negative evaluation is considered in the "inept set". Those products for which the consumer has made no evaluation are considered in the "inert set".

If we view the choice set of the consumer over the entire product life cycle, it consists of products with favorable and unfavorable evaluations (evoked and inert sets). The unfavorable tag however will be decided only *after* trial. How can we be sure that only favorably evaluated brands are included in the choice set (placing it also the evoked set)?

In the maturity stage of the product life cycle, evoked sets are composed of only tried brands (Brisoux and Larroche, 1980). We can therefore conclude that a brand would not be in the evoked set if it had been found to be unacceptable (and hence in the inept set).

Another objection to the assumption that only acceptable brands will be purchased may be the possibility that brands could move over time from the inept to the evoked set. This possibility is discussed by Naryana and Markin (1975). However, recent work on the formation of evoked sets (Sutton, 1987) has shown that *new products* are more likely to be included in an established evoked set than previously rejected brands for which new positive information is available. Although a brand may move from the inert set to the evoked set, it is assumed that such "sampling" behavior is most prevalent in the earlier stages of the product life cycle. The choice set of a product in the maturity stage can thus be safely assumed to be the same as the evoked set.

In the next section, the variables to be measured will be discussed. The source of the purchase data and statistical tests to be performed will follow. The subsequent sections will contain the results and a discussion of the results.

VARIABLE DEFINITIONS AND DATA SOURCES

The variables to be used in this study are similar to those used in other studies. Demographic information on age, income, and education are supplied by the households. The importance of the product class will be measured by the total purchases made over the entire time period. It would be preferable to divide the total purchases by income to measure the riskiness of an individual purchase. However, income is reported in ranges which precludes this type of measure.

The database used for this study is the IRI Academic Research Database of coffee purchases. The data consists of all ground and instant coffee purchases over a two-year period by several hundred households. There are two cities represented in the data: Marion, IN and Pittsfield, MA. The data is aggregated across both markets since the set of available products for both products is the same.

Only the instant coffee purchases will be used since it has been suggested that ground and instant coffee serve different uses rather than being used as substitutes (Urban, Johnson and Hauser, 1984). Furthermore, only those households with at least 10 purchases will be included in the study. If data from a longer period of time were available, fewer families would be left out. However, a researcher should observe at least 10 purchases in order to make sure that the entire purchasing pattern has been observed (Blattberg, Buesing and Sen, 1980).

Brand loyalty will be modeled as an index of *dis*loyalty based on the distribution of purchases across the choice set. If a household is totally without loyalty to any brand, it is assumed that the purchasing distribution will be uniform across all brands in the choice set. The index of disloyalty will be the geometric mean of the choice probabilities. This is given by $X = [n\sqrt{(\pi_i p_i)}] \div (1/n)$ where n is the size of the choice set and p_i is the probability of choosing choice i. The index i varies from 1 to n. The term (1/n) is introduced to eliminate any bias due to the size of the choice set.

Since much of the demographic data is reported in ordered ranges, the proper statistic to detect association for these variables is Kendall's Tau. The program used to calculate this statistic will be from the BMDP series of statistical software. The other statistic to be reported is the product-moment correlation.

RESULTS

Since the incidence of store brands in these markets is very small, they were eliminated from the analysis. Using a rule of thumb from previous work using scanner panel data, only those brands accounting for at least 1% of total panel purchases are included in the analysis. There were 11 brands which satisfied this criterion: High Point Decaffeinated, Taster's Choice Regular and Decaf, Sanka Regular and Freeze Dried, Nestle Regular and Decaf, Brim Decaf, Maxwell House Regular, Maxim Freeze Dried, and Folger's Regular. The different package sizes are considered to be the same brand. All were available for the entire period of study and there were no new product introductions or product deletions.

There may be some question whether caffeinated and decaffeinated brands should be considered as part of the same market. Without benefit of survey data on uses, I will defer to previous research in market structuring which put both regular and decaf brands in the same submarket (Fraser and Bradford, 1983; Grover and Srinivasan, 1987).

DISCUSSION

The results have shown that product importance is positively related to choice set size which validates the results of the auto studies by Gronhaug and others but differs from the results of Jarvis and Wilcox (1973). This is due to the different ways importance is measured. In the Jarvis and Wilcox (1973) study, product importance was measured relative to other product categories. In the auto studies, product category importance was absolute. Therefore, the results of this study confirm the findings in the consumer durable studies. This is important since it indicates that consumers have different levels of importance for low involvement products which subsequently affects their choice behavior.

However, as measured by the disloyalty index, brand loyalty has no effect on the choice set size. This could be due to the measure used or reporting bias. It is also interesting that education is positively related to choice set size but income is not. The lack of influence of income on choice set size is consistent with the conjecture that risk is not an important factor in the choice of frequently purchased goods. The association with education confirms the observation from the variety seeking behavior literature that the better educated consumer often becomes bored with the same choices and may experiment with new brands (McAlister and Pessemier, 1982). Finally, age had a small but insignificant relationship with choice set size. For this data set, the range of ages was very skewed towards the over 55 group with over 50% of the reported male and female ages falling in that range. This is to be expected based on the product category studied and may have affected the results.

Since the methodology used in this study is free from the reporting and recall biases of previous work, the discrepancy between the results of studies of durable and non-durable goods can be addressed. It seems clear once the results are presented that different choice processes are at work during the different choice tasks. The risk reducing mechanisms of brand loyalty and product experience (represented by age) would be more important in the high involvement purchase of a durable like an auto. The larger search (and trial) implied by the association with product category in this study would be expected when the cost of trial is low. Finally, the association with education can be explained using the variety seeking literature. The differences between the results of the Campbell (1969) and this study can be attributed to what appears to be a reduction in measurement bias due to full product awareness using the measures proposed in this work. The differences between these results and the automobile studies (Gronhaug, 1974; Maddox, et al., 1978) can be attributed to the different choice tasks faced by the consumer.

Although other researchers always call for more research into the process of evoked set formation, the current study indicates that the properties of choice sets are equally interesting. In the product optimization literature, it is assumed that the choice set size is stable with entry. If a new brand is chosen by a consumer, it will displace another from the choice set. The discontinuities introduced by this assumption make the optimization problem virtually intractable (Sudharshan, May and Shocker, 1987) Also, the choice set is assumed to be composed of the brands closest to the ideal point of the consumer in some multi-attribute space spanned by choice attributes. Can this assumption be used to generate joint-space maps from purchase data? These questions will be come more important to the marketer as product concept optimization programs become more widely accepted and scanner panel data become more available.

CONCLUSIONS

It is proposed that actual choice data be used to investigate the determinants of evoked set size. The use of choice sets as evoked sets is free of the problems of previous research, namely serial recall interference and limitations on processing capabilities. In the case of a mature product in a stable market, it was argued that the choice set would approximate the evoked set well. This assumption was used to cross-validate previous research in the grocery product area. Previous results of studies using consumer non-durables differed greatly from those studies involving consumer durables. The demographic variables of age, income and education and derived measures of product importance and brand loyalty were used as determinants of choice set size. It was found that education and product importance had a positive association with choice set size. The finding with respect to education differs from previous studies using grocery products and is supported by work in the area of variety seeking behavior.

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Making Decisions With Incomplete Information: The First Complete Test of the Inference Model

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ABSTRACT

The present study is the first test of the inference model to experimentally control inter-attribute correlations and the importance of the missing attribute; thereby directly testing causal relationships. All the predictions of the inference model were strongly supported; specifically a) available information has a greater influence on the judgments when it is positively correlated with missing information and a diminished influence when the correlation is negative, b) the correlation effects and the bias against missing information are greater when the missing information is more important, and c) framing effects are independent of the weight of the missing information.

The question of when, and how, subjects make inferences about missing attributes is fundamentally important for both basic and applied research.

Inferences and Basic Research

Virtually all cognitive and economic models of decision making assume that decision makers use the information presented to them; or some subset of that information in the case of heuristics or satisfycing approaches. Inference models raise the possibility that people may, in fact, employ inferences to process more information; a superset of what is presented.

The demonstration that people elaborate on, rather than simplify, the information set requires a reevaluation not only of established theories, but also of methods of the study of judgment and decision making. For example, attempts to identify the process by which attribute information is combined often depend on manipulating the amount of information presented to the subject (Anderson, 1981). These methods are valid only if we can assume that the subject ignores, or is unaware of, attributes for which information is not presented on some of the trials (Johnson and Levin, 1985; Cohen, Miniard, and Dickson, 1979).

The inference models also show promise for increasing our understanding of information search (Meyer, 1982) and the phenomenon of over-confidence in one's judgments and decisions (Levin, Chapman, and Johnson, 1988).

Inferences and Marketing Strategy

Consumers' inferring of missing information signifies a number of important implications for marketing strategy and research; both in suggesting useful procedures and in identifying potential traps. A number of companies' marketing strategies appear to be designed to take advantage of inferences. For example a national brand of shampoo advertises "It's more expensive, but I'm worth it;" encouraging people to (perhaps incorrectly) infer high quality from the premium price. AT&T's advertising has taken a similar tactic, reminding consumers that "You get what you pay for."

At the same time, marketing managers must be aware of, and design marketing strategies to avoid, traps that might result when consumers infer missing information. For example, a local grocery store recently offered ground beef at 99¢ per pound. The advertising copy, package, and point of sale display provided no cues to the percentage of fat in the meat. Many consumers may have inferred that the low price signalled poor quality and passed up the bargain ground beef. The marketing strategy was improved when the offer was repeated with the words "regular quality" prominently displayed in advertisement, package, and display.

Inferences and Applied Marketing Research: An Empirical Example

The impact of inferences on marketing research can be illustrated by a study conducted in our laboratory (Johnson and Tan, 1987) concerning the effect of inferences on the results of conjoint analysis research.

Rationale. Respondents to conjoint analysis surveys judge hypothetical products which are created by the factorial combination of *pre-specified* attributes. The number of hypothetical products, and therefore the length and difficulty of the survey, are directly related to the number of attributes and attribute levels to be tested. Hence, the number of attributes is usually limited by a constraint on the number of trials a respondent is expected to process. For this reason, researchers are often tempted to omit an attribute that is not relevant to the management decision. Such a strategy can have serious consequences for the respondents' decisions and, hence, for the attribute importance estimates derived from the conjoint analysis.

Consider, for example, a manufacturer who may offer televisions of varying screen sizes and prices. A survey may be conducted in order to identify the size and price combination with the greatest likelihood of success. If no information about warranty is available to respondents, they may infer it from the price (Johnson and Levin, 1985) or from the screen size. More expensive televisions, all things being equal, are less attractive; but if they are expected to have better warranties than less expensive televisions, then the negative effect of progressively worse prices may be mitigated by inferences about progressively better warranties. The effect of price will be smaller when respondents infer warranty, than when they do not.

Our research was motivated by two questions. First, do inferences matter in conjoint analysis research in which missing attributes are never presented? This approach differs from most published studies of the inference model which make the "missing" attribute salient by presenting it on some trials and omitting it on others; a procedure that may lead to experimental artifacts (Johnson, Levin, and Cressey, 1986; Lim, Olshavsky, and Kim, 1988). Second, if inferences affect applications of conjoint analysis, can their effects be easily and inexpensively avoided?

Method. Two different surveys were distributed to a convenience sample of fifty-seven students at the University of Alberta. Both conditions were identical, except for the instructions on the cover page. Subjects were asked to evaluate 36 hypothetical television descriptions, which were generated from a full factorial (2^2 X 3^2) of Price ($250, $450, or $650) X Screen Size (14, 20, or 26 inches) X Brand (RCA or Toshiba) X Remote Control (yes or no). In the control condition (N=26), subjects were given the standard instruction to "assume that everything else about the television sets is acceptable to you." Subjects in the experimental condition (N=31) were told explicitly that "*All* the TV sets feature a *full warranty* for 3 years. Please assume that everything else about the television sets is acceptable to you."

If subjects inferred the length of warranty from price in the standard instructions condition, then the effect of price on the evaluations will be reduced relative to the experimental condition in which the length of warranty was explicitly provided. The effect of screen size will be enhanced by inferences that larger televisions have longer warranties.

Results. The results are consistent with the prediction that subjects' judgments were influenced more by inferred warranty information in the control condition than in the experimental condition. Specifically, the observed effect of price on subjects' judgments was reduced when subjects were allowed to infer that inexpensive televisions may have poorer warranties (and vice versa). Furthermore, the effect of screen size was greater in the control condition; as predicted by the hypothesis that subjects inferred that larger televisions usually have better warranties. This is an important finding because it demonstrates simultaneously, that a) people can and do infer values of missing attributes even when those attributes are not made salient in a task; and b) the effect(s) of inferences on judgments can be substantially reduced or eliminated by a simple editorial change in the survey instructions.

The Inferring Missing Values Model

Johnson and Levin (1985) proposed and tested a model describing the pattern of inferences and their influence on the overall judgment of the alternative. This model incorporated both within-brand and between-brand attribute information. According to the Inferring of Missing Values model, subjects use available information to make inferences about the levels of the missing attribute. They proposed that the inference is linearly related to the known information. In the two attribute case, where a_1 is presented and a_2 is missing,

$$a_2' = ma_1 + k, \qquad \text{(Equation 1)}$$

where m represents the perceived relationship between the subjective value of attribute 1 and the subjective value of attribute 2, and k represents the mean level of the inference.

The relationship between the attributes is hypothesized to operate at a subjective level. For example, consider a grocery store that offers ground beef for $.99/lb, but does not reveal the percentage of fat in the meat. The Johnson and Levin model describes a process in which shoppers think "99 cents is a good price, so it must be pretty bad quality"; rather than "99 cents means it must be about 40 percent fat." Consequently, inferences are not subject to framing effects that are observed when the presented information is associated with a label, such as percentage of fat (or lean).

The general level of the inference, k, depends upon the expected mean or "normal" level of the missing attribute and on a bias that occurs if the subject assumes that the information has been withheld because it is unfavorable. The latter has been called an adjustment for uncertainty (eg., Meyer 1981) or a bias against missing information (Johnson, 1987). The expectations about the missing attribute are a function of experience. Consider, for example, a consumer who evaluates hypothetical pizza restaurants for which the price of a large cheese pizza varies around a mean of $10. Suppose, however, that the consumer perceives the price of comparable pizzas in established restaurants in his town to be distributed around a mean of $12. Inferences based on an expectation of the higher price should produce less favorable evaluations for missing information trials compared with full information trials. This result might be interpreted as a bias against missing information; although it results from a different process from one in which a subject discounts alternatives with missing information or infers that the information is unfavorable because it was withheld.

Another way to think about equation (1) is in terms of an intra-alternative component (m) which is based on information about other attributes of the same brand, and an inter-alternative component (k) which depends on information about the same attribute across brands (see Zwick, 1988). Johnson (1987) demonstrated that these two components could be manipulated independently; the former was increased by a simple reminder of the correlation between attributes, and the latter by framing effects and product knowledge. This paper further explores these and other factors that influence inference processes.

The inference is integrated with the presented information to reach a final judgment. Assuming an additive integration rule (both adding or averaging lead to the same predictions), the information for the two attributes in the full information trials may be combined according to the following model (Anderson, 1981).

$$R = w_1a_1 + w_2a_2. \qquad \text{(Equation 2)}$$

The relative influence or weight of each attribute, a_i, is represented by w_i. When information for attribute 2 is missing, a subject may substitute the inference:

$$R = w_1 a_1 + w_2(m a_1 + k)$$
$$= (w_1 + m w_2) a_1 + w_2 k. \qquad \text{(Equation 3)}$$

Equation (3) takes the form of a linear function where the slope of R as a function of attribute 1 depends on w_1, w_2, and m, and the intercept depends on w_2 and k. The specific predictions that follow from equation (3) are described in the next section.

PREDICTIONS

Effects of Intra-Alternative Information

The effect of the presented information on the ratings depends on the perceived relationship between presented and missing information. Recall that $R = (w_1 + w_2 m)a_1 + w_2 k$. Thus, the effect of the slope term, a_1, on R is $w_1 + w_2 m$. Compare this to the case where all the information is available, and the effect of a_1 on R is w_1. When information is missing, an inference increases the effect of a presented attribute if m>0, and decreases it if m < 0. Further, the effect of the relationship interacts with the weight of the missing attribute. The dependent measure is the estimate of the effect on ratings (slope estimate) for either of the two attributes as a function of the amount of information presented.

Prediction 1a) Positive relationship: The inference is subjectively similar to the known information and enhances the effect of presented information.

Prediction 1b) Negative relationship: The inference is opposite to the known information, and reduces the observable effect of the presented information.

Prediction 2): The weight of the missing attribute interacts with the inference. The more important the missing information, the greater should be the effects that are predicted in 1a and 1b.

Effects of Inter-alternative Information

Several processes have been proposed to affect the mean level of subjects' evaluations of completely and incompletely described alternatives, regardless of the values of the presented information. The first, somewhat misleadingly called a bias, is represented by k in the inference model. As described above it is a function of the expected mean or "normal" value of the missing information and of a negative reaction to the fact that information is withheld. According to the model, it interacts with the weight of the missing information. The second process, a framing effect, has been seen in trials when all the information is presented and not seen when information for a key attribute is missing. This finding has been interpreted as support for the hypothesis that inferences represent subjective valuations of the attribute level, and are not associated with the label that leads to framing of the same attribute in the completely described alternatives (Johnson, 1987; Levin, Johnson, Russo, and Deldin, 1985). The dependent measure is the mean of the evaluations, as a function of amount of information presented.

Prediction 3: The bias against missing information will reduce the attractiveness of the inference and lead to less favorable evaluations. It is as if subjects infer that "it must be bad news if it is being withheld".

Prediction 4: The more important the missing information, the greater the effect of the bias.

Prediction 5: A framing effect will appear only in fully described trials. Mean ratings for trials with missing information will be not differ across framing conditions.

Prediction 6: Since the frame of the missing attribute does not affect the mean level of the inference, k, then increasing the weight of the missing information will not increase (or make visible) a framing effect for trials with missing information.

Prediction 7: Since the frame of the presented information affects the perception of that attribute, and the perceived value of the presented information is, in turn, used as a basis for inferring the missing information, a positive relationship between the attributes (m > 0) should enhance the framing effect and a negative relationship should reduce it.

One might note that the model also appears to predict that the effect of the inter-attribute relationship on the frame will be greater when the missing information is relatively more important. However, this prediction holds only if the weights of the attributes are independent, as in a classic adding model. The averaging model predicts that an increase in w_2 means a decrease in w_1, negating the effect. In fact, the weight of the evidence supports the averaging model (Anderson and Lopes, 1974; Birnbaum, Wong, and Wong, 1976); so this interaction is not expected.

METHOD

Subjects were 160 introductory psychology students at the University of Alberta whose participation in this study was in partial fulfillment of a course requirement. Each subject rated 44 hypothetical candidates for a position selling a microcomputer accessory. The accessory, called the "Comptroller", was described as a new product about to be launched for the first time. Each subject was asked to take the role of a sales manager faced with the task of hiring a sales force to promote the new product.

The hypothetical job candidates were described as having been asked to take two examinations: one to test the candidates' knowledge of sales techniques, and the other to measure the candidates' knowledge of computers. Candidates' suitability for the job were judged on a twenty point scale, based on these two test scores. Some candidates were said to have been "unable" to take one of the tests, and subjects were asked to base the rating for those candidates on the available information, ie. the other test score.

The first twenty candidate descriptions were learning trials so that subjects could practice with the rating scale and gain experience with the levels of the two attributes. The correlation between the test scores was manipulated on these trials. The test scores in the learning phase was +.80 for half the subjects, and -.80 for half the subjects. The experimental trials followed immediately after the learning trials without a break. Subjects were unaware of the distinction between learning and experimental trials. For the latter set of trials, the design was fully orthogonal (no correlation). Scores for each test were "Unable", 30, 50, 70, or 90, out of 100 in the positive frame condition, or their complements (number incorrect) in the negative frame condition. All subjects rated all candidates in a within-subject design.

Three between-subjects factors were investigated. First, subjects were told that test scores tend to be positively (negatively) correlated, and an explanation for this was given. This story was reinforced by the correlation of test scores in the learning trials. Second, the frame of the scores was manipulated by describing them as the number correct (incorrect) out of 100. Finally, the weight was manipulated by telling subjects that top management was expected to issue a directive that product knowledge (selling technique) should be emphasized in the hiring decision, and a brief explanation of management's reasoning was given. Twenty subjects were randomly assigned to each of the eight cells generated by this 2 (Correlation) X 2 (Weight) X 2 (Frame) design.

RESULTS

As a first step, multiple regression was employed to estimate the effects of sales technique test scores and product knowledge test scores on ratings. The regression coefficients are plotted in Figures 1 and 2, respectively, for ease of comparison and to reduce visual clutter; however, all statistical tests reported below employed subjects' original ratings as the dependent variable. As a test of the weight manipulation, it may be observed in Figure 1 that technique had a greater effect on ratings when subjects were told that management wanted to emphasize technique over product knowledge. The reverse may be seen in Figure 2, where product knowledge coefficients are higher when knowledge was emphasized.

According to predictions 1a and 1b, the correlation between the two sets of test scores affects the inferences. This effect may be observed in Figures 1 and 2 by comparing the dotted lines, representing incomplete information trials, to the solid lines, representing complete information trials. The cross-over interaction indicates that, relative to the complete information trials, the effect of the presented information on the ratings in the incomplete information trials was enhanced in the positive correlation condition (prediction 1a) and reduced in the negative correlation condition (prediction 1b).

Analysis of Variance confirms the significance of this Correlation X Amount of Information interaction, $F(1,152) = 114.87$, $p < 0.001$. Follow up tests of the results for each correlation condition confirm prediction 1a for the positive correlation, $F(1,76) = 103.56$, and prediction 1b for the negative correlation, $F(1,76) = 21.36$; $p < 0.001$ for both tests.

According to prediction 2, the inference effect should be greater when the missing information is more important. This result may be observed by comparing the upper pair of lines to the lower pair in Figures 1 and 2. The Correlation X Amount of Information interaction is more pronounced in the lower pair of lines, representing trials in which the missing information is more important, relative to the upper pair, in which the missing information is less important. This Weight X Correlation X Amount of Information interaction is significant at $p<0.001$, $F(1,152) = 23.28$.

The mean ratings for all completely described (solid lines) and all incompletely described (dotted lines) alternatives are plotted in Figure 3. The figure allows for a visual comparison of the mean level of the ratings as a function of attribute information, weight and frame.

The third prediction, that trials with missing information (dotted lines) would lead to lower evaluations than trials with complete information (solid lines), was supported; the main effect for Amount of Information was significant at $p<0.001$, $F(1,152) = 142.32$. Furthermore, consistent with prediction 4, this bias against missing information was greater when the missing attribute was more important, $F(1,152) = 65.686$, $p<0.001$.

Prediction 5 states that framing effects would be observable for the complete information trials, but not for the incomplete information trials. Figure 3 confirms that the solid lines are higher in the positive frame condition than in the negative frame condition, and that the dotted lines are flat across conditions. This Frame X Amount of Information interaction is significant; $F(1,152) = 29.09$, $p<0.001$.

Prediction 6 invokes the null hypothesis. A significant Weight X Frame X Amount of Information interaction would have indicated that weak framing effects do operate on the inference, but that they are unobservable unless the missing information is important. The failure of the weight manipulation to produce framing effects in the inference is indirect support for the interpretation that inferences are made after the subjective valuation of presented information.

The one prediction that was not supported dealt with the identification of the locus of the framing effect (prediction 7). Because the frame affects the perception of the presented information, which in turn forms the basis of the inference, it was argued that the framing effect on incomplete trials should be greater when the inter-attribute correlation is positive and smaller when the correlation is negative. The test of this prediction was the Correlation X Frames

FIGURE 1
EFFECT OF SALES TECHNIQUE TEST SCORES

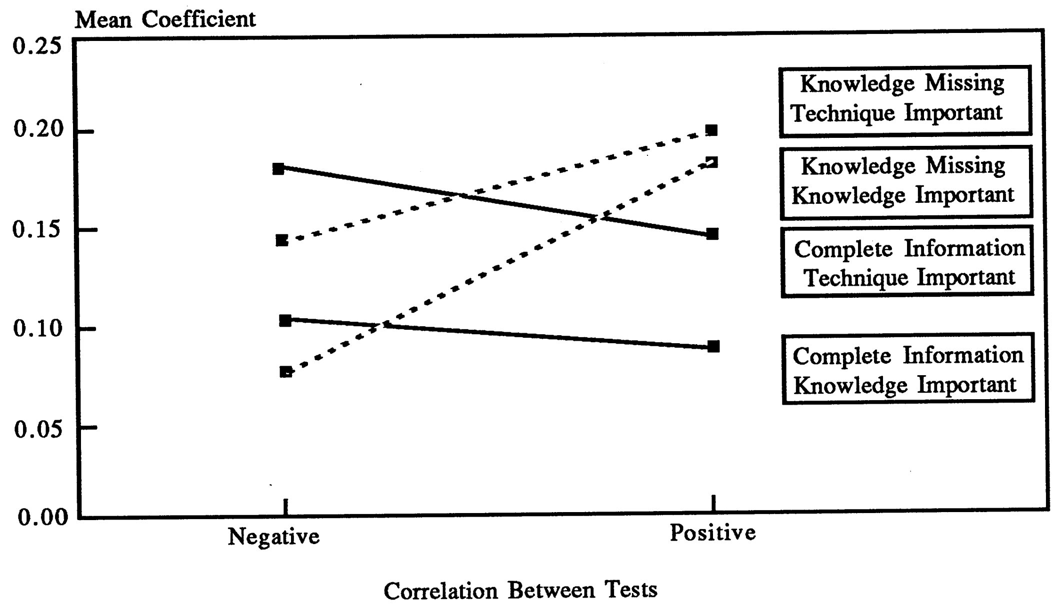


FIGURE 2
EFFECT OF PRODUCT KNOWLEDGE TEST SCORES

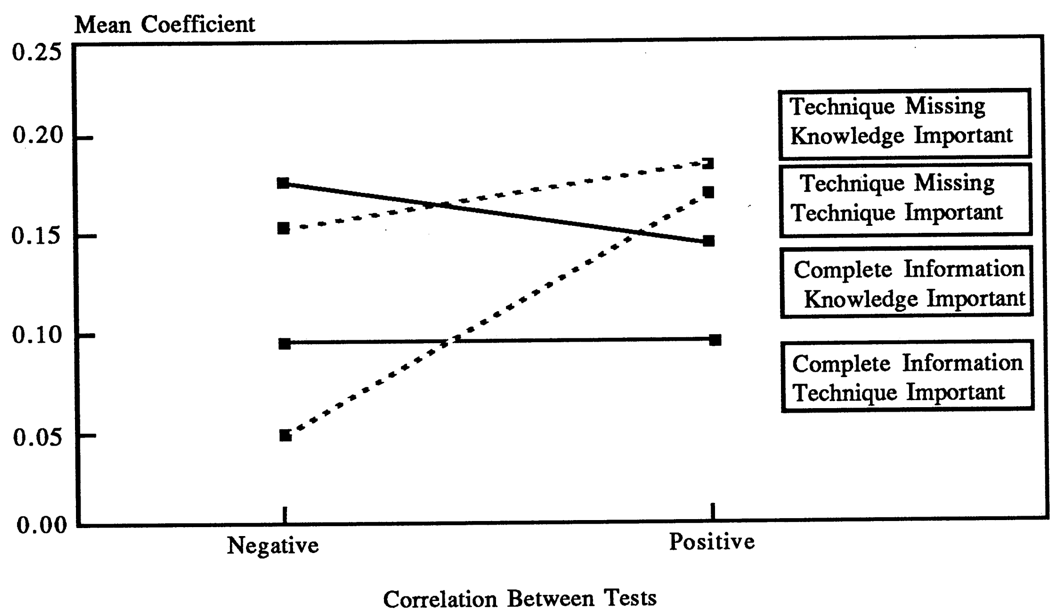
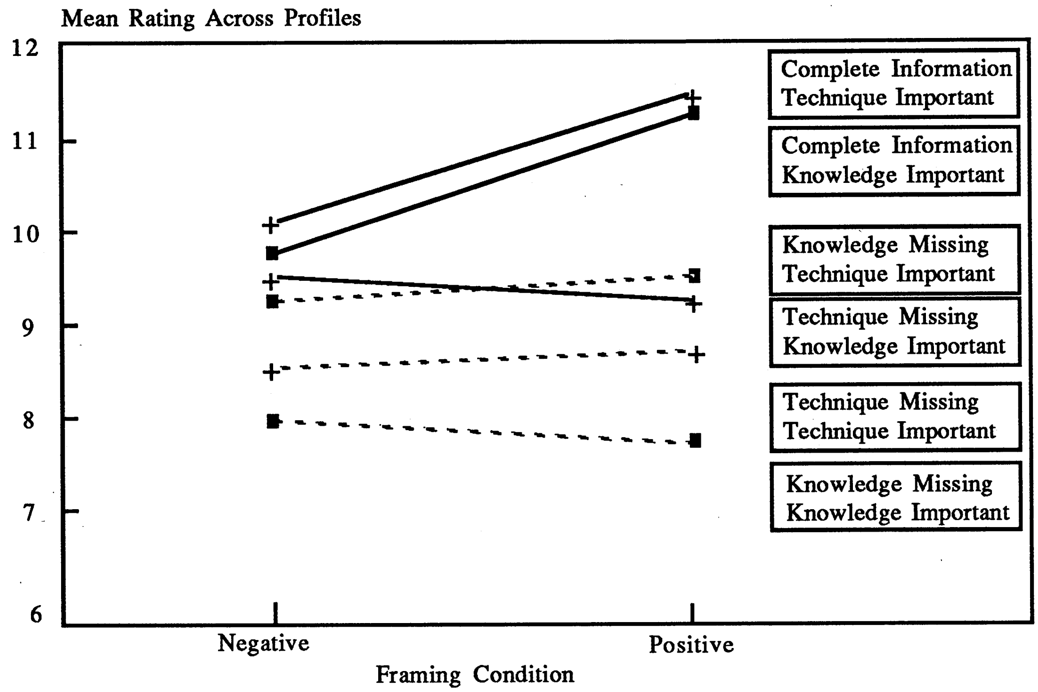


FIGURE 3

DISCOUNTING AND FRAMING EFFECTS



interaction; $F(1,152) = 2.609$, $p < 0.11$. It was expected that this effect would be small, and masked by the effects of the weights of the attributes. Because the sample size of each cell was only 20 and the trend was in the predicted direction, this prediction warrants further study in future investigations.

DISCUSSION

This is the first time that 1) both positive and negative correlations have been tested in the same controlled inference experiment, and 2) the weight of the attributes has been demonstrated to interact in the predicted manner with the correlation and the bias against missing information. Previous investigations have relied on inter-attribute correlations which are presumed to occur in natural settings, but which may not be appropriate for all respondents. In addition, earlier investigations depended on subjects' verbal reports and on indirect inferences about the relative weights of the attributes in order to test the interaction between weight and inferences. This study manipulated correlations and weight in a controlled setting and demonstrated that subjects are capable of the complex information processing implied by the inference model, and that inference effects follow the patterns predicted by the model. The results provide strong support for a simple model which has been shown to accurately predict judgments and decisions concerning ground beef, televisions, clinical psychologists, student performance, and gambles. Similar models have been applied to hiring decisions and ratings of beer.

The inference model has important implications for the conduct of laboratory and market research. Investigation of the effects of inferences has demonstrated the need to carefully select attributes to be included in the survey design, because subjects do not use only the information that is given them. Furthermore, if it is impossible to include all the relevant information, the model allows us to predict the effects of the missing information. Finally, the results tentatively suggest that marketing managers may wish to omit attribute information from their advertising in order to exploit inferences that may be more favorable than the factual attribute level.

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The Repetition/Variation Hypotheses Conceptual and Methological Issues

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Of crucial importance to both the marketing and advertising disciplines is the need to understand the impact of extended advertising campaigns on the consumer. How often must consumers be exposed to product or brand advertisements before information relevant to the consumers' purchase decision is encoded, stored in memory, and made available for retrieval? Furthermore, at what point in an advertising campaign do consumers form opinions about a product that may influence their future purchase decisions? Related to these questions is the crucial task of determining the point at which consumers will tire of seeing and hearing repeated advertisements for the same product.

Media strategists have the difficult assignment of determining the appropriate number of exposures a consumer should receive. Under-exposing the consumer to product advertisements may result in having an insufficient effect on the target consumer. On the other hand, over-exposing the consumer to the advertisements may result in the generation of negative feelings toward the advertisement, the advertised product, or the even company itself. An investigation of the specific conditions under which repeated advertisements are most likely to lead to positive consumer reactions would be immensely valuable to advertising professionals.

In conjunction with the concerns about consumers' sensitivity to repeated advertising, cost concerns also exist. Many companies develop and employ multiple exposure ad campaigns to try to familiarize consumers with their products and brands, hoping that some aspect of the advertisements will persuade consumers to purchase their product. However, media time is expensive. A minute of television commercial time may cost advertisers as much as $1 million for the sponsorship of a major television event (*Advertising Age*, 1987a). Rates for color print ads in major publications can cost in excess of $100,000 (*SRDS*, 1987). In 1986, each of the top 100 leading advertisers had advertising expenditures in excess of $80 million (*Advertising Age*, 1987b). Of these, the top three (Proctor & Gamble, Phillip Morris, and Sears, Roebuck & Company) incurred advertising expenditures of over a billion dollars each. Such high media related costs lower the profit margins of companies thereby potentially diminishing their ability to sustain positive growth in a competitive environment.

It is apparent that the consumer must receive multiple exposures if product or brand advertisements are to be effective (Stanky, 1988). Also apparent is the likelihood that the cost of media will increase as an increasing number of information sources compete for the consumer's attention. In this cluttered environment, messages targeted toward the consumer are likely to take more exposures to be effective (Webb and Ray, 1979). Therefore, the need for finding appropriate levels of advertising exposure which positively influence consumers while avoiding wasted expenditures (and possible negative effects on consumers) is of paramount importance to those developing media strategies.

The purpose of this article is to address this need by discussing advertising variation methods and the conditions of their optimal effectiveness. Two hypotheses are proposed that stem directly from the theoretical framework of the Elaboration Likelihood Model of persuasion (Petty & Cacioppo, 1979, 1981, 1986).

REPETITION - VARIATION

A recognized drawback of using repeated advertising is a negative effect on consumers termed "wearout" (Craig, Sternthal and Leavitt, 1976). A number of studies attempting to discover the impact of repeated messages have found a tedium reaction as people tire of being exposed to the same message over and over again. Several of these studies have noted the emergence of a curvilinear effect, whereby an initial positive effect resulting from a moderate number of exposures is followed by a negative reaction as the number of exposures is increased (Appel, 1971; Cacioppo & Petty, 1979; Calder & Sternthal, 1980; Gorn & Goldberg, 1980; Grass & Wallace, 1969; Winter, 1973). For example, while testing the effects of cogent messages that advocated a position either consistent with or contrary to the attitude initially held by the subject, Cacioppo and Petty (1979) found an increase in agreement with an attitudinal position in the one and three exposure conditions, but by five exposures a decreasing trend became apparent.

Such curvilinear effects have also been found to occur in situations of repeated advertising. Under laboratory conditions, Calder and Sternthal (1980) were able to show that a moderate amount of exposures led to a slight increase in product evaluation, while increasing the repetition of exposures led to a dramatic decrease. In a more natural setting in which children were exposed to an ice-cream advertisement in the context of a cartoon program, Gorn and Goldberg reported that children voiced a greater preference for the product after receiving three ad exposures (moderate exposure) compared to children receiving either one or five exposures.

Emerging from this evidence of a tedium effect is an important question that warrants investigation. Can this tedium effect be forestalled or perhaps even avoided? If so, what variables might increase the probability of this happening? Different variables thought to perform this function have been investigated including individual differences in product knowledge (Alba & Hutchinson, 1986) and an individual's expectation of support or counter argument production (Batra & Ray, 1986). Perhaps the most intuitive way in which to avoid tedium is to vary the ads used in a multiple exposure ad campaign.

Several researchers have, either explicitly or implicitly, found that the act of varying the ads within a particular ad campaign results in some avoidance of negative consumer reaction.

Evidence supporting the use of ad variation to forestall or avoid tedium is provided by several previous studies. Employing an experimental methodology whereby consumers were exposed to slightly varied print advertisements, McCullough and Ostrom (1974) reported that as repetition was increased, liking for the product also increased. In the previously mentioned study with children (Gorn & Goldberg, 1980), the results suggested that varying the ads had a significant positive effect on the preferences and behavior of the children. Grass and Wallace (1969) employed the COMPAAD technique to study the effects of ad variation. The technique involved a method by which the subject could control and maintain the clarity of a presented picture by pressing a foot pedal. The frequency in which the viewer pressed the pedal was recorded automatically and interpreted by the researchers as a measure of interest. High (low) frequency was interpreted as high (low) interest. Using this measure, subjects rapidly indicated decreased interest when exposed to the same commercial six times (no variation) in a program context. However, upon receiving six different ads during the program, no significant loss of interest was found on the part of subjects.

Though these studies clearly support the argument that ad variation in multiple exposure ad campaigns forestalls or avoids the effects of tedium, two additional studies report less positive results. Burnkrant and Unnava (1987) employed the "encoding variability hypothesis" (Melton 1967; Madigan 1969) to explain why varying the copy of an ad campaign would be more effective than multiple exposures to a single ad with respect to brand recall and attitude measures. Though brand recall was significantly better under varied conditions, ad variation led to no significant differences with respect to attitude. Further, Mitchell and Olson (1981) failed to find any influence, positive or negative, by varying repeated print ads with respect to liking for the product.

In sum, to date some studies have demonstrated a potential for repetition - variation strategies, but the true effects of such strategies are still unclear. Little or no work has been done to investigate either the characteristics of varied ads or the situations in which varied ad campaigns are most effective. It is apparent that ad variation can occur in several different forms. For example, ads may be varied by changing the central aspects of the ad (i.e. arguments or messages), by changing more peripheral aspects of the ad (i.e. format, illustrations, or print style), or the variation could be of a type falling at some point in between these two ends of the continuum. For the purpose of this discussion, the two types of variation representing the ends of the variation continuum will be labeled substantive and cosmetic variation respectively.

Substantive variation represents changes from ad to ad that are central to the product being advertised. Examples of substantive variation include changes in the message or arguments and/or the copy found within the ad. To illustrate this point, consider a varied ad campaign for a brand of soft drink. An example of substantive variation in this context would be to promote the brands taste in one ad while promoting price in a second and perhaps convenient packaging in a third.

Cosmetic variation includes changes more peripheral to the product or advertisement. Such changes might include changing the appearance of the ad using color, print style, format, or characterizations. Consider again the soft drink example. Here, cosmetic variation might entail changes in the background colors, illustration of the ad, or context of the ad (e.g., sandy beach or office scene). Such changes are not central to the product but rather exist in the advertising environment. Given the different strategies available with respect to varying ad campaigns, the obvious question is when will these different strategies be most effective.

THE ELABORATION LIKELIHOOD MODEL

The Elaboration Likelihood Model (Petty and Cacioppo, 1979, 1981, 1986) has its roots in the social psychology literature, but appears to be helpful in providing a basis for predicting certain consumer phenomena. In this case, the Elaboration Likelihood Model (ELM) addresses how repetition - variation strategies might affect the formation or change in attitude toward an attitude object, and the nature of the persuasion produced by these strategies. The ELM proposes two different routes to persuasion. The "central route" is employed when individuals are motivated and able to think or elaborate on an attitude object (an advertised product in this case). In the situation of "central route" processing, Petty, Cacioppo, and Schumann (1983) stated that "attitude change is viewed as resulting from a person's diligent consideration of information s/he feels is central to the true merits of a particular attitudinal position" (i.e. substantive information). It is postulated that attitude changes induced via the central route are relatively enduring and predictive of behavior (Cialdini, Petty, & Cacioppo 1981; Petty & Cacioppo 1980).

A second route to persuasion inherent to the ELM is referred to as the "peripheral route." In this instance, attitude changes occur because the attitude object (a product in the case of advertising) is associated with positive or negative cues, or because the individual makes inferences about the merits of an attitude object based on the cues associated with it in the persuasion context. In an advertising context, the peripheral route is illustrated when a consumer forms a positive attitude toward the advertised product due simply to the presence of an "attractive" characteristic in the ad (or in the immediate surrounding). The positive evaluation of the ad characteristic is shared with the product with which it is associated rather than considering the true merits of the product. The peripheral route makes possible a consumer's formation of an attitudinal position without engaging in any extensive thought (elaboration) about product - relevant arguments. In contrast to the central route of persuasion, attitude change induced via the peripheral route is thought to be relatively temporary and not very predictive of behavior.

Immediately one can see how the ELM might be used to aid in understanding the effects of advertising in the context of repetition - variation advertising campaigns. Likewise, repetition - variation advertising provides a fitting context to test the positions of the ELM. When applied to such a context, the principles of the ELM suggest that the likelihood of elaboration will moderate the effectiveness of the two types of variation strategies (substantive and cosmetic variation strategies) discussed previously. The following hypotheses are offered as a way of predicting when each form of variation is likely to have the most positive impact on the consumer.

H1 Substanitive variation in repeated ads will have greater impact on measures of advertising effectiveness when there is high likelihood of elaboration than under conditions of low likelihood of elaboration.

If the consumer is highly motivated and able to process substantive information found in the ad, then varying this information over several ads should obtain more positive results by retaining the consumers interest thereby delaying possible tedium effects (see high likelihood of elaboration in Figure 1). Conversely, if the consumer is neither motivated nor unable to process the substantive information, then no effects are expected to result by varying ads with respect to the information provided.

H2 Cosmetic variation in repeated ads will have greater impact on measures of advertising effectiveness when there is little likelihood of elaboration than under conditions of high likelihood of elaboration.

Since the unmotivated consumer is not likely to process information central to the product, peripheral aspects of the advertising environment should have a greater impact on the consumer (see low likelihood of elaboration in Figure 1). Furthermore, substantive variation is expected to have no significant effect when the consumer's elaboration likelihood is low. These two predictions are consistent with those of the ELM and state the conditions under which tedium is expected to be forestalled.

METHODOLOGICAL ISSUES IN TESTING THE REPETITION - VARIATION HYPOTHESES

It has been pointed out by Petty, Cacioppo, and Schumann (1983) that the accumulated research on persuasion indicates that neither the central nor peripheral approach alone can account for the diversity in the observed results of attitude change (see Petty, Cacioppo, & Schumann, 1983 for a discussion of this research literature). Initial tests of the above hypotheses will have to consider three important factors.

Motivation to Process:

What determines the magnitude of a consumer's elaboration likelihood? A proposed determinant is the degree to which the consumer views the product as being relevant to him/her personally. If the consumer views the product as being highly relevant, then the likelihood of extended elaboration on the part of the consumer is expected to be high. Conversely, if the consumer views the product as having low personal relevance, then the likelihood of elaboration is expected to be low.

The personal relevance of an attitude object can be discussed in terms of how important the attitude object is to the consumer. If the attitude object is made more important to a person (high personal relevance), then substantive variation strategies are predicted to be more effective. Similarly, if the attitude object is made to be less important (low personal relevance), then cosmetic variation is predicted to be a more effective strategy.

Several previous studies have successfully manipulated product relevance (e.g., Wright, 1975; Petty, Cacioppo and Schumann, 1983). However, the laboratory environment may provide conditions that enhance relevance of a different nature. Under laboratory conditions, task involvement (personal relevance of the task) may be at such a level that processing of all presented stimuli may be quite high. This may result in a product relevance manipulation that, if successful, provides relative differences at the high end of the elaboration likelihood continuum rather than differences representing the ends of the continuum.

Variation:

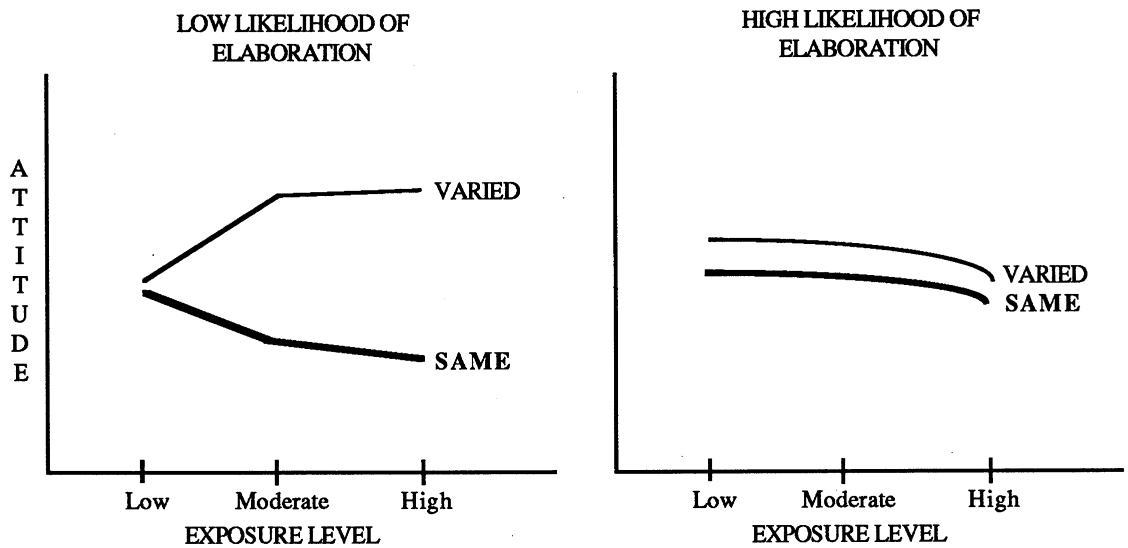
A second factor to consider when testing the repetition - variation strategies hypotheses is the operationalization of the respective variation conditions. As noted earlier, many different aspects of advertisements can be varied to represent changes which are either central or peripheral to the consumer's processing. Substantive variation must consist of varying those aspects of the ad that are central to the viewers decision process (i.e. arguments, messages, product features). Cosmetic variation must be limited to those ad aspects which are peripheral to the viewer (i.e. ad colors, endorsers, layout). Prior to designing the variation strategies, much thought is needed to determine the aspects of the advertising which are considered by the viewer to be central or peripheral.

The effects of variation within different media should also be investigated. Different forms of media might perhaps differ characteristically on the amount of elaboration inherent to each. Krugman (1967) suggested that television is a "low involvement" medium and that viewers tend to be passive processors (low likelihood of elaboration). Given this, cosmetic variation might have a greater impact when employed with television as the medium. On the other hand, the

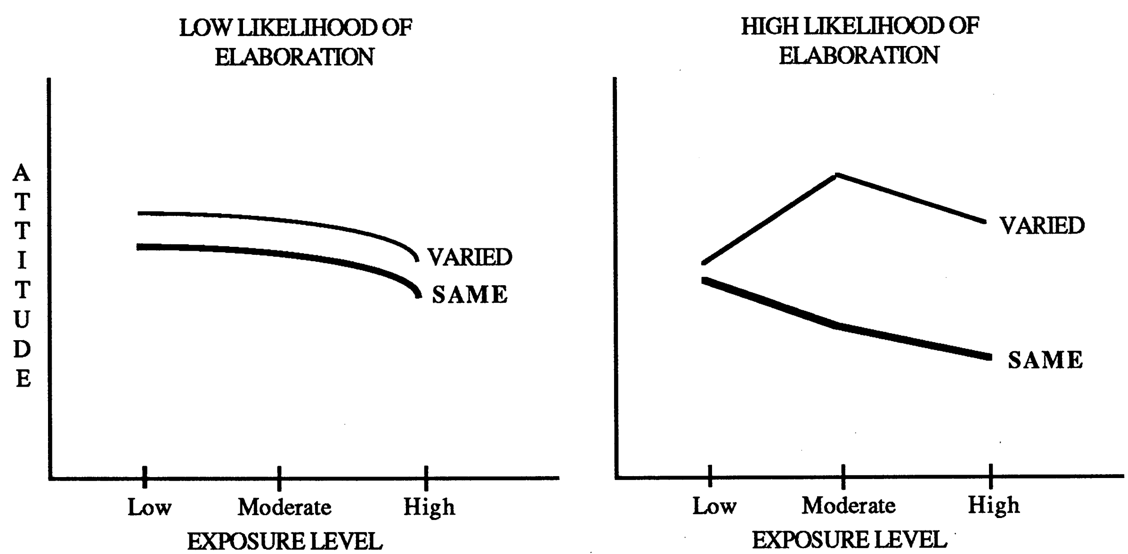
FIGURE 1

REPETITION x VARIATION PREDICTIONS

COSMETIC VARIATION:



SUBSTANTIVE VARIATION



use of print media might result in more active processing (greater elaboration) suggesting that substantive variation may have a greater impact. Other media forms using audio only (i.e radio) or visual only (i.e. outdoor advertising) techniques may also differ on the elaboration dimension, warranting the investigation of the inherent differences of each. It is apparent that the investigation of variation strategies may be quite complex, and require careful consideration with respect to conceptualization and methodology.

Repetition:

The third factor requiring consideration deals with the operationalization of repetition. In testing the proposed hypotheses, low, moderate, and high levels of repetition must be manipulated in order to test the effects of each. Achieving these relative levels of repetition within a research paradigm requires a great deal of care and consideration. Whether the repetition levels are considered by the subject to be low, moderate, or high is dependent on the context provided. For instance, 1, 3, and 5 exposures might be perceived by the subject as low, moderate and high repetition in a 30 minute program. However, increasing the program length may reduce the perceived level of repetition. Likewise, decreasing the length might lead to an increased perceived level.

The perception of repetition is also dependent on the number of competing objects in the programming context. If the target ads are placed among a high number of other ads competing for the subject's attention, then the perception of repetition might be reduced. One the other hand, the perception of repetition might increase when target ads are place among a low number of competing ads. Furthermore, spacing between the target ads might dictate the perception of repetition.

A further issue to be deliberated on is that of generalizability. Repetition within programs (which, with few exceptions, is most often employed in laboratory research on repetition), may be conceptually different from repetition between shows and/or exposure across days or weeks. These various issues concerning repetition must be considered in determining what depicts low, moderate, and high levels of repetition in the research context.

CONCLUSION

This paper has sought to present a discussion of the conditions under which different strategies of advertising variation might be optimally effective. Testing of the repetition - variation hypotheses should follow, but first, certain methological issues should be considered before such an undertaking is initiated.

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Insurance Decisions (or the lack thereof) for Low Probability Events

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ABSTRACT

Marketing researchers have given little attention to the study of consumer insurance purchase decisions, in spite of the fact that such decisions reflect high uncertainty and potentially "irrational" behavior. The objective of this paper is twofold. First, we present several interesting problems regarding consumer insurance decision-making derived from the psychology, insurance, and finance literatures. Second, we examine one of those problems (consumers' perceptions of low probability events) in some depth, reviewing the available literature and presenting some initial insight obtained from exploratory interviews with a small group of consumers.

Decisions about insurance are one of the unavoidable necessities of adult life. Insurance purchase decisions are economically very important, with total premiums written by insurance companies in the United States exceeding $350 billion in 1986 (Insurance Information Institute 1987). In spite of the economic significance of insurance purchases, the high level of uncertainty associated with consumers' insurance decisions which makes the problem interesting (Formisano, Olshavsky, and Tapp 1982), and the extensive work already conducted in other fields, consumer researchers have given little attention to research problems associated with insurance decision-making. The purpose of this paper is to introduce some of the interesting issues and empirical paradoxes which have been identified in the study of consumer insurance decision-making. We consider briefly below some of the "biases" in insurance decisions which have been examined in other fields. We then discuss one issue, insuring against low-probability events, in greater detail, examining the empirical evidence available and determining the perceptions of such events among a small convenience sample of consumers.

ANOMALIES IN INSURANCE DECISION-MAKING

In the fascinating literature of consumer insurance decision-making, a number of biases have been identified which may have major implications for the insurance industry from both managerial and public policy perspectives. A review of the literature provides a "laundry list" of issues which are in need of greater study. Researchers have found, for example, that consumers are willing to pay more than would be anticipated according to expected utility theory for zero deductible insurance policies (i.e., in which a loss is *totally* covered)(Schoemaker and Kunreuther 1980; Pashigian, Schkade, and Menefee 1966). Researchers have also identified experimentally a low willingness to pay for comprehensive insurance at its expected value (Schoemaker and Kunreuther 1980) as well as a clear effect of "framing" (i.e., describing the insurance problem in different ways) on choice (e.g., Hershey and Schoemaker 1980). More recently, Hogarth and Kunreuther (1985) have found that ambiguity surrounding an estimate of an event probability has a clear effect on consumers' willingness to pay for insurance against that event and that the effect of ambiguity *reverses* sign when going from relatively low to relatively high probabilities. Researchers have only scratched the surface on these issues.

In this paper, we focus on an issue of theoretical interest in the decision-making literature (e.g., Slovic et al. 1977) which also has critical implications for the insurance industry: consumers' perceptions of low probability events and how those perceptions affect insurance decisions.

LOW PROBABILITY EVENTS

Research in the insurance literature has identified a strong aversion among consumers to insure against some events (floods and earthquakes) which appear to have a low probability of occurring (Kunreuther 1976; Anderson 1974). On the other hand, others have observed an "overwillingness" among consumers to purchase airline insurance to protect against the extremely unlikely possibility of a fatal airline accident (Eisner and Strotz 1961). In both cases, consumers appear to behave in a manner inconsistent with expected utility theory (see Kunreuther 1976). To confuse matters even more, researchers have experimentally studied consumer insurance choices for low probability events to provide a more careful explanation of the phenomenon, but have produced results which are diametrically opposed (Slovic et al. 1977; Hershey and Schoemaker 1980). A description of the field and experimental research addressing consumers' insurance purchase behavior for low probability events is presented below. We then discuss the rationale and method for the exploratory interviews which were undertaken in the current study.

Field Research

Several insurance studies conducted in the early 1970s have led to the common conclusion that, contrary to expected value theory, consumers are not well-protected against low probability events like natural disasters. In studying the impact of natural hazards on mortgage default, Anderson and Weinrobe (1986) found not a single loan file (from a sample of 332) for which earthquake insurance existed to cover property in San Fernando during the 1971 earthquake. In fact, only $32 million of the $553 million of property damage from the San Fernando quake was covered by insurance. Similarly, Anderson (1974) found that few flood victims of Hurricane Agnes in 1972 (four years after passage of the National Flood

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Insurance Program) had coverage. Of the $3 billion of damage caused by Agnes, only $5 million was covered through the federal program.

Like Anderson and Weinrobe, Kunreuther et al. (1973) identified perceptions and behavior among consumers living in "disaster-prone" areas of the country which clearly differed from that predicted by expected utility theory. The award-winning study (also described in Kunreuther 1976) involved interviews of 2,055 consumers in 43 areas subject to flooding and 1,006 consumers in 18 earthquake susceptible areas of California. In each group, approximately half of the consumers interviewed held insurance against the disaster. The following results were obtained in the study:

1. Over 30 percent of the two samples was *unaware* that insurance was available for these natural disasters;

2. As would be expected, the vast majority of the uninsured samples was unable to provide any estimate of insurance premiums. A surprisingly high percentage of the insured samples was uninformed about insurance costs as well;

3. For consumers who could estimate costs, event probabilities, and loss sizes, actual purchase behavior was not well predicted by expected utility theory.

Kunreuther explains the failure to purchase disaster insurance to be a function of limited knowledge, concluding that

> ...half of the uninsured individuals in flood-susceptible communities and two-thirds of the uninsured homeowners in earthquake susceptible areas are unable to estimate the insurance cost, damage, or probability of a future disaster. (p. 237)

As such, the problem appears to be one of information. In addition to (or perhaps as a result of) poor information about insurance, consumers may fail to consider (or may be unable to understand) the notion of event probabilities. Consumers' perception and handling of probabilities becomes a more important issue in light of other research which has found that insurance against airline accidents (another low probability event) is purchased by consumers more readily than would be predicted by consideration of the probability of the event (Eisner and Strotz 1961). We point out later the possibility that greater information availability might explain the "overpurchase" of flight insurance as well as the "underpurchase" of earthquake insurance (Tversky and Kahneman 1973).

Experimental Research

The basic inconsistencies between insurance decisions observed in the field and those predicted by expected utility theory led researchers into the laboratory to examine consumers' perceptions of insuring against low probability events in a more controlled fashion. In the two studies reviewed below, subjects made "simulated" insurance decisions, typically (although not always) using paper and pencil instruments. Slovic et al. (1977), in two very different contexts (the "urn" problem[1] and the "farm" game[2]), found results very similar to Kunruether's field study: subjects demonstrated an aversion to insuring against low probability events, even with "fair" insurance premiums (i.e., equal to expected value). Slovic et al. offer two explanations for their results, one based on the way consumers value losses (a convex utility function) and another focusing on the way consumers perceive probabilities. The latter (which is most relevant here) suggests that consumers may have intuitive probability "thresholds." That is, a consumer may evaluate the likelihood of an event to be essentially zero because it is below a threshold probability which would signify when the consumer should become worried or concerned about that event. The authors present substantial evidence to support this point.

In direct contrast to Slovic et al.'s work, however, Hershey and Schoemaker (1980)(HS) found the majority of their subjects deciding to purchase insurance for low probability events and far fewer choosing to insure against high probability events. HS presented their subjects with choice problems in the following form:

A. you stand a p chance of losing L dollars

B. you can buy insurance for S dollars to protect you from this loss

(CHOOSE BETWEEN A AND B),

where p is presented as a probability (e.g. .001) and S and L are stated in dollar amounts (S is the expected value of the loss, which is an actuarily fair insurance premium). The contrast to the Slovic et al. results is striking, particularly because HS used Slovic et al.'s questionnaire to replicate their (Slovic et al.'s) results with subjects who had already been through their own study. While HS argue that Slovic et al.'s results are suspect because of a less realistic methodology, that

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[1] The urn problem presented subjects with sets of insurance decisions in which the probability of a loss was represented by the number of blue balls in an urn full of red and blue balls. For example, one choice required the subject to envision an urn with 999 red balls and 1 blue ball. The random selection of a blue ball would lead to a loss of 1000 points in the game but such a loss could be avoided by purchasing insurance for a premium of 1 point.

[2] The farm game was a creative computer simulation in which subjects played the role of a farmer who had to make various insurance decisions for his/her farm. Subjects simulated a number of years' performance, making decisions about crops, fertilizer, and insurance.

assessment does not reflect a true evaluation of differences in methodology which might have caused the different results. HS may have observed greater risk aversion (i.e., greater incidence of insuring against low probability, high loss events) than Slovic et al. because the losses presented in HS's problems were stated in dollar terms, which were likely more vivid to subjects. On the other hand, Slovic et al.'s "urn" studies presented subjects with probabilities in a very vivid, intuitive fashion (e.g., chance of pulling 1 blue ball out of an urn with 1000 balls, only two of which are blue). As such, subjects may have more clearly understood what the probabilities represented in the Slovic et al. study, classifying the lower probabilities below some threshold level of worry or concern. The true explanation of the opposing results of the two studies, however, is not readily apparent.

The "Probability Bias"

Central to the explanation of these divergent results is what HS refer to as a phenomenon of "probability bias." Little is known about the way consumers actually conceive of and utilize information about probabilities in decision-making. As noted earlier, Slovic et al. discuss a "worry" threshold. If small probabilities are categorized below such a threshold, they are believed to represent little or no concern or worry. In contrast, HS explain their finding that subjects were more likely to insure against low probability events than high probability events as an "overweighting" of low probabilities relative to high probabilities, which was reported to be consistent with prospect theory (Kahneman and Tversky 1979). However, Kahneman and Tversky's empirical illustration of "low probability overweighting"[3] implies that low probabilities may be weighted *more than they objectively should be* -- not that they will be weighted more than high probabilities in a decision. Further, Kahneman and Tversky's data indicate that a probability of .001 may have more than "half as much" weight as a probability of .002 because the two probabilities are seen as being essentially the same (i.e., both are categorized as "very low"). As such, Kahneman and Tversky's work seems less relevant to the interpretation of HS's results and is actually more consistent with Slovic et al.'s conclusion that consumers may place probabilities into certain cognitive categories.

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[3]Kahneman and Tversky (1979) used the following problem to demonstrate the overweighting of low probabilities:

Choose between:
A. A .001 percent chance of $6000
B. A .002 percent chance of $3000

Subjects' overwhelming tendency to choose option A indicates an overweighting of the .001 probability relative to its objective probability (the choice implies that $6000(.001) is greater than $3000(.002).

Other Issues

There are two other general issues which are relevant in considering the implications of the research described above. In the experimental studies, objective data about losses and probabilities of losses were presented to subjects in different manners. Since consumers rarely have explicit probabilities to work with in making insurance decisions, an important (and more basic) research issue relates to how consumers naturally think of and estimate probabilities. Secondly, an issue not addressed extensively in this literature is the "vividness" or memory availability of the event which is being insured. In other words, the failure to purchase insurance might be explained as a function of the apparent triviality of an event which has not been personally experienced or with which the consumer has not had at least second hand experience (which might lead to a "no chance" categorization of the event). Such an explanation would be consistent with Tversky and Kahneman's (1973) and Kunreuther's (1976) work.

In short, there appears to be a great deal of controversy surrounding the issue of how consumers conceive of and use information about low probability events in making insurance decisions. Below we describe some initial, exploratory interviews which were undertaken to examine how consumers naturally describe events which have low objective probabilities.

METHOD

Several exploratory interviews were undertaken to address the following issues:

1. How do consumers naturally describe the chances of certain low probability (but potentially insurable) events?

2. How does the "vividness" of an event affect consumers' estimates of its likelihood?

3. How do consumers "categorize" probabilities on a "chance" scale (ranging from "no chance at all" to "almost certain" chance)? How does that categorization change when the probabilities represent the chance of a monetary loss and the scale used is a "worry" scale (ranging from "no worry" to "a great deal of worry")?

The method and results for each of the three research questions will be described in brief. The respondents in the study were eleven administrative employees in the university library system who have been involved in insurance decisions in the past. The respondents ranged in age from their mid twenties to their mid fifties and participated in a personal interview which lasted approximately 30 minutes.

Issue One: Natural Description of Event Probabilities

Two events were used in the study to provide a reference point for respondents. The respondents were asked (in a totally open-ended manner) at different

TABLE 1

Respondents' Descriptions of Probability

Chance of a Fatal Airline Accident		Chance of an Earthquake in City X
Quote from Respondent	Objective Probability Estimate (1 out of:)	Objective Probability Estimate (1 out of:)
zero chance	1,000	32,000
negligible, one in a million	1,000,000	5,000,000
one in a thousand	1,000	500,000
50,000 to 1 chance	500,000	1,000,000
I just don't think it's very common	1,000,000	5,000,000
highly unlikely	1,000,000	32,000
practically zero	1,000,000	1,000
very small - one percent	500,000	500,000
remote	1,000,000	500,000
highly unlikely	1,000,000	32,000
practically zero	1,000,000	1,000
more of a likelihood than in past years	1,000,000	1,000

times in the interview to describe the probability in the next year of (1) a person who flies 1000 hours/year between New York and Los Angeles being involved in a fatal airline accident and (2) a property-damaging earthquake occurring in a specified (nearby) city. The two events differ on two key dimensions. First, the true probability of the airline accident is far smaller (1 in approximately 6 million, based upon data provided by the Insurance Information Institute 1987) than the probability of the earthquake[4]. Second, our own speculation and discussion with others indicated that, since a noticeable earthquake had not occurred in the region in a number of years and two fatal commercial airline accidents (which had received a great deal of press) had occurred nationally in the previous year, that the airline accident "event" would be more available in memory.

Table 1 presents the general comments made by respondents regarding the probability of a fatal airline accident. Nearly all respondents had flown in the past two years and none had purchased flight insurance. The comments presented in Table 1 indicate that (1) many of our respondents did attempt to use numbers to describe the probabilities and (2) the vast majority thought that the chance of an airline accident was very small. One respondent differed from the rest, describing the airline accident as having "more of a likelihood now than in past years." This respondent had recently been in a near-accident on a flight that had to be met by firetrucks upon landing. Later in the interview, respondents were asked (after a brief definition of "odds") to choose which of six stated chances (1 in 10 million, 1 in 5 million, 1 in 1 million, 1 in 500,000, 1 in 32,000, and 1 in 1,000) best described the true probability of each event. These numeric estimates are presented in Table 1 for both events, although we will focus here on the airline accident for the moment to make one major point.

While nearly all respondents said that the chance of the airline accident was essentially nil, they gave a wide variety of objective odds on the event. In effect, this suggests that consumers may lump a wide

[4]The city is situated near a major fault line and an expert in the field reported that the state is three years past due for a major earthquake. He noted that actuaries have estimated the probability of an earthquake between 1988 and 1994 to be near certainty.

variety of probabilities into a category which represents "remote" or "essentially zero chance" events. Note also that, in the objective question, none of the respondents used the two lowest odds categories, which actually came closest the true probability.

Issue Two: Event "Vividness" or Availability

As noted earlier, we speculated that the airline accident event would be more available in memory than the earthquake event for most subjects. While we have no true manipulation check for our exploratory sample, the results do show different objective probabilities being estimated for the two events. Focusing on the objective probability estimates in Table 1, six of the eleven respondents gave the airline accident a higher probability than they gave the earthquake in spite of the fact that the earthquake has a substantially higher probability. The four respondents who gave the earthquake a higher probability (one of whom felt that an earthquake was imminent) appear to be familiar with the history of the city in question and the frequency with which mild tremors occur in the state. (i.e., Three of the four mentioned the state's earthquake fault without any prompting.)

Issue Three: The "Categorization" of Probabilities

An important issue in the controversy discussed above appears to be the degree to which consumers distinguish among low probabilities. To examine this, we presented respondents with an "own categories" classification task (Sherif 1963). Using the logic of the "urn" game (Slovic et al. 1977), we showed respondents a picture of a basket containing 10,000 jelly beans. We then gave them a stack of cards which described 19 "baskets" containing varying numbers of black jelly beans among 10,000 (the numbers of black jelly beans ranged from 1 to 6,000). For each basket, respondents were asked to think about the likelihood of picking a black jelly bean on a random draw of one. The interviewer spread two cards (one reading "no chance at all" and the other reading "almost certain chance") out on a table and explained that these were the extremes on a continuum which represented the probability of picking a black jelly bean. Respondents were asked to sort the cards into piles (as many or as few as they wanted) along that continuum according to the chance reflected in the cards in picking a black jelly bean. It was emphasized that the piles could be adjusted and readjusted and that the end cards could be moved to suit the respondent's classification scheme.

Once the respondents had completed the first classification task, they were asked to repeat the task, with two minor adjustments to the process. First, they were told to think of each "basket" as representing the probability that a certain event would occur which would cause $20,000 damage to their personal property. Secondly, the ends of the continuum were anchored by "no worry at all" and "a great deal of worry." The purpose of this second classification task was to explore whether respondents would create fewer categories when prompted to think of probabilities associated with a real world (although unspecified) event.

The exploratory results reported in Table 2 indicate that respondents did use fewer categories with which to classify the probabilities on the "worry" scale than on the "probability" scale. The lowest category in each task (either "no chance at all" or "no worry") contained on average the four lowest probabilities, while the highest category contained two more probabilities when subjects were asked to think of a specific loss situation. The results suggest that there may be very small probabilities which consumers lump into a single "unlikely" or "not worrisome" category. The same may be true for higher probabilities. We find, however, that our respondents (on average) grouped a relatively larger number of probabilities into the category labeled "a great deal of worry" indicating (as one would expect) a concern for higher probabilities when considering the likelihood of an event in which a major loss would occur.

DISCUSSION

Our empirical evidence is clearly limited by the small size and convenience nature of the sample. Since our respondents all work in university library administration, they may be better informed about the events than the average consumer. Given this, the fact that they all overestimated the probability of the airline accident and nearly all underestimated the probability of the earthquake is even more interesting. The sample did provide exploratory insight into the issues raised here, leading to some tentative conclusions:

1. Consumers may classify a wide range of event probabilities into a category which represents an essentially zero chance of occurrence. This is reflected both in our respondents' tendencies to group probabilities less than .01 in the same "no chance" and/or "no worry" category and the fact that respondents provided a wide variety of objective probability estimates for the airplane accident, even though nearly all of them thought the accident was highly unlikely. This is consistent with Slovic et al.'s (1977) "worry threshold" hypothesis.

2. Consumers may give more "available" or "vivid" events a higher probability of occurring. This is speculative but is based on the finding that several respondents gave the airline accident a higher probability than the earthquake even though the earthquake had a substantially higher true probability. The "availability" explanation is further reflected in the fact that the respondents who did give the earthquake a high probability of occurring were very familiar with the area and its earthquake history.

TABLE 2

Categorizing Chances: The "Probability" Continuum versus the "Worry" Continuum

Probabilities represented on cards:	.0001	.025	.20	.45
	.0005	.05	.25	.50
	.001	.075	.30	.55
	.005	.10	.35	.60
	.01	.15	.40	

	Continuum: "No chance" to "almost certain chance"	Continuum: "No worry" to "a great deal of worry"
Mean number of categories	9.0[a]	6.0[a]
Mean number of cards in the lowest category	4.55	4.45
Mean number of cards in the highest category	4.91	6.91
Mean of the medians: lowest category	.0024	.003
Mean of the medians: highest category	.525	.466

[a] These mean scores do not account for one person who, unlike all the other respondents, categorized each probability in its own category in both tasks. Including this person in the calculations inflated the means to 9.0 and 6.0, respectively.

Research on more generalizable samples may provide further insight into why consumers fail to protect themselves against certain low probability events but purchase excessive coverage against others. Research is needed on the effects of event availability/vividness and size of loss on perception of probability and willingness to pay for insurance. Research which examines consumer perceptions and choice behavior in making insurance decisions has the potential to contribute importantly to the interests of public policy, consumer education, and insurance management.

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The Role of Context in Consumers' Category Judgments: A Preliminary Investigation

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It is proposed that the major structural models of categorization have difficulty in accounting for the contextual variability exhibited in consumers' category judgments. A contextually based approach to categorization is offered and described in terms of a figure/ground metaphor. Excerpts from interviews with consumers are used to illustrate possible figure/ground relationships in category judgments. The implications of this contextually based approach and its relations to contemporary categorization research are discussed.

INTRODUCTION

The ability to categorize has been described as the "keel and backbone of our thinking" (James 1890) and as "the most ubiquitous of cognitive activities" (Bruner, Goodnow, & Austin 1956). As cognitive psychologists have become increasingly interested in the structure of human thought, there has been a resurgence in the study of categorization (Barsalou 1987; Jenkins 1977; Kahneman, Slovic, & Tversky 1982; Reed 1982; Rosch 1975; Rosch & Mervis 1975; Smith & Medin 1981; Wattenmaker, Dewey, Murphy, & Medin 1986). Consumer researchers, too, have been exploring the role that categorizing plays in marketing phenomena such as expertise (Alba & Hutchinson 1987; Sujan, Sujan, & Bettman 1988), consumer judgments (Sujan 1985), and brand recall (Alba & Chattopadhyay 1985).

This paper seeks to explore the view that categories are outcomes of judgment processes which occur in a given context. The discussion will be organized into four sections. First, the three major structural approaches to categorization will be briefly described and some proposed limitations of these models will be discussed. Secondly, a more contextually based approach to categorization will be offered. Third, texts derived from interviews with consumers will be used to illustrate how contextually based category judgements might occur. Finally, the implications of this contextual approach and its relations to contemporary research in categorization will be discussed.

ARISTOTELIAN MODELS OF CATEGORIZATION

Research in categorization has generally employed one of three basic models of category representation: a *classical* model where category membership is determined by the presence of necessary and sufficient attributes possessed by class members, a *probabilistic* or *prototype* model where category membership is a function of family resemblance, and an *exemplar* model where category membership is determined by resemblance to a specific instantiation which has come to represent the entire class (Cohen & Basu 1987; Smith & Medin 1981). These three models all presume that "categorical structure" is defined by attributes or features possessed by group members. While classical models presume that category boundaries are rigid (an object either is or is not a member of the category and, therefore, all included members are equally representative of that category) and prototype and exemplar models assume that category boundaries are graded (category membership is a continuum where an object can be more or less representative of a category), the three models ascribe to the "Aristotelian position" which treats categories as being self-contained entities defined by some combination of properties or attributes (Verbrugge 1977). The logic behind the decontextualized nature of the Aristotelian models is straightforward and rather compelling. A robin, for instance, is still seen in the category of "bird" whether it is flying, nesting, being kept in a cage, or an infinite number of other contextual variations. Thus, it would seem appropriate that our conceptual categories should reflect this seemingly inherent stability.

A growing number of theorists, however, are questioning if the influence of context on category judgments can be adequately accounted for by either the classic, prototype, or exemplar views (Barsalou 1987; Jenkins 1977; Lakoff & Johnson 1980; Roth & Shoben 1983; Wattenmaker et al 1986). That is, in conceptualizing categories as relatively stable, pre-existing structures, these three models minimize the influence of contextual setting and judgment purpose on categorization. Higgins & Lurie (1987) found evidence that some category judgments involve a comparison process between the object to be categorized and a contextually derived referent. Rather than comparing the to-be-categorized entity to a stored mental representation, subjects made category judgments on the basis of contextual information and, by altering the contextual setting, systematic differences in subject's category judgments occurred. Roth & Shoben (1983) studied the typicality judgments made in comprehending a written text and found that typicality ratings are highly dependent on the textual context. For instance, robin is rated as a typical bird when no contextual information is provided but can be atypical in certain contexts such as, "the hunter shot at the bird flying overhead." Barsalou (1983) has provided evidence that people often spontaneously construct "ad hoc" categories for use in specialized contexts. Finally, Medin, Wattenmaker, and Hampson (1987), found evidence that family resemblance--a core concept of both prototype and exemplar models--is contextually variable and furthermore, is dependent on background knowledge that is brought to the judgment task. The implication being that category judgments involve more than references to self-contained categorical structures. On this point they conclude:

> Natural categories (basic level categories) may be structured not so much in terms of numbers of characteristic properties as in terms of the

web of relationships in which these properties participate (p. 277).

A FIGURE/GROUND DESCRIPTION OF CATEGORY JUDGMENTS

The perspective taken here is that categorization is a generative process where the "category" is not treated as a pre-existing structure but as one created by individuals in a given contextual situation with a particular judgment intention. On this view, an analogy can be drawn between categorization and perception. The "category" is seen as existing in the same way the "percept" exist: as an entity which is the outcome of a process but does not exist separate from that process. The percept only exist in relation to the act of perceiving and, analogously, the category would exist only in relation to the act of categorizing. Such an analogy does not discount or ignore conceptual stability, i.e. consistently judging an item as being in a certain category, because stability is also a characteristic of the perceptual field (Gibson 1977). What this analogy does suggest is a means by which context can fundamentally affect category "structure": a means which can be metaphorically described in terms of figure/ground relationships. Figure/ground relationships were a primary concern of Gestalt psychologists (Kohler 1947, Koffka 1935). The present usage of figure/ground is not wedded to Gestalt theory per se but is seeking to expand upon a major insight of Gestalt psychology: the organization of the perceptual field is fundamental to what is perceived and the "same" entity put in a different contextual relationship will be perceived differently (Koffka 1935, Kohler 1969). Figure/ground is a description of this contextual variability but was never intended as a "theory" of perception (Kohler 1947, Kohler 1969).

In figure/ground terms, "figure" is the entity which has a perceivable shape and is the focus of the perceptual field while "ground" is that part of the perceptual field which has no perceivable shape, seems to fill gaps in the figure, and is not the focus of attention. Figure and ground are reciprocally related such that altering "ground" invariably changes "figure." (Koffka 1935).

Applying a figure/ground interpretation to categorization issues suggests that the structure of the judgment field (context) affords a range of potential category judgments. Which judgment is made i.e., how objects in the field are grouped, would depend on the particular goals and intentions of the person making the judgment. Rather than context somehow altering a pre-existing category structure, the category would be generated appropriate to the judgment context. The category field could be "seen" in different ways depending on the nature of the judgment setting. Which attributes or properties of the objects are figural i.e. which are salient or stand out for individual making the judgment, would be dependent on the object's contextual setting *and* its relation to the judgment goal or intention.

Figure/Ground in Consumer's Category Judgments

Anyone who has opened a introductory psychological text to the chapter on perception knows what figure/ground diagrams look like and has available direct perceptual evidence that such relationships occur. The issue for our purposes is to show what figure/ground relationships would look like in the conceptual domain. If the figure/ground metaphor describes at least some of consumer's category judgments, certain characteristics should be exhibited:

1) Discussing one object or event in relation to another. The nature of the comparison would afford certain features or attributes of the to-be-categorized object or event being figural (salient) while obscuring other attributes or features.

2) A change in the comparative context would lead to a different categorical assignment by making figural a different set of object attributes or contextual relations.

3) Reversibility should be exhibited in the category judgment. In the conceptual domain, reversibility would be indicated by an individual, in the same categorical judgment, shifting his/her focus between the to-be-categorized object or event and to those which were previously in the background of the judgment field.

Rather than using an experimental paradigm, which is employed by much of categorization research, an interpretative approach is used to illustrate figure/ground effects in consumer category judgments. This approach is prefaced on the assumption that individuals in order to use language must make implicit category judgments (Bruner et al 1956; Lakoff & Johnson 1980). For instance, a simple statement such, "My favorite detergent is Tide," implicitly involves the judgment that Tide is in the category of "detergents."

The method used in this study is an unstructured interview format where subjects discuss various aspects of their experience and views concerning a topic. The extemporaneous style of the interview allows respondents to give long descriptive passages conducive to linguistic analysis. Such a method provides a conversational setting for gathering data and deals with concepts familiar to consumers.

Our present purpose is not theory testing but illustration. The following excerpts are presented in much the same spirit that the Gestalt psychologists had in presenting their figure/ground diagrams. That is, the Gestaltists sought to demonstrate principles of perceptual organization by having readers experience them. Similarly, excerpts will be presented that seem to demonstrate figure/ground effects in consumer's category judgments and the reader should be able to "see" if such an interpretation is descriptive of the presented category judgments.

Illustrations of Figure/Ground Effects

The following section will present excerpts followed by a discussion of possible figure/ground relationships. Five excerpts will be presented.

> "It's a big store and it's fun and it has everything. I don't have to go to this and this store. You know, because it is not as convenient as some of the other stores. Sometimes, we have a grocery store at the top of the hill, and I'll stop there but I never think about going there for my big major weekly. I'll run in there to buy bread or, something they have on sale, or in a pinch to get something for dinner, but as far as going in there spending like a weekly thing, I wouldn't do it because I think it is more economical to go to ______ because they have everything and they have more things on sale."

In this passage, the judgment field is organized in such a way that the one store is "seen" and classified as an economical store and the other as a convenience store. At some points the focus (or figure) of the discourse is "economical" stores with convenience stores serving as ground whereas, at other points in the passage, "economical stores" serve as the ground for "convenience stores." The salient properties of the one category are seen against the ground of the other category. Thus, "economical stores" attribute of being "shopped at weekly" is seen against the ground of convenience stores where the respondent shops on an irregular basis (when in a pinch or to pick up a sale). The attribute of "big store" stands out against the ground of "small store." Being in close proximity i.e., "at the top of the hill" is figural against the ground of being further away. The economical store's "having everything" is seen against the ground of the convenience store, which in this respondent's perception, legitimately offers only bread and occasional sale items.

A second passage from this same interview shows a judgment involving an entirely different set of categories:

> "I pretty much clothes shop the same way and it drives my husband nuts. If I see something that I really like, generally, what I do is ask the store to hold it for me and then I go and look at every other store and see if I find anything I like better and then I'll go back and usually buy that first thing. He walks right in and says I need a suit and the guy says how about this one and he says fine. And, he calls that shopping."

In this passage, the respondent is understanding her shopping pattern in terms of what she perceives as the shopping behavior of her husband. The result of this organization seems to be the contrasting categories of shopping behavior versus unshopping behavior. Once again, the judgment intention has led to one organization of the contextual setting and from this organization certain properties become salient to her category judgment. As examples, the salient property of "looking to find a better item" is understood in terms of the ground property, "buying the first acceptable item. Similarly, the property of "relying on the salesperson when making a product choice" is salient or figural against the ground of "seeing something that I really like."

In this next excerpt, a respondent is making category judgments about two stores where she has shopped. (Store name has been changed.)

> "I hate Store A. You can never find what you are looking for. You can never find someone to help you look for what you are looking for. I like going to Store B where there are people there to help me find what I want as soon as walk in the door and they help me find it, I pay for it and I am on my way rather than wandering for twenty minutes and not being able to find anything afterward."

The judgment field has been organized into the categories of hated stores and liked stores. The salient attributes for "liked" stores are being assisted and finding what you want whereas for "hated" stores they are not being assisted and not finding what you want. Once again, the dimensions of the "liked" store are understood against the dimensions of the "hated" store and vice versa. A figure/ground description seems to fit the respondent's mode of discourse as she switches the focus from hated stores to liked stores easily and naturally.

In this particular context, Store A is clearly in the "hated" category. Throughout the interview, Store A often served as the prototypic "hated store." A conventional hypothesis would be that "Store A" is so categorized because it intrinsically possesses the necessary and sufficient attributes of hated stores or because it shares the highest degree of family resemblance with other members of that category. If a figure/ground description of category judgments is apt, then objects would not be categorized on the basis of intrinsically possessed properties or features but, instead, on the objects relation to a particular context. Changing the context, could lead to the object, in this example Store A, being categorized in an entirely different manner. The next excerpt from this same interview seems to illustrate such a change.

> "I bought a sweater at Store A and it wasn't that expensive and I wish I hadn't spent that little bit of money on a sweater from Store A. I could have just done without or waited until I had the money on a more quality item....I also tend to want to pinch pennies I guess and so I look to see what clothes they have (Store A). I've bought things in Store A that I've worn a lot and have fit in with my other clothes."

Unlike the previous passage, the category judgment is not focusing on Store A but, instead, on the respondent's clothes shopping behaviors. Store A serves as background to these judgments. The respondent categorizes her clothes shopping into two sets of categories: the first set being buying quality items vs buying items lacking quality and the second being buying clothes when she has money vs buying clothes when she does not have money. These two category systems are similar to the category relationships previously described. As for background role of store A, it is in the class of "stores where inexpensive clothes can be bought" a different category than that of "hated store". In short, in a different contextual relationship, the salient or figural features of an object or event can change, leading to the object or event being categorized differently. The attributes of the object do not seem to be assessed in an isolated, independent fashion but, rather, in terms of their relationship to the broader judgment setting.

This last excerpt from a third interview shows a respondent making category judgments about classes of products.

> "I'll talk about generic aspirin. It's great. It is cheap and it works. One of my kids has juvenile arthritis so he takes 10 aspirin a day and the difference in price is amazing and it works as well as Bayer or whatever and it is half the price. Some other generics don't work as well, but take something like aspirin, where aspirin is aspirin and it works, where some things that are generic are not going to be the same quality. For example, the other night, my husband is a pediatrician, and he had to put one of our kids on an antibiotic and he said this is the only one he uses because it doesn't make kids stomachs upset. So different generic type things work in different ways."

This passage reveals a more complicated set of categorical judgments. The judgment field is organized in such a way that the categories seem to be "generic brands that work as well as name brands" and "generics that are inferior to name brands." This organization affords "price" and "quality" as the salient properties of the categories. The salient features of generic products stand out in reference to the properties of Bayer. For the generic aspirin to "work as well," it must have a product to be compared with. For the generic to be "half the price," there must be a branded product that is seen as costing twice as much. Again, the figure is seen in relation to the ground. The same type of "reversibility" found in figure/ground configurations is present in this passage. The respondent begins by focusing on the "generics that work as well as the brand". Then, the focus of the discourse becomes "generics that are inferior to the brand". The passage ends with the respondent commenting on the overall contrast with the statement, "So, different types of generic things work in different ways."

SUMMARY AND IMPLICATIONS

This preliminary investigation is based on the premise that consumer's category judgments are generated in response to contextual demands and judgment intentions. The metaphor of figure/ground is used to describe and illustrate some possible ways that these types of category judgments could occur. In so doing, context is given a more fundamental role in determining how a particular category is structured. Others have suggested that context may influence what categorizing strategy will be used (Cohen & Basu 1987). Thus, in one setting a person may categorize by means of comparison to a prototype and in another may categorize an object by summing attributes ala the classical model. Our assertion goes further by proposing that there may be no pre-existing category structure, in the sense of the classic, prototype, or exemplar models, and that what is to serve as a prototype, or which object attributes are to be summed, is generated during the act of categorizing.

A generative approach to categorization is congruent with current work in categorization theory which questions the inherent stability of concepts. For example, experiments by Wattenmaker et al (1986) indicate that basic or "natural" level concepts are not always basic or natural and they go on to conclude:

> The general implication of the results is that it is simply not possible to identify an abstract category structure as natural and easy or as unnatural or difficult independent of the knowledge structures that are brought to bear on the category structure (p.187).

Such conclusions amount to a recognition that categories do not exist independently of judgment context. A number of theorist are contending that the Aristotelian models can not be salvaged by modifying their structural properties (Barsalou 1987; Medin & Wattenmaker 1987).

As a case in point, Higgins & Lurie (1987) conducted a series of experiments which made explanations based on altering the basic prototype model unlikely. One such adaptation is the "refocusing hypothesis" in which context serves to constrain what would serve as an acceptable prototype or exemplar. Contrary to what would be expected if this hypothesis were correct, order of representativeness (typicality rating) is not determined by resemblance to the exemplar most strongly suggested by the context. Higgins & Lurie (1987) note that one plausible way to account for their results is in terms of the "restructuring hypothesis": a hypothesis they note strongly resembles schema theory. In the restructuring case, the entire category is restructured, with a subsequent change in ratings of typicality, in response to contextual information. Such restructuring requires the use of background knowledge that is often not explicitly provided in the judgment context. A schematic representation of knowledge would allow for filling in missing information and generation of contextual variable categories. In similar vein, Barsalou (1983) has proposed a comparative network model to account for the structural properties of "common" and "ad hoc" categories. Barsalou (1987), more recently, has labeled the notion of concepts as pre-existing, invarient structures as an "analytic fiction" and has proposed that concepts are generated in working memory.

Schema theory is not the only theoretical system which could treat categorization as a generative phenomena. Such an approach can also be found in the ecological school of psychology (Gibson 1977; Lombardo 1987; McCabe & Balzano 1986). This school seeks to explain category judgments without recourse to "in the head" variables such as schemas or categorical structures. On this view, organisms by virtue of their ecological niche "directly" pick up information from the environment: a process known as the theory of affordances (Gibson 1977). While a more inclusive discussion of schema theory or the theory of affordances is outside the domain of this paper, the immediate point is that many findings from category research can be accounted for without assuming a pre-existing category structure.

This preliminary investigation does not propose that figure/ground represents a theory of categorization nor is it necessarily contradictory to the robust findings from categorization studies, such as typicality effects. In the examples provided, respondent's category judgments often were attribute based or prototypic in nature so figure/ground descriptions of category judgments do not exclude these phenomena. What is suggested by the figure/ground description is a need to develop theoretical models which can account for the wide range of contextual variability and flexibility exhibited in category judgments.

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Formal Models of Group Choice in Organizational Buying: Toward a Contingency Paradigm

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ABSTRACT

We configure seven formal models of group choice (Choffray and Lilien 1980) in a contingency paradigm composed of three situational factors identified by Sheth (1973). Our key research question is whether some models of group choice predict actual group decision making outcomes better than alternative models, given situational factors. We develop a general proposition concerning which model should fit best in each cell of the contingency paradigm. We then estimate the models and assess the appropriateness of the contingency paradigm. Results of a pilot test provide initial support for the contingency paradigm.

The purpose of this paper is to examine the goodness-of-fit of seven formal models of group choice (Choffray and Lilien 1980) within a contingency paradigm composed of three factors identified by Sheth (1973). The contingency factors are: the buying task, financial commitment, and product complexity. The key question of the research is how well the seven models predict group choice outcomes, given contingent factors.

LITERATURE REVIEW

We review seven formal models below. Although the models are intuitively simple representations of choice processes, they have not been empirically tested because of the difficulty of obtaining data from a relevant subject population.

Formal Models of Group Choice

Choffray and Lilien (1980) propose seven formal group choice models to describe how organizational buying centers might make supplier choice decisions (Choffray and Lilien 1980). Using constant-sum preference data, each model provides a distribution of preference scores.

Model 1: The Weighted Probability Model. The weighted probability model assumes that the buying center is likely to adopt a given vendor-product alternative in proportion to the relative importance of the buying center members. The weighted probability model is:

$$P_G(a_o) = \sum_{d=1}^{D} w_d P_d(a_o)$$

where: $P_G(a_o)$ is the probability of the buying center choosing alternative a_o,

w_d is the weight (relative importance) of decision participant d, $\sum_{d=1}^{D} w_d = 1.0$,

$P_d(a_o)$ is the preference that participant d has for alternative a_o.

Model 2: The Equiprobability Model. The equiprobability model is a special case of the weighted probability model. Each decision participant is given equal weight--for a three person group, each participant would be assigned a weight of 0.33--and the weights sum to 1.0. "This is an appealing model, because it is a zero-information or naive model. The industrial marketing manager need only identify the decision participants and does not have to measure or provide subjective estimates of the importance coefficients" (Choffray and Lilien 1980, p. 241).

Model 3: The Autocracy Model. Another special case of the weighted probability model is the autocracy model. This is a "key-informant" model because the most important member of the buying center is given a weight of 1.0 and other members are given a weight of 0.0. This model represents the current norm for industrial marketing research studies, i.e., that one individual's preferences represent those of the buying organization.

Model 4: The Voting Model. The voting model does not include a weighting factor for buying center members. It states that the probability that the group will choose a vendor-product alternative $[P_G(a_o)]$ is the likelihood that the alternative (a_o) receives the highest preference score versus any other alternative in the set of vendor-product alternatives.

Model 5: The Minimum Endorsement Model-Majority Rule. The minimum endorsement model assumes that in order to be accepted by a firm, a product alternative has to be the choice of a prespecified number (quota) of participants involved in the decision. For a majority rule, at least two members of a three person buying center must be in favor of a vendor-product before it can be assigned a choice probability. The majority rule model is:

$$P_G(a_o) = \prod_{d=1}^{D} P_d(a_o) \Big/ \sum_{j=0}^{J} \prod_{d=1}^{D} P_d(a_j)$$

where: $P_G(a_o)$ is the probability of the group choosing alternative a_o,

$\prod_{d=1}^{D} P_d(a_o) \Big/ \sum_{j=0}^{J} \prod_{d=1}^{D} P_d(a_j)$ is the conditional probability of the buying center selecting a_o, given that the majority of group members are in agreement on their judgments of the a_j alternatives.

Model 6: The Minimum Endorsement Model-Unanimity Rule. The unanimity model is a second version of the minimum endorsement model. The assignment of choice probabilities to vendor-product alternatives requires that all members of the buying center agree in their judgments of the preferred alternatives.

Model 7: The Preference Perturbation Model. The preference perturbation model assumes that if a group does not reach unanimity, it is most likely to choose the alternative that perturbs individual preferences least. "The probability that a given product would be chosen by a firm's buying center is inversely proportional to the number of preference shifts that would be needed to make that alternative the first choice of every decision participant" (Choffray and Lilien 1980, p. 140). The preference perturbation model is:

$$P_G(a_o) = \sum_{w=1}^{W} P_G(a_o \mid \gamma_w) \times \Pr[\gamma_w]$$

where: $P_G(a_o \mid \gamma_w)$ is the probability that the group chooses a_o given the preference structure γ_w,

$\Pr[\gamma_w]$ is the probability of obtaining that preference structure.

A CONTINGENCY PARADIGM

The formal group choice models reviewed represent several forms of the choice process. A priori, no one model should be expected to dominate in terms of predictive ability. We hypothesize that use of a particular choice process is dependent on the situation surrounding the decision.

Three factors are included in our contingency paradigm for two reasons. First, these factors appear often and consistently in the organizational buying literature (Moller and Laaksonen 1986). Second, three factors are a manageable number for an empirical study--to test all factors identified in past studies would not be parsimonious nor offer generalizable conclusions for theory development.

Buying Task. Our first factor is the type of buying task (Robinson, Faris, and Wind 1967). Modified rebuy and new task decisions are two levels of this factor. The straight rebuy situation is not included in the paradigm because straight rebuys tend to be characterized by routinized response behavior (Moller and Laaksonen 1986) and are not likely to require group interaction in order for a decision to be made.

Financial Commitment. Our second factor is the level of financial commitment required in the purchase decision. Financial commitment is similar to the "perceived risk" component of Sheth's (1973) model. We use "financial commitment" instead of "perceived risk" because there is likely to be less measurement error in assessing price (a dollar amount) versus measuring perceived risk. Financial commitment reflects the magnitude of adverse consequences if a wrong choice is made. We assume that loss of dollars is an adverse consequence because it may lead to negative sanctions for buying center members. We specify two levels of financial commitment (high and low/ moderate).

Technical Complexity. Finally, we include technical complexity of the product in the paradigm at two levels (simple and complex). This is another "product specific" factor.

In sum, we identify each contingency factor at two levels that represent a range of consequences for a bad decision. At one end of the range, consequences are high for new tasks, high financial commitment, and technically complex products. At the opposite end, consequences are low for modified rebuys, low financial commitment, technically simple products.

A RESEARCH PROPOSITION

Proposition: Our main proposition is that the degree of predictive accuracy of the seven group choice models depends on the buying task, financial commitment required, and technological complexity of the product.

Rationale: Organizational buying decisions are diverse and it is unlikely that one type of choice model will fit best all the time; rather, we expect contingent factors to affect the predictive ability of the models. This idea is reflected in Exhibit 1, with the seven group choice models configured within the paradigm.

With a small sample of data from the pilot study, a statistical test of the individual cells in the paradigm cannot be conducted. However, an overall test of the paradigm is possible. Therefore, only an overall proposition for the paradigm is offered at this point in the research. A larger scale study (currently in progress) will allow a sufficient number of observations so that individual cells can be examined empirically.

METHOD

We assessed the goodness-of-fit of each of the seven models using a small sample of buying centers. Buying center members first worked individually to develop preferences for a range of product alternatives. Buying center members then worked together to form preference scores as a group. The preference scores predicted by each model using individual preference data as input were then compared to the actual preference score distribution of the group. A chi-square goodness-of-fit statistic was calculated to see which model had the best fit to the actual group preference data.

Buying Decision Stimuli

We chose twenty products as stimuli for buying decision tasks. Many of the products we selected are central to the operation of manufacturing and service organizations across industries. We conducted

EXHIBIT 1

FORMAL MODELS OF GROUP CHOICE: A CONTINGENCY PARADIGM

Buying Task	Financial Commitment	Technology: Simple	Technology: Complex
Modified Rebuy	Low/ Moderate	*Autocracy Model*	*Voting Model*
	High	*Preference Perturbation Model*	*Weighted Probability Model*
New Task	Low/ Moderate	*Equiprobability Model*	*Majority Rule Model*
	High	*Majority Rule Model*	*Unanimity Model*

background research to learn realistic levels of price, quality, delivery, and service/maintenance for each product. We personally interviewed purchasing agents involved in buying each product to construct buying tasks with a high degree of realism. Products included eleven manufacturing and MRO-related items (e.g., industrial valves, solvent reclaimers, warehouse vehicles) and nine office products (e.g., copiers, facsimile equipment, furniture).

We described products on four attributes: price, quality, delivery, and service/maintenance. We selected these attributes because they have been reported as criteria used in industrial buying (Lehmann and O'Shaughnessy 1974; Lilien and Wong 1984). We determined three realistic levels of each attribute from the personal interviews. A total of $4^3 = 81$ possible configurations resulted for each product.

The buying choice task presents nine vendor-product alternatives in a balanced, orthogonal, incomplete block design with no one vendor-product alternative being best or worst on all attributes. The nine alternatives for each product can be vendors or products and are referred to as vendor-products for simplicity.

Subjects

Two manufacturing firms in the Northeast US participated in the pilot study. The purchasing manager at each firm identified members of naturally occurring buying centers that had worked together in the past year. The purchasing manager then identified three to five products (from the list of 20) that each buying center had procured during the past year or was likely to procure during the coming year. We then assembled questionnaire sets for each buying center based on the relevant products.

A total of four buying centers participated in the pilot test. Three buying centers were composed of three persons each (a buyer, an engineer, and a user). One buying center was composed of a buyer and an engineer.

EXHIBIT 2

CONTINGENCY PARADIGM ASSESSMENT: PILOT TEST RESULTS

Buying Task	Financial Commitment	Technology: Simple	Technology: Complex
Modified Rebuy	Low/ Moderate	*Autocracy Model* Corrugated Boxes BC2 Rank = 1 BC 1 Rank = 4	*Voting Model* Copier Fax BC3 Rank = 1.5, Rank = 4 BC4 Rank = 2, Rank = 5
	High	*Preference Perturbation Model* Office Furniture BC3 Rank = 2	*Weighted Probability Model*
New Task	Low/ Moderate	*Equiprobability Model*	*Majority Rule Model* Valves BC1 Rank = 1, BC2 Rank = 1 Solvent Reclaimer BC1 Rank = 4
	High	*Majority Rule Model* Whse Vehicles BC1 Rank = 1, BC2 Rank = 1 Groundskeeping Vehicles BC2 Rank = 1	*Unanimity Model* PCs: BC3 Rank = 3.5 Offset Press: BC Rank = 6

Data

All data were collected on-site (by the first author) to preserve a realistic task environment. For each decision, subjects were instructed to work individually and examine the nine alternatives, cross out those they would not consider, and award a "share-of-available requirements" (a constant sum scale) to the vendor-products they preferred.

Measurement by a constant sum scale is realistic because buying centers have the option of using single or multiple sources of supply in reality. The preference data from the constant sum measure were used to calculate preference scores relative to the seven group choice models. Each model had nine preference scores (choice probabilities), one for each of the nine vendor-product alternatives.

Subjects then worked as a group to evaluate the same products. They discussed the nine alternatives to reach agreement on which vendor-products would be crossed out and how points would be allocated. This task yielded nine actual group preference scores (choice probabilities) that we compared to the model predictions. We completed fifteen buying decisions. At the end of the group task, each buying center was asked to classify each decision into a cell in the contingency paradigm based on how they evaluated the purchase within the context of their organization. The 15 decisions and fit rankings are configured in the contingency paradigm in Exhibit 2.

PILOT TEST FINDINGS

A small X^2 value (15.5, 8 degrees of freedom) indicates that a model fits adequately ($p < .05$); that is, the preference responses for the actual group decision are close to those responses predicted by a model. Support for the contingency paradigm proposition may be evidenced if the models predicted to do best in each cell have both a low X^2 value and a good fit ranking versus the other models. The goodness-of-fit and ranking results for four decisions are presented in Exhibit 3 to illustrate the model scores and ranking results.

To read Exhibit 3, consider the decision to buy corrugated boxes, where the autocracy model should fit best. For Buying Center 1 (BC 1) the autocracy model

EXHIBIT 3

SUMMARY OF MODEL RESULTS FOR BUYING DECISIONS

Product	Model	Computed		X^2 value and fit ranking	
		BC 1	Rank	BC 2	Rank
Warehouse Vehicles	1. WP	13.32	5	7.80	5
	2. Equiprob.	34.28	6	9.38	6
	3. Autocracy	10.46	3	11.55	7
	4. Voting	11.41	4	3.13	2
	5. Majority*	0.00	1	0.94	1
	6. Unanimity	N/A**	N/A	5.13	4
	7. Pref. Pert.	6.39	2	3.61	3
		BC 1	Rank	BC 2	Rank
Corrugated Boxes	1. WP	2.99	3	11.86	3
	2. Equiprob.	6.75	6	38.14	5
	3. Autocracy*	3.30	4	8.90	1
	4. Voting	2.23	2	12.64	4
	5. Majority	0.13	1	87.56	6
	6. Unanimity	N/A	N/A	N/A	N/A
	7. Pref. Pert.	6.18	5	10.07	2

*Model predicted to have the best fit.

**Unanimity model could not be calculated because members were not in agreement about any vendor-product alternatives.

is ranked fourth in terms of absolute fit and for BC 2 the autocracy model is ranked first in fit.

To examine the appropriateness of the overall contingency paradigm, a meta-analysis of the rankings was conducted. In seven decisions, the models specified by the contingency paradigm were the best fitting (ranked number 1 or tied for first). In two decisions the models predicted to fit best were in second place. In one decision, the predicted model was ranked third and so on as noted in Exhibit 4. This distribution of the rankings is substantially different from that expected by chance (X^2 = 15.40, 6 d.f., $p < .02$). Therefore, the contingency paradigm is supported based on these initial pilot-test findings. See Exhibit 4.

CONCLUSIONS

The study has several limitations and strengths. The first limitation is the small sample of decisions (n = 15). The results reported here were based on a pilot test and a larger scale study is currently in progress. We plan to obtain a sample of at least one hundred buying decisions in order to have enough data in each cell of the contingency paradigm to conduct a statistically meaningful meta-analysis.

Second, the buying centers chosen for participation may not have included all the persons involved. In reality, others may be involved in a peripheral manner; i.e., financial executives that provide budget approval. Third, we studied only the choice phase of the decision. There was no opportunity for activities such as information search, meetings with vendors, or buying center meetings over time. Finally, the decision tasks were simulated rather than real purchases.

A major strength of the study is that it is the first reported empirical examination of Choffray and Lilien's (1980) models of group decision making. The study addresses a need in the literature for theoretical and empirical work in the area of group choice. Such research is scant because of the difficulty of collecting data from relevant subjects about relevant problems. The method used here overcomes many of the difficulties.

A second strength is that it employs a relevant subject population, i.e., real buying centers. Third, we match members of buying centers to products that they would work with in the course of their jobs. Fourth, we have collected all data in a naturalistic environment within the subjects' organization.

Finally, in post-hoc reactions to the study, subjects reported that they perceived the decision

EXHIBIT 4

SUMMARY EVALUATION FOR THE CONTINGENCY PARADIGM

BC Number and Product	Goodness-of-Fit Ranking for Predicted Model
BC 1 Warehouse Vehicles	1
BC 2 Warehouse Vehicles	1
BC 2 Corrugated Boxes	1
BC 1 Valves	1
BC 2 Valves	1
BC 2 Groundskeeping Vehicles	1
BC 3 Copier	1.5
BC 4 Copier	2
BC 3 Office Furniture	2
BC 3 Personal Computers	3.5
BC 1 Corrugated Boxes	4
BC 1 Solvent Reclaimer	4
BC 3 Facsimile Equipment	4
BC 4 Facsimile Equipment	5
BC 4 Offset Press	6

Rank	Observed Frequency	Frequency Expected by Chance
First Place	7	2.14
Second Place	2	2.14
Third Place	1	2.14
Fourth Place	3	2.14
Fifth Place	1	2.14
Sixth Place	1	2.14
Seventh Place	0	2.14

$X^2 = 15.40$, 6 d.f., $p < .02$

tasks to be highly realistic in terms of the attribute descriptions of vendor-products. They maintained that the decision processes used to evaluate each product were similar to those that occur in real buying decisions.

Implications and Future Research

Results from this research may provide insight to buying groups in organizations about decision making styles (Wilson 1972). Decision making strategies in buying may be improved if the underlying processes and effects of situational factors are understood.

Sales managers and sales representatives may benefit from knowledge of decision processes of buying centers. Sales strategies may be more efficiently and effectively designed by understanding the type of decision making process that is likely to be used by buying centers. For example, if the seller's product is a technically simple, low cost, rebuy item, the seller may find it beneficial to call on the buying center member with the most expertise who is likely to make an autonomous decision.

Results of this study have implications for industrial marketing researchers. A "key informant" research methodology may be valid and acceptable if the type of decision being studied is a rebuy for technically simple, low cost products. The autocracy model tended to fit best in these situations and conducting interviews with all buying center members may not be necessary if one person is actually making the decision. However, for other types of decisions, the key informant method will likely not yield results with a high degree of validity (Phillips 1981). This research suggests what combining rule for individual respondents to an industrial market research study is most appropriate.

These models could also be applied in a family decision making setting with spouses plus other family members (children, grandparents, other relatives) as group members. An application of the seven formal models and contingency paradigm to the family setting is possible because Sheth's (1974) model of family decision making has many of the same contingency factors as those used for organizational buying. Theory development in the family decision making area could benefit from such research.

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Observations On Marketing And Consumption: An Anthropological Note

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ABSTRACT

Recently marketing scholars and consumer researchers have been apprised of the peril of ignoring the metatheoretical implications of relying excessively on a single paradigm in their research. The models and metaphors by which we apprehend marketplace phenomena, and the methods by which we generate and test these constructs are the less elegant for this dependency. An anthropological approach is one means of rectifying this situation. One of the critical issues to be resolved if marketers, consumer researchers and anthropologists are to work effectively together is that of strategic vision. Toward this end, this paper examines the types of marketplace behavior of interest to anthropologists, and illustrates ways in which the perspective of anthropology can be applied to issues in contemporary marketing and consumer behavior.

INTRODUCTION

Familiarity with the work of economic anthropologists could greatly assist marketers and consumer researchers in understanding marketing related behaviors in all types of societies, and facilitate practical, humane, culturally appropriate intervention in each type of society by local or foreign, private or governmental entrepreneurs and "developers." Conversely, familiarity with the work of marketers and consumer researchers could greatly assist anthropologists in understanding and interpreting the range of economic behavior in complex society. Unfortunately, lack of familiarity has bred a mutual indifference, if not contempt, among the researchers of these parallel disciplines. This essay attempts to bridge the gap between these disciplines by exploring the perspectives adopted by economic anthropologists in their study of market phenomena, by documenting the recent interest in consumer behavior on the part of some anthropologists, and by detailing the ideological conflicts that currently inhibit the interdisciplinary study of marketing and consumer behavior. In merging sociological critique with bibliographic exposition, the author seeks to address Deshpande's (1983) concern with metatheoretical bias in research.

ANTHROPOLOGY AND MARKETPLACE BEHAVIOR

Generally speaking, anthropologists interested in behaviors related to economies have conducted investigations in three kinds of societies: non-market, market and transitional. This is a typological (neither developmental nor evolutionary) distinction useful to understanding phenomena which concern contemporary social scientists, and is devoid of the implicit ethnocentricism of such terms as "modern" or "less developed."

Non-market societies (e.g., hunters and gatherers, pastoralists, horticulturists, agriculturalists, etc.) are nonindustrial cultures whose institutions are embedded in kinship relations, whose economic exchanges are based on reciprocity, whose modes of production are owned individually or by kin group and geared toward subsistence. Should marketplaces exist, they are expedient sites for exchange, rather than dominant institutions necessary to existence. Transitional societies (e.g., peasants, fishers, itinerant craftsmen, Fourth World peoples, etc.) represent a mix--actually a number of mixes--of nonindustrial and industrial cultures, and thus combine both market and nonmarket features. The spread of cash crops and wage labor draw these societies into local, regional and world markets, producing a dislocation and reordering of traditional attitudes, beliefs and behaviors (Dholakia and Sherry 1987). Economic exchanges are increasingly based on market factors and geared toward producing profit. Ownership of the means of production is often relinquished by individuals. Market societies (e.g., capitalist, socialist and mixed capitalist/socialist economies) are the industrial cultures most familiar to contemporary marketing practitioners and consumer researchers. Nonmarket enclaves often exist within market societies (Applebaum 1984a; 1984b).

Studies in each of these societies have the potential of advancing knowledge in the disciplines of marketing and consumer research. Non-market societies can be investigated for the light to be shed on activities such as gift giving and relationship management. Such societies have also been proposed as exemplars of adaptation in the evolution of trans-market civilizations (Dholakia and Sherry 1987). Corporate group dynamics and other fundamental organization behaviors are conveniently studied in nonmarket societies. Transitional society studies are critical to our understanding of articulation and linkage issues, as economies of numerous kinds and scales combine to create a world system or systems (Choate and Linger 1988). Such societies are key players in the practice of international marketing. Developments related to the new international division of labor are effectively monitored here as well. Finally, the market societies which have provided the bulk of data upon which the disciplines of consumer behavior and marketing have been forged, have yet to be explored systematically for generalizable principles and cross-culturally valid constructs. The standardization-adaptation debate must move to an empirical level if it is not to stagnate entirely.

Marketplace exchange most typically studied by anthropologists can be characterized by several interdependent processual dimensions and institutional forms. At the level of process, analyses have been locational, interactional and allocational. Locational analysis tracks the spatial flow of goods from production to exchange, or from sale to consumption. Interactional analysis has probed the social relations of transactors, with special attention to features such as bargaining dynamics, trading partnerships and ceremonial gift giving. Allocational analysis describes the outcome of transactions in quantitative economic values. The institutional forms of marketplace exchange are termed sectional and network. Sectional organization obtains when production and exchange are circumscribed by factors that severely constrain the alternatives of an individual actor; a mutual interdependence of economic units, or sections, thereby arises. With network organization, a much more flexible relationship between individual economic agents obtains. These institutional forms, while distinct, are often coexistent (Cook 1973).

These types of marketplace exchanges are quite familiar to marketers and consumer researchers. What is of particular use in these anthropological accounts is detail and texture. Such accounts typically contain rich, historically particular descriptions of marketing behaviors. Geographic dispersion is another benefit; most culture areas have been investigated, at least in exploratory fashion, and some in exhaustive, long term fashion, by economic anthropologists. Finally, these accounts contain the building blocks upon which comparative generalizations may be built, against which in turn our universal theories and models of marketing and consumption may be tested.

Anthropologists have adopted several stances toward the study of economic activity characteristic of marketing. The formalist school maintains that the principles of formal neoclassical economics apply to all economies, including those of nonwestern, nonindustrial societies (Cole 1982). The formalists are synchronic and analytic in perspective, logico-deductive in method and concerned primarily with systematically analyzing the dynamics and conditions of social performance across cultures. Formalists view "the economy" as rational decision making wherever it occurs in a social system (Cook 1973). Work by Belshaw (1968), Cook (1970), Nash (1961) and Schneider (1974) is representative of this school. The formalist stance is the most recognizable posture adopted in contemporary marketing and consumer research. Its interpretive primacy is virtually uncontested, as it appears grounded in the "natural" or "common-sensical" foundation of positivist inquiry.

The substantivist school requires that the content of behavior be analyzed to determine whether or not it is economically rational. Substantivists, following Polanyi, Arensberg and Pearson (1957), distinguish three kinds of exchange behavior: market, reciprocity and redistribution (Cole 1982). The substantivists are historical and relativistic in perspective, and employ taxonomic and typological method. They are concerned primarily with the structure and function of contrasting institutional or organizational types. Substantivists deny the existence of a discrete economic sphere, preferring to discuss economizing behavior as it articulates with an institutional matrix (Cook 1973). The work of Bohannon (1963, 1965), Dalton (1961) and Sahlins (1972) is representative of this school. With the broadening of conceptions of marketing and consumer behavior that has occurred in the last decade, the substantivist approach appears to have much to offer theorists (for example, Hudson and Ozanne 1988) challenging received wisdom and conventional research methods.

The Marxist school maintains that economic behavior is rational, but that maximization of utility is not a universal motivation for behavior. Maximization is seen as a rationalization of capitalist economic relationships. The Marxists are concerned primarily with class relationships (Cole 1982). They require that a comparative view of rationality be developed, and view economic anthropology as an extension of political economy (Cook 1973). The problematic advanced by French neo-Marxist economic anthropologists which rejects both formalism and substantivism in favor of exploring the penetration of so-called traditional modes of production by capitalism--the emphasis is placed on social formations resulting from the articulation of these modes such that the former become structured components of the latter--is especially noteworthy (Prattis 1987). The work of Godelier (1977) and Meillassoux (1975) is representative of this school. Recent work on marketing and development (Dholakia and Firat 1988), critical theoretical examinations of consumer behavior (Rogers 1987), and macro analyses of advertising (Jhally 1987) draws on a common body of Marxist and neo-Marxist scholarship.

Each of these schools is concerned with the impact of Western economic systems on societies around the world (Cole 1982), and none has developed precise criteria for delimiting the economic field of study as distinct from any other field within a social system (Cook 1973). Researchers exploring the social impact of the expansion of the World capitalist system (Nash 1981; Price 1984; Wallerstein 1974), often under the rubric of development, have employed the perspectives of each of these schools to insightful effect. Critics of all of these schools (notably Gudeman 1986) who regard the approaches as ineluctably, axiomatically Western, and who seek some middle ground between derivation and nihilism, have advocated the cross-cultural study of local metaphors of livelihood as a corrective. Still, of the dimensions of economic behavior considered most essential to the phenomenon of marketing--production, distribution, exchange and utilization--it is this last, utilization, or consumption as we more commonly speak of (and misinterpret) it, that has been most ignored by economic anthropologists. Even the most thorough of contemporary ethnographic analyses of marketplace behavior (e.g., Alexander 1987) routinely slight consumer behavior in overall treatment. This imbalance has become the focus of recent attention of anthropologists seeking to forge links with consumer researchers (Arnould and Wilk 1984; Douglas 1976, 1983; Douglas and Isherwood 1979; Sherry 1983, 1984).

ANTHROPOLOGY AND CONSUMER RESEARCH

The call for an anthropology of consumption was formally issued by Douglas (1976), who forcefully argued that a systematic account of consumers' objectives had not yet been rendered, and that any proposed account should be consistent with a communications theory of the use of goods. Such semiotic advocacy is gradually diffusing into marketing and consumer research (Umiker-Sebeok 1987). The propositions underlying her proposed theory of consumption are fourfold. First, consumption activity is seen as a "ritual presentation and sharing of goods classified as appropriate to particular social categories which themselves get defined and graded in the process." Secondly, the main objective of a consumer's behavior is to "help create the social universe and to find in it a creditable place." Thirdly, to achieve this objective, the consumer must mobilize "marking services"--personal attendance at consumption events or material contributions of goods geared toward reinforcing agreed upon canons of judgment--from other consumers. Finally, successful consumption requires a "deployment of goods in consumption rituals that will mobilize the maximum marking services from other consumers." Of the functions fulfilled by goods--subsistence, competitive display, and the making stable and visible the categories of culture--the social meanings created and carried by goods are most significant. Goods create intelligibility (Douglas and Isherwood 1979). Believing that consumption is ultimately about power, Douglas and Isherwood (1979) view the individual overriding objective of a consumer as being the acquisition and control of information about the changing cultural scene, to assure inclusion in "shared civilities." This macro species of information processing indicates the mutually constituting nature of mentalistic and materialistic dimensions of culture. Goods have the capacity to increase personal availability, that is, to reduce periodicity constraints on the individual, making asynchronous work a viable endeavor (Douglas 1983).

As a preliminary call for research, the formulations of Douglas and her colleagues must be considered tentative and incomplete, although clearly important. The focus on the exchange of information to the exclusion or slighting of other dimensions of consumption provides other researchers with a point of departure for additional investigation, and a contextual framework in which to embed their own studies. For example, anthropologists such as Arnould (Wallendorf and Arnould 1988), McCracken (1986, 1988) and Sherry (1986) have used a cultural perspective to explore structural and processual dimensions of consumption phenomena. Appadurai (1986) and his colleagues have launched an inquiry into the "social life" of consumption objects that has profound implications for research in marketing and consumer research. That anthropologists have been remiss in studying the changes over the last half-century in the trade of consumer products in developing nations, favoring instead the investigation of marketplaces, petty entrepreneurship and commercial networks of peasant produce, is made clear in Dannhaeuser's (1983) study of modern channel institutions and their dynamics in the Philippines. His ethnography demonstrates nicely the compatibility of anthropological and marketing perspectives, mediating as it does between a "proclivity for [local] detail" and a "prejudice for the aggregate." This approach would translate with minor modifications to an urban American setting as well.

Efforts ranging from tentative and oblique through assertive are underway within the field of anthropology to correct the deficiency noted by Dannhaeuser. The participants in recent annual meetings of the Society for Economic Anthropology addressed the topics of "Markets and Marketing," "Entrepreneurship and Social Change," and "Problems and Issues in the Study of Consumption" in nonmarket, market and transitional social settings. Similar topics have been raised in sessions on Business Anthropology and on Industrial Ethnography at recent annual meetings of the American Anthropological Society. Finally, the Society for Applied Anthropology has included papers on marketing and contemporary society in several of its last annual meetings. With the formal institutionalizing of the National Association for the Practice of Anthropology within the American Anthropological Association in 1984, the possibility of conducting joint marketing and consumer behavior studies and other collaborative research may finally be broached. Prospects of cooperation between Local Practitioner Organizations of consulting anthropologists, and regional affiliates of the American Marketing Association may thereby be enhanced. Despite these advances, however, some serious obstacles to interdisciplinary investigation remain.

STRATEGIC VISION IN MARKETING AND ANTHROPOLOGY

The view of marketing as a technology of influence (Anderson 1983)--the "channel captain" orientation that Tucker (1974) finds within the discipline, and the "engineer of conset" orientation commonly found among critics outside the discipline--is a stumbling block to interdisciplinary cooperation. Social science techniques in service of market research stand accused of promoting alienation and dependence among contemporary consumers in a fashion similar to the *mafias* among Sicilian peasants (Galt and Smith 1976). The former address of Planmetrics, Inc., a corporation employing anthropologists to conduct "Cultural Analysis" for its clients,--666 Madison Avenue--would certainly be viewed as prophetic in the hermeneutics of doctrinal anthropology. The same professionals who might cringe publically at the pop managerial notion of "constructional linguistics," which seems to smack of the shill of promotional patois, might privately acknowledge the ingenuity of attempts by such firms as NAMELAB to create world names for branded products by combining Indo-European morphemes into combinations like "Sentra" or "Compaq." Anthropologists with qualms about becoming professional market researchers themselves have been advised to defend their domestic and exotic constituencies by instructing them in the guerilla tactics of global capitalism (Stefflre 1978).

Similarly, the tardiness of academic anthropology in reconciling its central values of relativity and holism with the partisanship required of accepting nonacademic clients (Hinshaw 1980), and in restructuring its world view sufficiently to admit contemporary industrial or post-industrial business activity as a legitimate field of inquiry (Sherry 1983) has retarded interdisciplinary cooperation. The view of anthropology as a less established, unfamiliar field of inquiry with relatively less promotable relevance to marketing (Peter and Olsen 1983) than either psychology or economics, or as merely a set of unconventional data-gathering techniques (Hinshaw 1980) is another hindrance to cross-pollenization.

That a common vision can be forged seems apparent. Marketing requires "a greater commitment to theory-driven programmatic research, aimed at solving cognitive and socially significant problems" (Anderson 1983). Anthropology needs to "transcend the narrow, reactive advocacy role of championing the alienated worker and to assume a more proactive, advisory role in drafting and implementing humane strategic plans at the corporate organization level" (Sherry 1983b). It is the perceptual chasm of ethics and social responsibility--the practical consequences of marketing decisions supported by social scientific research--that many anthropologists refuse to bridge:

> To the extent that the spread of industrial capitalism may be held responsible for the "marginalization and immiseration of the world's poor" (Hoben 1982), we have been critical of corporate enterprises that fuel the processes of disenfranchisement at home and abroad. When governments have been destablized (as in Chile), when the health of consumers has been jeopardized (as in the marketing of infant formula and various pharmaceuticals in the Third World), when products become a threat to healthy socialization (as in the marketing of such video games as Custer's Revenge), when culture change itself becomes dysfunctional (as in Harris' (1981) account of the aborted "American dream"), anthropologists have taken corporations to task. This tradition of critically appraising and assessing culpability, of gauging the social impact of business activities, has culminated in Taussig's (1980) eloquent discussion of the shaping by commodity fetishism of epistemology and praxis. (Sherry 1983:25)

This refusal, which on the one hand has enabled anthropological associations to assist indigenous peoples in adapting to the frequently destructive consequences of modernization (Nash 1981), has on the other hampered the transition from village to corporation required of "studying up", largely by restricting a holistic viewpoint. Gerlach's (1980) work on the infant formula controversy is exceptional in this regard. Some anthropological proponents of an anachronistic code of professional ethics view themselves as "defending the discipline's humanistic tradition against those who would domesticate its critical thrust, who would like to depoliticize...anthropology, making it more acceptable to government and business..." (Hakken and Lessinger 1987,3). Ironically, the most pervasive yet most under-researched of consumer behaviors--low involvement activity--although eminently accessible to anthropological perspective, is essentially invisible given this antipathetic disposition. Thus, relative and long term innocousness or triviality of most purchase behavior (aside from Taussig's (1980) insightful observation quoted above) remains to be gauged. It is one thing to facilitate a shift in consumer preference from one brand of fast-food hamburger to another, and quite another to abet the degradation of tropical forest ecosystems (and the indigenous cultures dependent upon them) that our escalating demand for processed food has precipitated. To assess accurately consumer demand, to provide feedback on the long term consequences (individual and systemic) of alternate methods of meeting that demand, and to facilitate informed consent at all levels of consumer decision making are reasonable tenets of a common vision. The provision of a stimulating exercise in comparative ethics is the least expectation that a dialogue would fulfill.

Additional impediments to the forging of a common vision might profitably be framed in terms of problems to be explored. The issues of proprietary research and the engineering of consent have already been broached. The nature, malleability and consequences of behaviors such as acquisitiveness or of philosophies such as materialism are of particular concern to consumer researchers and marketers (Belk 1984a, 1984b), and both biological and cultural anthropologists; such factors must ultimately determine the pro- or antisocial ends toward which the marketing process may be turned. Formal and informal regulation of this process--differential access of consumers to marketplace phenomena--affects the degree to which "consumerism" may be understood as a progressive, protective social movement, or a social pathology producing relative deprivation (Douglas 1976, Harris 1979). Whether the so-called globalization of markets which we are currently witnessing is a desirable, irreversible trend resulting in the improvement of the life chances of all participants, and which should be catalyzed and managaged by standardized marketing interventions (Levitt 1983), or an undesirable, reversible manifestation of ethnocentric conceptions of progress which disrupts the ecological, social and psychological balance of its unwilling conscripts, and which should be arrested or redirected by enlightened social policy (Barnet and Muller 1974; Bodley 1982) is a topic in urgent need of joint exploration (Sherry 1987b). Our knowledge of the adoption and diffusion of innovations requires revision (Reilly and Wallendorf 1984; Wallendorf and Reilly 1983; Arnould and Wilk 1984). Research into consumption and marketing factors contributing to commerciogenic disease (Gerlach 1980), dietary degradation (Whiteford 1983), social disruption (including forced emigration, deskilling, household decomposition, etc.) attendant upon the new international division of labor (Barkun 1983, Fernandez-Kelly 1983, Safa 1983, Sassen-Koob 1983), and waste and inefficient use of resources

(Rathje 1974; Sprague and Shimkin 1981) might be undertaken, and the findings used to frame marketing-oriented solutions to these problems.

Perhaps the quickest and most productive tack to pursue in forming an alliance of disciplines would be to alert marketers and consumer researchers to the predisposition of anthropologists toward advocacy, and to apprise anthropologists of the existence not only of social, macro- and nonprofit marketing, as well as consumer research, but also of the variety of regulatory bodies interested in applied consumer research. Such a "back door" introduction to contemporary consumer issues might serve a subtle, socializing purpose in anthropology's transition from an ethnocentric to a relativistic view of marketing proper. The publicizing of successful marketing solutions to indigenous consumer problems routinely addressed by anthropologists, as in the case of Sacha Runa Foundation's empowerment of native entrepreneurs in the service of local health care delivery (Whitten and Whitten 1977), is another appropriate vehicle. The recent volume on anthropological praxis by Wulff and Fiske (1987) contains a number of such cases.

CONCLUSION

As linking-pin disciplines in their distinctive intellectual domains, marketing, consumer research and anthropology can provide some unique synergies to analysts willing to merge the varied perspectives. A rationale for such a merger has been offered in this note, and guidelines for implementation are emerging in the target disciplines (Baba 1986; Serrie 1984; Sherry 1987a). As a realignment of strategic visions is accomplished, debate over appropriate methodology for truly interdisciplinary research will inevitably intensify. The unfortunate wrangling between positivist and nonpositivist antagonists (Sherry 1987c), and the ideological pigeon-holing of research traditions into categories such as sophisticated falsificationist and interpretivist (Calder and Tybout 1987) threaten to obscure the paramount issue in any discussion of methods: the need for problem-driven selection of paradigms in research into marketing and consumer behavior. Lett's (1987) argument, provocative and persuasive at turns, that researchers must learn to compare and evaluate incommensurable paradigms, grows increasingly cogent in the postmodern environment (Sherry 1989) of consumer research. By overcoming the stereotypic conceptions shared by many researchers of each others' chosen pursuits, a powerful alliance may be forged. This note has attempted to nudge interdisciplinary inquiry a little further into the agendas of researchers seeking novel approaches to the study of fundamental human behaviors.

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On Display: Social and Cultural Dimensions of Consumer Behavior in the Greek Saloni

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Greeks acquire and use specific objects for display in their parlor, or *saloni*. In this paper, I examine the social and cultural aspects of this consumption process. Several contrasting dimensions, including male and female, public and private, tradition and change, Greek and foreign, sacred and profane, among others, meet in the goods Greeks place in this room. As such, the consumer behavior particular to the saloni acquires and expresses unique meaning, representing both societal division and integration.

> Following prescribed notions of Greek hospitality, the woman ushered me into her *saloni*, or parlor, the one room in the Greek home set aside for public occasions and the place guests on their first visit are invariably entertained. I glanced about, taking in the customary furnishings: the large table in the center of the room, a sideboard adorned with nicknacks and family photographs, sofas and chairs pushed up against the walls, bedecked with crocheted doilies and embroidered linens. But my attention was immediately caught by an item which seemed out of place; in the center of the table stood an orange and gold "lava lamp," the likes of which I had not seen since a visit to some obscure doctor's office at the age of 10 or 11.
>
> I felt transported to that dimly lit office, the green vinyl couch, the end table cluttered with magazines, and the magical lamp with its fluid rising and falling, the bubbles stretching and breaking slowly, continuously, monotonously. Yet I was in Greece, some 8,000 miles and 20 years from that doctor's office. When I exclaimed with surprise and pleasure at the familiar object, my Greek hostess obligingly plugged the lamp in, and I was again caught up in the liquid's mesmerizing motions. Having left the room, the woman returned a few moments later, not with the expected drink and sweets with which all guests are welcomed, but with another light to be activated, this one an interesting device which produced whirling colored lights on the room's walls.
>
> Edified by my response to the lava lamp, she searched my face eagerly for a similar positive reaction to the new object. I sought to reassure her, "Yes, it's lovely." Then, "Where did you get these things?" "Oh, Yianni brought them back from America. He went there with the ships," she replied (excerpted from author's Field Journal, 1980, Greece).

This paper illustrates the fruitfulness of an approach which analyzes the cultural matrix of observed consumer behavior. Utilizing social anthropological tools and theory, the consumer behavior is viewed as meaningful in the context of Greek social organization and processes of cultural change. Wallendorf and Arnould "contend that attachment to objects as symbols of security, as expressions of self-concept, and as signs of one's connection to or differentiation from other members of society is a usual and culturally universal function of consumption" (1988, p. 532). In this article, I explore the consumption process in Greek society involving the acquisition and use of culturally favored items as this process relates to relevant roles, gender and status distinctions, cognitive and spatial domains, familial/community interactions, and the effects of Western acculturation on Greek society.

In his 1987 ACR Presidential Address, Belk suggests several "macro consumer behavior issues" not yet fully explored in the literature. Among the questions posed for fruitful research is: "How do consumption objects become symbols of wealth, age, sex, political preference, and other statuses?" (Belk 1987, p. 2). In response to this question, I have analyzed the symbolic associations with respect to gender, and relative prestige within the Greek community, as expressed through items placed in the *saloni* or parlor. This paper investigates the nature of material objects purchased for or made for the purpose of display in the Greek parlor, with the underlying premise that such objects represent the image which the family and individual wish to present to the outside world (see Goffman 1959; Wallendorf and Arnould 1988). In this context, the objects chosen for display are best understood as symbolizing the fulfillment of appropriate male and female roles within the family. In addition, the change in the actual objects, representing increasing contact with Western society, is analyzed both in terms of altered consumption patterns and with respect to emerging variations in Greek men's roles. I contend that the phenomena explored here--the purchase and use of items as associated with public presentation of self and the effect of Western acculturation on consumer behavior in Greece--provide important data which have implications for consumer research in general.

The data for this paper were collected in pre-doctoral and post-doctoral anthropological fieldwork periods in Greece from November 1979 through October 1980, and during the summers of 1986 and 1987. I visited numerous small Greek villages, and spent extensive amounts of time in three specific villages, from which the majority of data is drawn. The ethnographic research methods utilized were participant-observation, where the anthropologist participates as fully as possible in the lives of the people under study, and unstructured in-depth interviews. The latter are particularly well-suited to the Greek cultural context where fluidity and informality are stressed and structured questionnaires are inappropriate. In the many interviews with informants, I asked questions concerning the origin and use of specific objects in the *saloni* (parlor). I was able to participate in each home as a guest received in the saloni on my first visit. Additionally, I attended numerous events, particularly during the Christmas, Easter, and summer periods, when the saloni is the site for celebrations or visits from migrants returning briefly to the village, and for baptisms, weddings, and name-days. As an economic anthropologist, I was particularly concerned with these events as they related to production, distribution and consumption. This paper focuses primarily on the variables of the consumption process.

PUBLIC AND PRIVATE SPACE; MALE AND FEMALE DOMAINS

Greek space has often been described as divided into public and private domains. In looking at a Greek village, for example, the village square, or *plateia*, the stores, the streets, the restaurants and coffee shops, and the church courtyard are all classified as part of the public realm. The private domain includes most parts of the village homes and walled courtyards. In Greek cognition and behavior, the public sphere is associated with men and the private area is associated primarily with women (Friedl 1962; Campbell 1964; du Boulay 1974; Hoffman 1974; Dimen 1977; Hirschon 1978; Dubisch 1986).

The public and private arenas are, at least at first glance, mutually exclusive domains. Men frequent the coffee shops, work in the fields, hold discussions in the village square, stroll up and down the streets, and confer in the church courtyard during services. Their time at home is limited and separate from that of the rest of the family. Men and women eat at different times, and men are seldom at home in the evenings. They may spend time in the courtyard adjoining the house in the late afternoon, but only when they need to repair their tools or to drink a quick cup of strong Greek coffee before setting off for the coffee shops or square. At this time, the courtyard, usually associated with women, becomes the domain of the man. Again, however, his presence there is fleeting. The quickness of his movements within the house and the lack of conversation seem to indicate his sense of not belonging to that private domain.

Women, on the other hand, often seem to feel uncomfortable in the public domain. They walk quickly across the church courtyard, stand awkwardly at the edge of the village square, and seldom set foot in the coffee shops, and then only when accompanied by their husbands on occasional public appearances together. Their activities and social interactions center around the home, although the village ovens and cemeteries are traditionally part of their domain.

Within buildings, some portions or rooms may be set aside as male or female spheres. For example, in the village church, the men stand on one side and toward the front, often closer to the altar and sanctuary, where women are not allowed at all. The women stand on the other side and toward the back of the church with their children. In many small village churches, the women's section is situated in a way that precludes direct observation of the ceremonies. In a coffee shop or restaurant, women may come through the back door and congregate in the kitchen. In the home, similarly, the kitchen is the province of women, while the *saloni* (parlor) is associated more with men.

In addition to the division of space into male and female, objects are also divided on the basis of gender and reflect and reinforce the public/private division as well. The tools required for work outside the home, for farming, for the care of work animals, for fishing, and--in those regions affected by modernization--the car, are all men's possessions. The women own the tools and appliances associated with the kitchen and their tasks in the home. In some villages, women are said to own the homes, which they pass on to their eldest daughter. Even in areas where female inheritance of homes has not generally been the case, female home ownership is increasing as providing a house, apartment, or addition to the parental home becomes a necessary and prestigious part of the inheritance (dowry) given to a daughter at marriage. Animals may be owned separately also, with the work animals belonging to the men, and the milk goats, chickens, and housecats owned by women. It appears, then, that men usually own those things which "establish a family outside the home" (Hoffman 1974, film narration). Some theorists have gone so far as to claim that "all valuable items belong to men" (ibid.).

THE SALONI

The saloni, in contrast to the kitchen, is associated primarily with men and is, in a sense, the public part of the private domain of the home. While some have analyzed this room as entirely the male's arena, however, I contend it is the one place in the village where both the men and women of the family participate together regularly in a public sphere. As such, the items chosen for display in this public room have special meaning. As we shall see, much of this meaning derives from the public presentation of objects which represent contrasting dimensions in Greek life. Some theorists have suggested that meaning is uniquely generated "by joining opposites in unity" (Avery and Peacock 1980, p. 197). The objects in the saloni symbolize male and female, tradition and change, village and migrant, homemade and store-bought, among other oppositions, to be explored presently. In the utilization of these objects in presenting the individual/familial "self" to the public, Greeks are emphasizing the importance of these structural characteristics of their society.

In most homes, the saloni is usually locked or at least considered "off limits" for everyday affairs. The general and daily activities of the household take place in the less formal setting of the kitchen, while the saloni is reserved for auspicious occasions involving the interface of the family and the community. As indicated in the opening passage, guests on their first visit to the home are entertained in the saloni. The hostess ushers her guest(s) into the room, seats them at the table, and retreats momentarily to return shortly with a drink and sweet. It is expected that the woman will always have something to serve readily available, and her prestige within the community is partly based on her ever-ready hospitality. Both the sweet and type of drink vary, although it is traditional, particularly in the summer months, to provide a glass of water and a spoonful of thick vanilla syrup or preserves. The guest quickly eats the spoonful of sweets, drinks the water, and places the empty spoon in the empty glass as a sign of having been well received. In addition to first visits, the saloni is used to entertain friends who have left the village as migrants and return infrequently. The use of the saloni in this case again emphasizes its special, public nature.

The saloni is used also to celebrate the socially recognized events which represent the continuing life stages of family members, particularly the males. On the occasions of baptisms, weddings, and male name-days, the saloni is used to entertain the numerous individuals who drop in to offer their congratulations to the family and its members. At these times, the saloni is literally the site which represents the family's place in the community. The family invites society into this room as a gesture of social solidarity, the community returns the gesture by attending the events, and the relative level of the family's prestige in the community is validated both by the behavior of the family's members and, importantly, by the objects displayed and the refreshments served in the saloni. As with favored objects in other societies, these goods "serve simultaneously to express integration and differentiation" (Wallendorf and Arnould 1988, p. 538).

The refreshments served to guests are an important part of the public display function of the room. Typically, elaborate Greek pastries or Italian-style "tortes" are served. The women of the home usually prepare the sweets, although it is becoming more common to order and purchase a cake or sweets from one of the local confectioners. In villages without a confectionary, arrangements are sometimes made to bring in a torte or other sweet from a nearby town or city, either on a bus, by taxi or by ferry boat. The relative prestige associated with serving homemade versus store-bought confections varies according to the characteristics emphasized. The qualities of the homemaker in terms of the amount of work and relative skill which are required to make the sweet and the freshness of the ingredients are emphasized in evaluating the home-made confection. Alternatively, the store-bought confection is praised in terms of the modernity, the convenience, and the extravagance of purchasing an item.

Furthermore, the drink served on these occasions receives particular attention and is a basis on which the relative prestige of the family is evaluated. Although it is still common to make cherry and peach brandies, today these drinks often are considered inferior to expensive store-bought liqueurs. The more exotic the liqueur served, the greater is the amount of prestige accrued. Kumquat liqueur from Corfu, Amaretto from Italy, and other sweet liqueurs based on banana or orange extract are highly valued, as are whiskies from foreign companies, such as Johnny Walker Black Label. Homemade brandies are usually left in the kitchen, while bottles of store-bought drinks are kept displayed in the saloni. These items are perceived as prestigious in terms of their high price and because they represent the "cosmopolitan" character of the family.

Since women own the things associated with the home, particularly the interior, it would seem that the items in the saloni would also be hers and represent women's activities and behavior. This assumption is borne out by observation of the objects traditionally found in this room. The saloni is customarily the place where both the dowry objects the wife brought with her in marriage and the items being collected for the dowries of maturing daughters are stored and displayed. The typical dowry includes a large quantity of items for the new home: sheets, blankets, carpets, floor coverings, mattress covers, tablecloths, napkins, towels, pillow cases, a wooden wardrobe, a bed, a table and chairs, and utensils for cooking and serving. In addition to hand-made items, young women's families purchase dowry goods from traveling merchants, local shops, and on occasional trips to the larger towns and cities of Greece. Cash is increasingly important in the dowry and is used to purchase household goods when the couple settles in the new home. In the 1980's, a family can be expected to provide a cash amount equal to one or more years of the father's income as part of the dowry for each daughter. In areas where agriculture is viable and when the relative wealth of the family allows it, parcels of land are also included.

The content and relative value of the dowry are indicators of a family's ranked position in the community. Wealthier families are expected to provide much larger dowries, for instance. Traditionally, marriage negotiations revolved around the dowry, with the prospective groom's family demanding an increase in the size and value of the dowry, while the bride's family attempted to reduce the value by emphasizing such things as positive character attributes of the bride. Although dowry negotiations have been unlawful in Greece for the past decade, dowries are still provided and are used to gauge relative status within the community. As such, both the bride's family and the groom's family are eager to discuss the dowry in cases where the size and content of the dowry are sufficient to warrant public attention. It should be noted that some women do not come with dowries and some men are not in a position to ask for them because of the relative poverty of their families. As income sources change in Greece, however, this situation is less common than it once was (Costa 1983; McNall 1974).

Greece is a society in which responsibilities, behavior, and character are emphasized in designating individuals and families as "honorable" (see Campbell 1964; Peristiany 1965). Two of the most important duties of the males are to protect the chastity and fidelity of the females in the family and to provide daughters/sisters with an appropriate dowry. In this way, the dowry is an important group of objects as a source of prestige for all members of the family. Furthermore, as indicated above, the grooom and his family derive prestige from the dowry as well. The dowry items displayed in the saloni symbolize the status and relative wealth of the bride's family, the groom's family, and the new family created through the marriage. As older items in the dowry wear out, new ones are brought from the cupboard to replace them. And, as mentioned above, the items being collected for the dowry of the maturing daughter of the family are also stored here, usually in a conspicuously displayed trunk purchased specifically for this purpose.

An important part of many salonia is the corner or other space set aside for the family's religious icons. Cardboard and painted images of saints, the Virgin Mary, Christ and other holy figures are placed together in this area, along with items which may include a small bottle of water blessed on Epiphany and used for healing purposes, a sprig of laurel or palm leaf cross distributed on Palm Sunday, a red Easter egg and Easter cookie saved from one year to the next as symbols of luck and rebirth, and a small glass container or "candili" filled with olive oil in which a floating wick is lit on special occasions. The display of these items indicates the family's intimate connection to the beliefs and important figures in Greek Orthodoxy, much as the icon shelves in Mexico City discussed by Lewis (1969). Members of the family usually are named after and display the icon of their patron saint. The Virgin Mary symbolizes the sanctity and holiness of motherhood, a state women can approach only as they fulfill their societally sanctioned roles through bearing and raising children (du Boulay 1986).

In addition, several new objects have been added to many families' salonia. The lava lamp and "psychedelic" light mentioned in the opening passage are just two such items. Greek families now also choose to exhibit Mexican velvet paintings, artificial flowers, Chinese silk tablecloths and tapestries, large ceramic animals, and other art objects purchased in foreign ports. This choice of objects is intimately tied in with the socially valued economic strategy in which the mature males of a family "migrate to the ships."

Rural Greece has limited economic opportunities, and many villages have experienced considerable depopulation as a result of extensive out-migration; men have been the primary participants in this migration process. Particularly in coastal and island villages, the merchant marine is an important source of employment. In some areas, over 50 percent of the men have been sailors, navigators, or ship-captains at some point in time. A common labor cycle involves spending several months on international shipping lines, followed by a brief return to Greece and the home village before resuming employment on the ships. Visiting ports all over the world, sailors purchase goods, particularly art objects, which they present to their families when they return home. These objects are placed on display in the saloni and have a value which derives both from the migration process and from the relative prestige attached to foreign-made items.

Because Greece is a poor country with few natural resources, migration is perceived as an important avenue for upward social and economic mobility. The emphasis placed on migration in this century is reflected in such things as characteristics considered desirable in choosing a spouse, for example (see Costa 1983, pp. 241-43). A man who has not migrated and/or has no plans for migration often is looked down upon, is seen as lacking in ambition and, in some cases, is said to be "not a *sostos* (right) man." The visible manifestation of his migration are the objects he brings back to the village, which are then displayed in the saloni. These objects symbolize his masculinity, and the exemplary way in which, as a migrant, the male is fulfilling his role as provider for the family.

Furthermore, most items manufactured outside of Greece have greater social value than Greek goods. Such items are more expensive, since the Greek government imposes import taxes which double or even triple the price of many foreign products. In addition, a perception of life outside Greece--particularly in America or Western Europe--as more prestigious, is widespread and has a long history among the Greeks (Costa 1983, 1988a, 1988b). By extension, items produced in America and Western Europe also are more prestigious. Hence an individual who has traveled to these areas, has sufficient income to purchase these goods, and/or recognizes the value of a "cosmopolitan" lifestyle which the possession of these goods reflects, is likely to accrue greater prestige.

The television has been an important element in the saloni. The placement of the television, part of the "world standard package" (Keyfitz 1982), seems to depend on the point in time when the family purchased the television and how long it has been in their possession. In 1980, only a few families in the villages studied had a television set, and it was often conspicuously displayed as an object of value in the saloni. Given the special uses of the saloni, however, placing the television in this room meant that it was not available for use as often as many people desired. In order to avoid altering the sanctioned function of the saloni, many families moved the television to another part of the house. By the mid-1980's, more and more families were able to purchase a television. Since the prestige associated with possessing the television has decreased as more families buy the object, those who acquire a television now often forego the temporary placement of the appliance in the saloni and situate it immediately in the kitchen.

CONCLUSIONS

In the presentation of self to general Greek society, individuals and families use objects in the saloni to represent several contrasting and important facets of Greek culture and to indicate their participation in these facets and the fulfillment of their appropriate roles as men and women. The opposing dimensions are united through the placement of specific objects in a room which represents, in itself, a meetingplace of the public and private

TABLE 1

Attributes and Symbolic Dimensions of Saloni Objects

female	male
Greek	foreign
homemade	store-bought
permanent villager	migrant
wife's family	husband's family
parental generation	offspring
tradition	change
profane	sacred

domains. The paired oppositions represented by saloni goods are summarized in Table 1.

By displaying these objects, the family presents itself as a unified whole to the rest of society. But, it is a whole which encompasses the relevant dualisms in Greek life. As such the items chosen for display and the process of exhibiting them acquire meaning. This research supports the contention, then, that "consumption is an activity by which consumers create intelligibility in the world and make visible and stable the categories of culture as they experience them" (Wallendorf and Arnould 1988, p. 533, summarizing Douglas and Isherwood 1979).

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Understanding Consumer Panic: A Sociological Perspective

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ABSTRACT

No consumer behavior theory directly addresses collective action such as fads and fashions, stock market movements, runs on nondurable goods, buying sprees, hoarding, and banking panics. Theory developed from panic literature in sociology has potential for adding to the understanding of collective consumer actions. A panic paradigm is presented in this paper along with a preliminary test of that paradigm.

INTRODUCTION

Most of the effort toward developing theory in consumer behavior has centered on single decision makers faced with making economic choices in relative social isolation (Granbois 1977). That is, either no situational anchoring will be specified in the data gathering instrument or the research will take place in a laboratory setting. Even theories which explicitly link choice context and decision making processes have little to say about the impact of social context *per se* on consumer behavior (Bettman 1979; Howard 1977; Nicosia 1966). Thus, there is little consumer and economic research about abrupt market transitions such as fads and fashions, stock market movements, runs on nondurable goods, buying sprees, hoarding, and banking panics.

Understanding panic is of interest in its own right, and is reflected in the behavioral economic approaches used to explain collective consumer responses to monetary crises (Katona 1974; Katz 1972; Strumpel 1972; Wicker 1980, 1982) and consumer responses to crises of confidence in the marketplace such as the recent Tylenol scares. It can be found in the communication literature focusing on the consumption, effects, and regulation of mass media (Cantril 1952; McQuail 1983). Interest in panic can also be found in the area of building regulations--particularly in public buildings such as department stores, hospitals, apartment complexes, hotels, and theatres (Canter and Matthews 1976; Canter, *et al.* 1980).

Finally, panic, as historically conceived, has been represented as a polar case of collective disorganization (Smelser 1963), clearly resting beyond the explanatory power of economic theories which depend on the rationality assumption. If it can be demonstrated that this limitation does not hold and that a purposive action approach is applicable even in the extreme case, panic, the effort may also pave the way for including less extreme and more frequent types of collective behavior (e.g., abrupt market transitions) in theories of consumer behavior.

A MODEL OF DECISION MAKING IN PANIC SITUATIONS

The model presented here conceptualizes individuals as reward seeking, punishment avoiding (Homans 1974), and operating in a social situation approximating that of an economic market (Coleman 1975). Each individual is characterized as making decisions based on cost-reward calculations, comparisons of alternative courses of action, and anticipation of future rewards (Scanzoni 1979; Kelly and Thibaut 1978). Further, all social relationships--including participation in collective action--are initiated by *individuals* with given perceptions (Gergen 1971), situational definitions (Abelson 1981) and expectations (Fox 1974), with an eye towards achieving a variety of tangible and/or intangible goals (Kelly and Thibaut 1978). It is the profit, or potential profit, attached to specific behaviors that motivates the individual to invoke them in the appropriate situations. Blau (1964), Homans (1974), and Kelly and Thibaut (1978) suggest other factors that facilitate or inhibit decision-making in a social context and which are incorporated as structural factors in the figure.

The model proposed (and depicted in the figure) has three components: First, a panic cannot occur without the participant's perception of the danger stimulus, their inability to cope with the threatening situation, and the existence of potential--but closing--escape routes. Individually, each of these three conditions is necessary but *not* sufficient. When all three conditions occur, taken together, they are both necessary and sufficient. Second, the behavioral outcome of panic is either physical or mental withdrawal from the threatening situation. Finally, the structural factors will facilitate or inhibit the decision making process leading from perception to behavior. A complete literature review leading to the development of the model is beyond the scope of the present paper. For a more complete review and develpment, see Strahle and Bonfield (1988a).

STRUCTURAL FACTORS

Eight structural factors have emerged from the literature which can have an impact on the time between the perception of a panic stimulus and the resultant behavior.

Following the Kelly and Thibaut (1978) notions of comparison levels, comparison levels of alternatives, and cost-reward calculations, individuals tentatively rank behaviors in terms of their perceived value--the most salient behaviors being invoked more often than the less salient. This assessment process, or activity, is a continuous one. The Kelly and Thibaut framework is predictive--based on profit calculations, i.e., a behavior set would be enacted that would maximize the rewards attained. The availability of rewards, the knowledge of alternative (and perhaps more attractive) behaviors and their corresponding costs, and the calculation and realization of profit enable individuals to behave in a fashion following the principle of profit maximization.

Exceptional caution must be exercised in the utilization of such a "rational man" model in panic

FIGURE

A MODEL OF INDIVIDUAL DECISION MAKING IN PANIC SITUATIONS

Perceptions	→ *Structural Factors* →	→ *Behavior*
a. Danger Stimulus b. Inability of group or individual to cope with the situation c. Potential (but perceived as closing) escape route	1. Definition of the Situation 2. Norms (prior and emergent) 3. Antecedent experiences 4. Behavioral alternatives 5. Physical and emotional state of the individual 6. Observation of a panic leader 7. Group or individual goals 8. Panic threshold (profit estimation)	Withdrawal

producing situations. The time available, or perceived to be available, for considering alternative behavior patterns in terms of their survival value becomes *the major factor* affecting outcomes (McArthur 1981). In their exhaustive review of decision making in general, as well as in crisis situations, Shapiro and Gilbert (1975) found evidence supporting the following propositions (p. vii, see also pp. 32-35, 72, 73):

1. "In a crisis situation, there is a breakdown in the intellectual abilities of the individual in terms of processing information, assessing the environment, and analyzing alternatives."

2. "The greater the perceived time pressure, the smaller the number of alternatives considered, the greater the likelihood that decisions will be made before necessary, and the greater the likelihood of incorrect choice of alternatives."

While these results do not support a notion of individuals in panic as being either mindless or incompetent, they do suggest that the study of decision making in panic situations must be approached differently than more frequent forms of decision making. While they do not imply that the decision making process in panic is unique, they do suggest that in panic situations, time configurations have a unique effect on the individual's decision making abilities in terms of the costs attached to these alternatives.

Individuals' notions regarding the time patterning or history of previously rewarded behaviors also affect the potential responses of individuals in these situations (Homans 1974; Kelly and Thibaut 1978). Shapiro and Gilbert (1975) found that subjects in panic or crisis situations were likely to use prior experiences--not necessarily in similar situations--as behavioral referents.

According to Smith (1975), emerging norm theory postulates a disregarding of conventional norms, and development of new *ad hoc* norms by the group in a panic situation. However, emerging norms implies a group consensus regarding appropriateness of behavior. The time factor alone suggests this application would be more suitable to situations such as the Andean plane crash where the survivors voted to consume the bodies of those killed in the crash.

Norms not only define the rules of exchange, but the appropriate behaviors within the relationship as well (Blau 1964). The individual's decision making process, then, can be influenced by the norms accruing to the situation (Smith 1976). The rules regarding execution of soldiers deserting under fire or passengers failing to follow orders while at sea (Lord 1955) are examples of attempts to control this factor through regulation.

Schultz (1964) found that organized groups such as military units warranted separate treatment from unorganized groups such as a typical theater audience when attempting to account for whether or not panic occurred. Subsequent studies focused on the effects of high and low group morale in both military (Shapiro and Gilbert 1975) and non-military groups (Dawes, Shaklee, and Talarowski 1977).

Smelser (1963) maintained that, for a variety of reasons, women, children, and blacks tended to panic first. Smith (1976), on the other hand, found that in primary group relations, children look to their parents for appropriate responses, and generally, wives look to their husbands for the same definitions of the danger stimuli, danger objects, and crisis situations. For example, in the Tower of London bombing, children tended to panic if their parents did, and not to panic if their parents did not (Smith 1976). This implies that the primary group bond may supersede the definition process in unorganized panic behavior and that a panic leader, or model, must appear in these cases for panic to occur (Canter, *et al.* 1980).

The reason so many believe and follow the cues of panic models may be that their non-normal behavior is inexplicable except as a flight for self survival. The immediacy of the crisis situation and the appreciation of the high cost of remaining in the situation--frequently personal annihilation--causes others to be receptive to the panic model. Thus, for some, the communication link becomes a deciding factor in selecting withdrawal. Panic leaders, themselves, would not have observation of a panic model as a factor affecting their own decision making process (Shapiro and Gilbert 1975).

Following Schultz (1964), this would be the point where the individual becomes survival oriented in terms of the costs of remaining in the situation.

PANIC BEHAVIOR: WITHDRAWAL

Withdrawal, as panic behavior, can mean withdrawal into a state of catatonia, as well as physical flight (Merloo 1950). Indeed, as Homans (1974) has pointed out, doing nothing is still a form of behavior.

In summary, panic, which can now be defined as ego-centered survival-oriented withdrawal, is clearly of interest to consumer research. While it may not warrant separate theoretical consideration from other--more frequent--decision making processes, qualitatively it is a highly complex phenomenon on both the individual and group, or social, levels. What makes panic behavior a social phenomenon are the structural factors affecting the individual decision making process: group goals, the apparent necessity for panic leadership, and emergent norms. What makes panic an individual phenomenon are social psychological factors: each individual's panic threshold, perception of the immediacy of the panic stimulus, calculation of rewards and costs attached to alternatives, and perception of potential--but closing--escape routes.

In light of the presence of the panic stimulus and the immediacy of the threatening situation, each individual decides whether the costs of continued association are fair (Wicker 1980). The time for this calculation is momentary, at best, as the decision must be made under the externally imposed condition of a potential, but rapidly closing, escape route. On one hand, all parties might assume the maximum joint profit could be realized by continued association; that by cooperation, the panic stimulus could either be dealt with or avoided, and the cost of potential personal annihilation averted (i.e., "united we stand, divided we fall"). On the other hand, the evidence supports the conclusion that during crisis situations trust and cooperation are, in fact, rare (e.g., Merloo 1950, Quarantelli 1957, Schultz 1964, Wicker 1980, 1982). The net result is the perception of others as obstacles to the individual's safety, or continued existence, and the individual's withdrawal from continued association with others in the panic situation. In a sense, continued interaction becomes too costly as the situation becomes perceived in zero-sum terms: "either I-win-you-lose or I-lose-you-win (Shapiro and Gilbert 1975)." In terms of positions and interests, the individual indicates by withdrawal an unwillingness to be subordinate to, or sacrifice for, the collectivity (Lang and Lang 1961). This decision point is the individual's panic threshold.

The emergence of panic can be seen as affected by the factors bearing on the individual's decision making process under the given time constraints. These factors act as facilitators to the emergence of panic behavior in individuals and, ultimately, in groups (Brown 1954). The presence of a panic stimulus posing the threat of immediate annihilation for the individual, the feedback from others regarding the inability to achieve group goals by coping with the panic stimulus, uncertainty and distrust directed toward the individual and by the individual toward others, the individual and others' panic threshold, and panic scripting (Abelson 1981) all converge to induce the individual to withdraw from the situation by changing his or her goal orientation from maximum joint profit to zero sum.

A TEST OF THE MODEL

The question now becomes a methodological one: How is the complex formulation in the figure to be tested? If a panic could be predicted, should the researcher allow it to occur in the interests of observation; or should the researcher take steps to prevent the panic? This ethical dilemma faced by those who may have identified such conditions appears to have channeled research into either laboratory simulations (Mintz 1951) or interviews with surviving participants (Quarantelli 1957). However, attempts to simulate panic situations in laboratories generally have been considered failures (Milgram and Toch 1969) because the treatments seemed to lack realism, "mundane" or otherwise (Fromkin and Streufert 1976). The more frequently employed *post facto* interviews with participants have often yielded misleading or conflicting results (Shapiro and Gilbert 1975). Researchers have found that many subjects tend to rationalize their behavior in accounts given following the actual episode. Indeed, a number of subjects would not even tolerate an interview by social scientists or journalists--particularly when they were viewed as persons in a position to pass judgment on the participant's behavior during the episode (Scanlon, *et al.*, 1976).

Testing the complete model found in the figure would pose similar problems. Because the effects of the structural factors on the emergence of panic are mediated through each individual's decision making process *during the episode which is, itself, of short duration*, evaluation of the contribution or salience of these factors is not likely to either be included or accurately communicated in the retrospective accounts presently available. While collecting protocols from individuals *as they experience* a panic episode would seem ideal, the logistics in fielding a team of depth interviewers prior to the episode, as well as the difficulties of these observers in retaining their objectivity during the episode (ethical considerations aside), render this approach neither practical nor manageable.

Nonetheless, a partial test of the model is possible. The three initial conditions can be tested for their presence or absence in a sample of historical accounts of panic using the method of analytical induction (Denzin 1970). Briefly, analytical induction is a "strategy of analysis that directs the investigator to formulate generalizations that apply to all instances of the problem with which he is concerned (Denzin 1970)." Using theoretical sampling to select cases that explicitly place the hypotheses under investigation in greatest jeopardy, the researcher confronts his or her model with observations that could lead to its rejection or force a reformulation.

HYPOTHESES

The following three hypotheses were derived from initial conditions of the model:

H1: Panic will not occur without the perception of a danger stimulus or the panic leader as a danger stimulus.

H2: Panic will not occur without the perception of the inability of the individual or group to deal with the panic stimulus.

H3: Panic will not occur without the perception of potential but closing escape routes.

It is important to reiterate the *necessary* but *not sufficient* nature of the individual factors in the emergence of panic. That is, before a panic can occur, all three must be present.

The problems inherent in historical research, such as secondary data analysis, should not be minimized (Aydelotte 1971). While panics are clearly newsworthy items, journalists are not renowned for their careful, objective analyses of these occurrences (Sime 1980). Rarely are more than a few participants interviewed, and these clearly cannot give the unwary social scientist any but a disjointed and incomplete picture of the panic development process. In subjecting the hypotheses, and therefore the model, to historical test, the researcher must seek accounts of panic where any one of the three factors is absent rather than cannot be found.

The panic episode selected for initial test of the hypotheses was that occurring during Orson Welles' broadcast of H. G. Wells' "War of the Worlds" on October 30, 1938. Consideration was given to this particular episode because (cf: Cantril 1952):

(a) This episode was studied in detail by Paul Lazarsfeld, Frank Stanton, and Hadley Cantril under the auspices of the ongoing Princeton Radio Project. It was "the first panic that has been studied with the research tools now available (p. vii)."

(b) The study itself involved in-depth interviews of 135 subjects, most of whom were known to have been at least "upset" by the broadcast (p. xi).

(c) The original Mercury Theater script was included in the study, and many of the respondents referred to the substance of the play in accounting for their behavior (pp. 87-102).

(d) The episode was an interesting one in its own right, as the panic involved listeners of all ages and social backgrounds connected only, in most instances, by exposure to a common panic stimulus and panic models-- the announcers (pp. 55-63). This panic was clearly aggregate behavior.

It is not possible to estimate the actual number of respondents who panicked, but inferences from the interviews and Cantril's own conclusions suggest the number was quite substantial, even across the nation (Cantril 1952).

Because all of the participants were exposed to the same panic stimulus--the broadcast, a substantive test of the model vis-a-vis the hypotheses would be to attempt to identify the presence or absence of information (i.e., stimuli) communicated to listeners that could have been interpreted as a danger stimulus, as an inability of individuals or aggregates to cope with the situation, and as proposing a potential but closing escape route. If there were no information provided regarding these interpretations, then one or more of the hypotheses would be rejected, as would the model.

RESULTS

Content analysis of the broadcast script provides support for each of the three hypotheses. The table contains a sampling of accounts of the panic stimuli from the script of the radio account of the invasion from Mars. The radio listeners were gradually acquainted with the nature of "the enemy" and its destructiveness in terms of lives and property. What at first was a nebulous danger became identified as "a machine" carrying Martians "with saliva dripping from [their] rimless lips" and sporting "heat-rays," that turned men into flame, as well as deadly gas producing equipment that had them "dropping like flies."

As the listeners stayed tuned, they were informed that these creatures possessed scientific knowledge "far in advance of our own" and that this knowledge had been used to "wipe out" the army and air force.

Concomitantly, anxious listeners were directed by a series of announcers to avoid fleeing by particular rail services and highways as they were either disrupted by the invaders themselves or were "clogged with frantic human traffic."

In total, there were ten specific references to the nature of the danger object and the human destruction it caused; seven accounts of the failure of the army, air force, and scientific community to deal with the danger object and stop the loss of life and destruction of property; and three clues regarding

TABLE

Script References to Panic Stimuli, Closing Escape Routes, and Inability to Cope Against the Martian Menace

H1: Panic will not occur without the perception of a danger stimulus or the panic leader as a danger stimulus.

"Enemy now in sight above the Palisades. Five great machines. First one is crossing river. I can see it from here, wading the Hudson like a man wading through a brook.... A bulletin's handed me... Martian cylinders are falling all over the country. One outside Buffalo, one in Chicago, St. Louis... seem to be timed and spaced.... Now the first machine reaches the shore. He stands watching, looking over the city. His steel, cowlish head is even with the skyscrapers. He waits for the others. They rise like a line of new towers on the city's west side.... Now they're lifting their metal hands. Smoke comes out... black smoke, drifting over the city.... Now the smoke's spreading faster. It's reached Times Square.... Now the smoke's crossing Sixth Avenue... Fifth Avenue... 100 yards away... it's 50 feet... (Cantril 1952, p. 31)."

H2: Panic will not occur without the perception of the inability of the individual or group to deal with the panic stimulus.

"The battle which took place tonight at Grovers Mill has ended in one of the most startling defeats ever suffered by an army in modern times; seven thousand men armed with rifles and machine guns pitted against a single fighting machine of the invaders from Mars. One hundred and twenty known survivors.... The monster is now in control of the middle section of New Jersey and has effectively cut the state through the center (Cantril 1952, p. 22, 23)."

H3: Panic will not occur without the perception of potential but closing escape routes.

"Urge population to move into open spaces... automobiles use routes 7, 23, 24.... Avoid congested areas...." (Cantril 1952, p. 29)

"People in the streets see it now. They're running towards the East River... (Cantril 1952, p. 31)."

Source: Cantril (1952). The complete set of specific hypotheses supporting references is available in Strahle and Bonfield (1988b).

potential but closing escape routes for the listening audience.

There was ample information provided in the broadcast regarding the identity of the danger object or panic stimulus, the inability of individuals and aggregates to cope with the danger object, and potential but closing escape routes. The initial three hypotheses cannot be disconfirmed.

DISCUSSION

This partial testing of a model of individual decision making in panic situations represents a beginning in the search for a parsimonious approach to this periodic, yet recurrent form of collective behavior. Additional panic situations must be studied to provide further evidence as to whether any of the initial three hypotheses can be disconfirmed. A test of the complete model is also required. While panic induced behavior, withdrawal, can be easily observed; and the stimulus condition hypotheses can sometimes be tested; the temporal restraints affecting the structural factors make it difficult to test hypotheses for this part of the model.

From a social policy standpoint, the model has several implications. Given the severely limited time available for interventions, efforts to arrest the panic process would need to be preventive in nature. That is, public consumer contexts could be made safer by making exits more visible rather than irregularly spaced based on some arbitrary density rule or regularly spaced but hidden for decorative reasons. Conducting emergency exit drills in public contexts other than schools, such as in hospitals and hotels, to, at a minimum, ensure that the exits are open and working, seems worthwhile. Public service advertising could be designed to ensure that people know what they can do in a variety of public and private contexts in a variety of emergency situations (hurricanes, tornadoes, home fires, blizzards) in much the same way that airline crews demonstrate flotation devices and what to do in the case of sudden cabin decompression.

Much remains to be done in the study of panic induced decision making and behavior. Still needed is a more exhaustive--in terms of variety of panic types--set of historical tests of the model, as well as the design of a simulation that would allow for the assessment of the mediating structural factors in terms of their influence on individual decision making under the constraints accruing to panic situations.

Panic does not warrant separate treatment from other, more common, collective consumer phenomena such as hoarding behavior and buying sprees--nor does it require separate, substantive theoretical treatment. Financial market panic, such as occurred in October 1987, is relatively common even in our high technology economy. Understanding panic can lead to the development of steps to forestall panic behavior in these markets. It is time to turn our attention to collective behavior and bring it into our theories of consumer behavior.

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A Study Of Selected Issues In Vividness Research: The Role Of Attention And Elaboration Enhancing Cues

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ABSTRACT

Research on the vividness effect has been controversial. The purpose of this study is to address some of the methodological and theoretical issues that exist in previous research. Methodologically, a multiple-item vividness scale was developed to serve as a manipulation check and a within-subjects design was used to manipulate differential attention. Theoretically, an additional test of the availability-valence hypothesis was conducted. The results indicated that a vividness effect does exist.

It has been argued repeatedly in the literature that a communication message is more memorable and persuasive if vivid stimuli are included in the message (e.g., Dickson 1982; Kisielius and Sternthal 1984, 1986; Nisbett and Ross 1980; Taylor and Thompson 1982). However, the premise that vivid stimuli have a greater impact on memory than pallid stimuli has not always been supported by empirical research. Kisielius and Sternthal (1986) and Taylor and Thompson (1982) have advanced several explanations for the lack of many studies' success in demonstrating the vividness effect. These reasons have both methodological and theoretical roots.

Taylor and Thompson (1982) argued that two major methodological problems may be contributing reasons why the vividness effect has not been found in many studies. The first problem is that many studies lack a manipulation check. The second problem involves the way that vivid and pallid stimuli are presented to the subject. The subject may process messages with vivid stimuli only if the stimuli compete with pallid stimuli for the subject's limited memory resources.

From a theoretical perspective, Kisielius and Sternthal (1986) suggested that the presence or absence of significant research results could be explained by the availability-valence hypothesis. According to this hypothesis, the availability and favorableness of information stored in memory determines the subsequent decision. The reason messages containing vivid stimuli are more memorable and persuasive is that they cause the individual to cognitively elaborate on the message information. In addition, the favorableness of the available information determines the direction of the decision.

The purpose of the present study is to report the results of a series of experiments which addressed the methodological and theoretical issues mentioned above. Specifically, a reliable multiple-item vividness scale will be developed to serve as a manipulation check and differential attention will be manipulated with a within-subjects design. In addition, the availability-valence hypothesis of the vividness effect will be tested.

METHODOLOGICAL ISSUES IN VIVIDNESS RESEARCH

The absence of a reliable measure of the vividness construct is a common problem found in many investigations of the vividness effect (Taylor and Thompson 1982). Without a reliable measure of vividness there is no way to determine if experiments, which have reportedly manipulated messages containing vivid and pallid stimuli, have actually done so (Kisielius and Sternthal 1984; Reyes, Thompson, and Bower 1980). A study by Dickson (1982) did contain a manipulation check. However, the scale used in this study consisted of a single-item, seven-point Likert-type scale which does not allow for an assessment of internal reliability.

Another methodological problem encountered in research of the vividness effect is the almost exclusive use of between-subjects experimental designs. Taylor and Thompson (1982) argue that a vividness effect may only occur if there is competition among stimuli for the subject's attention. This would entail the use of a within-subjects experimental design. In a between-subjects design, the subjects would process the stimuli, whether vivid or pallid, that were presented to them and no difference in elaboration of the information would be found.

A study by Reyes, Thompson, and Bower (1980) used a within-subjects design by pairing nine vivid (or pallid) prosecution arguments with nine pallid (or vivid) defense arguments to determine the relative influence of each set of arguments had on the subjects' judgments of guilt or innocence. The vivid arguments did not have an immediate persuasive effect, but did have a delayed effect. However, a manipulation check was not included in the study and no attempt to control for the equivalency of the information contained in the sets of vivid and pallid prosecution and defense arguments. Nevertheless, the study did illustrate that the vividness effect was found when differential attention was manipulated in a within-subjects design.

THEORETICAL ISSUES IN VIVIDNESS RESEARCH

The encoding and the availability-valence hypothesis have been advanced to explain why messages that contain vivid stimuli are more persuasive and memorable when compared to messages that contain pallid stimuli. Each of these will be discussed in turn and then the differences reconciled.

Encoding Explanation

The encoding explanation posits that the amount of information that is encoded determines whether it will be readily available in memory when decisions are made (Tversky and Kahneman 1973). In essence, an individual has a selection bias when message information is encoded. Vivid stimuli are more available in memory and have a greater influence on decisions because they are attended to and encoded in greater numbers than pallid stimuli (Nisbett and Ross 1980; Taylor and Fiske 1978).

There has been considerable speculation as to why more vivid stimuli might be encoded. Forgas (1983) suggested that vivid stimuli are encoded because they are novel. Paivio (1971) argued that vivid stimuli are more imaginable, and therefore, selected for encoding in both verbal and image form. Finally, vivid stimuli may be selected for encoding because they are emotionally involving (Nisbett and Ross 1980).

Little evidence exists to support the encoding explanation. Dickson (1982) primed his subjects by asking them to imagine the consequences of a sudden failure of their refrigerator and then asked them to read a case history containing either concrete or statistical information. The vivid, concretely-written case history did not have a greater effect on the primed subjects' judgments, as expected. Fiske et al. (1979) instructed their subjects to first imagine one of three character perspectives and then to read a story involving the three characters. They found that the subjects' judgments were not influenced by imagining the character's perspective. Manis et al. (1980) and Purdy and Lueppritz (1982) did not find support for the hypothesis that decisions are influenced by encoding vivid stimuli in verbal and image form. Finally, Borgida and Nisbett (1977) found that emotional interactions between students had a stronger impact on an evaluation of a college psychology class than the exchange of pallid, statistical data.

Availability-valence Hypothesis

Kisielius and Sternthal (1986) suggested the encoding explanation did not adequately explain the effect of vivid stimuli on decisions. Alternatively, they argued that the mixed empirical results of previous studies of the vividness effect could be explained with the availability-valence hypothesis. According to this hypothesis, the information that is most available in memory will be used to make decisions. Subsequent decisions depend on how favorable the stored information is perceived by the individual.

Cognitive elaboration is thought to be an important factor in determining which information will become available in memory. The prediction behind the vividness effect is that vivid stimuli cause an individual to engage in a greater amount of cognitive elaboration. When a decision is made, the vivid stimuli would be more available because more pathways would be involved in the retrieval of information.

Once activated, how the available information affects a decision depends on the favorableness of the information. Kisielius and Sternthal (1986) suggested that vivid stimuli contained in a communication will enhance persuasion if they activate associations that are similar in meaning. Pallid stimuli are believed to inhibit elaboration, and therefore, if the communication is similar in its meaning, the pallid information will not be as persuasive. Conversely, vivid stimuli may cause a communication to be less persuasive if they activate an individual's idiosyncratic associations which tend to be less favorable towards the position being advocated in the communication. Pallid stimuli would be more persuasive because they limit idiosyncratic associations and the individual relies on the communication, which is designed to persuade, to make a decision.

Little research has tested the availability-valence hypothesis. When Reyes et al., (1980) found a vividness effect after a forty-eight hour delay, it could have been due to the the time it takes for the individual to elaborate on the information. Edell and Staelin (1983) did not find a vividness effect when subjects were allowed to elaborate on vivid, pictorial advertisements versus pallid, verbal advertisements. However, Kisielius and Sternthal (1984) did find a vividness effect when they manipulated cognitive elaboration and the favorableness of the message information.

The two theoretical explanations for the vividness effect can be reconciled. Before information is processed it first must attract the attention of the individual processor. Once attention is focused on stimuli (whether it is vivid or pallid), the individual elaborates the stimuli. Therefore, vivid stimuli contain two properties that make them more memorable. Attentional cues direct the processor's attention away from the other information contained in a message and elaborative cues that facilitate cognitive elaboration such that the vivid stimuli are more available for making decisions.

THE STUDY

The present study addressed the major issues highlighted previously. The first experiment was designed to determine if vivid stimuli attract more attention than pallid stimuli. If attention is directed toward vivid stimuli in a communication, the next question is whether the inclusion of attentional stimuli increases the comprehension of a message over verbal vivid stimuli by themselves. Finally, the last experiment sought to determine if vivid stimuli are elaborated to a greater extent than pallid stimuli.

EXPERIMENT I

The purposes of Experiment I were to develop an internally reliable measure of the vividness construct and to determine if vivid stimuli attract more attention. The context in which the vivid and pallid stimuli were manipulated was a warning message embedded in a product label. An incongruency between current beliefs about the product class and the warning was necessary to prevent the subjects from responding to the dependent variable measures with previously stored knowledge. It was also important that a neutral experimental product be selected to prevent the gender of the subjects from influencing their responses (Kisielius and Sternthal 1984). Extensive pretesting indicated that a fluoride dental rinse was viewed by the subject population as safe and that a product warning cautioning against swallowing such a rinse was inconsistent with this belief.

Vividness Scale

Extensive pretesing was then conducted to develop a multiple-item scale to serve as a manipulation check. The end result of the pretesting was an eight-item vividness scale. The items were seven point Likert-type measures where each of the seven points were anchored. For example, the end anchors of one item were very confusing and very clear. Another item end anchors were not very descriptive and very descriptive. An overall vividness score was calculated by summing the item values. The range of possible scores was 8 (pallid) to 56 (vivid). A confirmatory factor analysis indicated the eight-item scale was unidimensional.

Stimulus Materials

After the multiple-item vividness scale had been developed, the vivid and pallid warning messages for the experimental product were developed. Before the warnings were used in the experiment, three expert judges used the legal criteria of an adequate warning to determine whether the two warnings were equivalent in meaning. The warning messages were equivalent if they: (1) described the nature of the risk, (2) identified the magnitude of the risk, and (3) described how to avoid the risk. The judges were asked to respond to a short questionnaire which was designed to interpret the warning messages relative to the above criteria. The judges only disagreed on one question and it was decided by a majority vote (Brucks, Mitchell and Staelin 1984).

Color, size of print, and location of the warning message on a label have all been used by manufacturers to attract attention to a warning. The inclusion of a symbol or a picture in the warning is also used to increase the amount of attention paid to a warning. In addition, a contrasting border was used in previous research as a means of enhancing the attentional qualities of a warning (Funkhouser 1986). From these examples, a warning symbol (i.e., a circle with a slash across it, superimposed on the word swallow) and a red contrasting border drawn around the warning message were selected to operationalize the vivid warning message. The verbal portion of the warning message was written in concrete language. The pallid warning message did not include the attractive stimuli and the verbal portion of the warning was written in abstract language. The label contained a fictitious brand name, the warning and other product claims. Approximately 25% of the label was devoted to the warning.

Sample

The sample consisted of 25 volunteer subjects selected from the student population enrolled in marketing courses at a western university. The subjects participated in the experiment individually. Approximately equal numbers of men and women participated in the experiment.

Procedure

Two levels of vividness were manipulated in a within-subjects design. The subject entered a room where two slide projects were aimed at each of two different projection screens which faced each other. The subject was seated between the two screens.

A different slide was flashed on each of the screens simultaneously for a period of ten seconds. The first set of slides served to orient the subject to the experimental task. One slide featured a drawing of a tree and the other displayed the word "tree." The subject then responded to the following question: "If something caught you attention, please describe what it was." The responses to the orientation slides were not included in the analysis.

The second set of slides contained the experimental product labels with the vivid or pallid warning message embedded in them. The information on the labels was the same except for the warning. The slides were shown for ten seconds and then both screens were darkened. Pretesting indicated that ten seconds was enough time to read only a portion of the two product labels. Since time was a limiting factor, the portion of the labels which was read was presumed to be the most attractive part of the label.

The subject responded to the same questions as mentioned above. Again, the subject was shown slides of the experimental product labels, this time for one minute. This allowed the subject to read a larger portion of the two warning messages. Then the following questions were asked: "Which slide could you select to read?" and "Why would you select this slide over the other one?"

Once these questions were answered, the slides containing the experimental product labels were shown again, one at a time, and the manipulation check for vividness was administered. The product label that was viewed first was alternated from subject to subject. The subject was then debriefed. After the subject left the room, the slides in the right projector were exchanged with those in the left projector. This was done to reduce a confounding effect that might result if the subjects had the tendency to lean toward the right or left side. Then the next subject entered the room to start the experiment. The experimental sessions lasted approximately ten minutes each.

Results

The scores of each item of the eight-item vividness scale were summed to get a total vividness score. A dependent t test ($t = 12.11$; $df = 24$; $p < 0.001$) indicated that the vivid warning was significantly more vivid than the pallid warning. A Cronbach coefficient alpha of .94 indicated that the eight-item measure was internally reliable.

All of the subjects stated that something in the two slides caught their attention. In responding to the first open-ended question, 24 of the subjects indicated that it was one or more of the stimuli embedded in the vivid warning message that caught their attention. All 25 subjects responded that they would select to read the label with the vivid warning message if they had to make a choice.

The second open-ended question attempted to determine why the label with the vivid warning was selected over the label with the pallid warning. In general, the subjects indicated that the vivid warning was more attractive and clearer than its pallid counterpart.

There are two major implications of the results of Experiment I. First, a reliable multiple-item measure that could be used as a manipulation check of the vividness construct was developed. This multiple-item scale distinguishes the present study from previous published research on the vividness effect since manipulation checks were lacking in many of these studies. Second, the results supported Taylor and Thompson's (1982) argument that the vividness effect might occur if the vivid stimuli have a chance to compete with pallid stimuli for the subjects' attention.

EXPERIMENT II

The purpose of Experiment II was to determine whether the inclusion of the attentional stimuli (i.e., the red border and warning symbol) communicated more information than the verbal message by itself. If there was no additional information communicated, a test of whether vivid stimuli are elaborated to a greater extent than pallid stimuli could be conducted.

Stimulus Materials

Two levels of border (present and absent), two levels of symbol (present and absent), and two levels of verbal message (concrete and abstract) were manipulated in a 2 x 2 x 2 factorial design. The dependent variable, comprehension, was defined as what the warning message said (Funkhouser 1984). Comprehension was measured by questions with "yes, "no," and "do not remember" responses. The "do not remember" response was included to control for a response bias that might occur if the subject was forced to judge the accuracy of any particular question (Ford and Yalch 1982).

Ten comprehension questions were asked. Six of the ten questions were related to the warning message. Of the six questions, there were three "yes" and three "no" correct answers. This was done to control for a response bias that might occur if unequal numbers of "yes" and "no" questions are asked (Ford and Yalch 1982). The other four questions were related to information not contained in the warning and were included to keep the subjects from guessing the purpose of the experiment.

Sample

One hundred sixty-four students enrolled in marketing classes at a western university constituted the sample. The subjects were run in small groups and were randomly assigned to the treatments.

Procedure

The subjects were given 45 seconds to read the label. Forty-five seconds was the average amount of time the subjects in the pretest need to read the label. After time was called, the subjects turned the page and responded to the 10 comprehension questions. The subjects were instructed not to turn back to the label when answering the questions. Next, the experimental materials were collected and the subjects debriefed.

The six comprehension questions were categorized as "correct," "incorrect," and "do not remember." The number of correct responses was adjusted for guessing by subtracting the number of incorrect responses from the number of correct responses. This difference was then converted to a proportion by dividing by the total possible correct responses. The result was to transform the raw data to a continuum of proportions ranging from -1 to +1 (Sax 1980).

Results

Table 1 shows the ANOVA results. There were no significant differences between the treatments ($F = 1.690$; $p < 0.115$). Therefore, the two warning treatments used in Experiment I were selected to explore the final issues of interest in the study.

EXPERIMENT III

The purpose of Experiment II was to determine if vivid stimuli are elaborated to a greater extend than pallid stimuli, and if so, whether elaboration makes a difference in comprehending the warning message.

Stimulus Materials

The same labels as used in Experiment I were used. In addition, the same ten comprehension questions used in Experiment II were again used in Experiment III. Three neutral nonexperimental product labels were developed and included in the experiment to disguise the purpose of the experiment. The labels contained a pallid warning message and were similar in design as the experimental labels. Fictitious brand names were developed and the warning was placed in the same place on the label. The nature of the claims that were made on the labels were similar, but the wording was changed to reflect the different products. Four product labels were used in the experiment because too few labels would make the vivid warning too conspicuous while too many labels would cause the subjects to suffer fatigue with the experimental task. Ten comprehension questions were also developed for each of these nonexperimental labels. However, the answers to these questions were not included in the analysis.

Subjects

Sixty students enrolled in marketing classes at a western university volunteered to participate in the experiment. Thirty subjects were randomly assigned to each treatment. To increase the amount of experimental control, the subjects particpated in the experiment in groups of 5 or less.

Procedure

The three nonexperimental product labels and either the vivid or pallid experimental product label were randomly placed in a booklet to control for order effects. The subjects were given 45 seconds to read the first label. After time was called, the subjects turned the page and were given another 45 seconds to read the second label. This process continued until the fourth label had been read. Then the booklet containing the labels was collected and a second

TABLE 1

Experiment II ANOVA Results

	df	SS	MS	F	Prob.
Main Effects					
Border	1	.000	.000	.000	0.993
Symbol	1	.159	.159	2.004	0.159
Verbal Message	1	.200	.200	2.526	0.114
Two-Way Interactions					
Border x Verbal Message	1	.335	.335	4.223	0.042
Border x Symbol	1	.084	.084	1.055	0.306
Symbol x Verbal Message	1	.139	.139	1.750	0.188
Three-Way Interactions					
Border x Symbol x Verbal Message	1	.022	.022	.283	0.595
Explained	7	.937	.134	1.690	0.115
Error	156	12.359	.079		

booklet containing the measures of comprehension of the experimental and nonexperimental labels was distributed. After the subjects had completed their responses, they were instructed to return two days later.

The second session began by having the subjects respond to the same ten comprehension questions related to the experimental product as asked in the first session. These questions were followed by Marks's (1973) Visual Vivivdness Imagery Questionnaire. This meaure was included to serve as a covariate to control for differences in the subjects' ability to imagine (Childers and Houston 1984) and has been judged to be reliable and valid (White, Sheehan, and Ashton 1977). Next, the subjects were exposed to the same experimental product label that they had in the first session and then were asked to complete the eight-item vividness scale developed for Experiment I. The manipulation of vividness had to be taken at the end of the second session to prevent the subjects from guessing the purpose of the study. Finally, the subjects were debriefed.

Results

The vividness scale responses were summed and an independent t-test confirmed that the vivid experimental warning and pallid experimental warning were significantly different ($t = 7.69$; $df = 58$; $p < 0.001$). The Cronbach coefficient value for the scale was .83. Therefore, the vividness manipulation was successful.

The comprehnension questions related to the experimental product in each session were categorized as "correct," "incorrect," and "do not remember." The individual subject's scores were then adjusted for guessing and converted to a proportion as was done in Experiment II. A repeated measures ANCOVA was then performed and the results are presented in Table 2.

A significant vividness and time main effect were found. These results indicate that a vividness effect occurred both in the immediate and delayed situation. A vividness effect in the immediate case indicates that vivid stimuli that are incongruent with existing knowledge is processed and elaborated to a greater extent than pallid stimuli. In the delayed situation, because the vivid stimuli had caused more elaboration in the first session, the vivid stimuli were then more available in memory for making decisons. Thus, both results are consistent with the availability-valence hypothesis.

DISCUSSION

The series of experiments conducted in this study address many issues of vividness research. From a methodological perspective, a vividness effect was found when differential attention was manipulated. This suggests that attentional cues may be a necessary factor in making information vivid. In addition, the experiments included a multiple-item scale as a manipulation check.

Experiment II determined that attentional cues used to make a message vivid are not sufficient to cause a difference in cognitive elaboration. A verbal component to the warning may be necessary to stimulate cognitive elaboration and possibly yield greater comprehension. Experiment III demonstrated that elaboration is stimulated by vivid stimuli embedded in verbal aspects of a message. Therefore, vivid stimuli appear to require attentional and elaboration (i.e., verbal) cues to make a difference in making decisions.

These experiments did not manipulate the favorableness of the warning message. As Kisielius

TABLE 2

Experiment III ANCOVA Results

	df	SS	MS	F	Prob.
Within Cells	155	10.136	.088		
Covariate	1	.016	.016	.183	0.669
Vividness	1	1.029	1.029	11.921	0.000*
Period	1	.255	.255	2.543	0.044*
Vividness x Period	1	.068	.068	.767	0.382
Error	4	1.367	.342	3.878	0.005*

$^*p \leq .05$

and Sternthal (1986) state, the favorableness of the information may increase, decrease, or have no effect on making decisions. Future experiments should also focus on the confounding effect that may have been introduced by using attention and verbal cues to create the vivid and pallid experimental manipulations. The inclusion of both types of cues may have altered the processing of the experimental warning message, thus preventing stronger conclusions from being drawn concerning the avaliablity-valence hypothesis.

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Negative Emotions As Mediators Of Attitudes In Advertising Appeals

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ABSTRACT

This paper examines the conditions under which negative emotions mediate attitude toward helping and attitude toward the ad in public service advertising appeals. The theoretical framework which we have outlined suggests that the effect of negative affect on attitude toward helping is dependent upon: a) the extent to which the perceiver's attention is focused on the needs and feelings of the victim; and b) the degree of empathic concern that is generated toward the person in need. Theoretical implications for future research are also discussed.

INTRODUCTION

The decade of the 1980's has witnessed a significant increase in the attention advertising and consumer researchers have devoted to the role of emotion in advertising appeals. Most of these studies have focused on positive affective responses such as joy, peaceful relaxation and social affection (Batra and Ray, 1986; Holbrook and Batra, 1987), warmth and tenderness (Aaker, Stayman, and Bruzzone, 1986). The general conclusion emerging from there investigations is that positive affective responses do have a positive influence on attitude toward the ad, as well as attitude toward the brand (Holbrook and Batra, 1987). In other words, a positive emotional appeal is likely to enhance the persuasive impact of an advertising message (Holbrook and O'Shaughnessy, 1984).

However, in spite of the progress that has been made in understanding the role of positive emotions, very little is currently known about the mediating role of negative emotions (such as anger, fear, distress, pity, etc.) on attitude toward the ad and behavioral intentions. If positive emotions tend to enhance persuasion, do negative emotions induced by an advertising message necessarily reduce persuasion? Does an advertising message necessarily have to create a positive emotion in order to produce a positive attitude to the message? Under what conditions can we expect negative emotions to have a positive effect on attitudes.

These issues do have practical managerial relevance. For example, there has been a recent increase in the number of marketers in the food and drug industry who are capitalizing more aggressively than ever before on consumers' fears of cancer and heart attacks (Wall Street Journal, 1987). Public service announcements (PSAs) sponsored by non-profit organizations (e.g. American Diabetes Association, Society for the Prevention of Child Abuse, etc.) have been designed to evoke emotions such as fear, guilt, sympathy, pity, or compassion. While the objective of many PSAs is to stimulate listener awareness and influence attitudes toward a given issue, many PSAs do utilize affective responses to motivate helping behavior. Very often consumers are urged to make financial contributions to the sponsoring organization.

Recent research has demonstrated that experimentally induced negative moods or feelings such as fear (Shelton and Rogers, 1981), guilt (Hoffman, 1982), sadness (Cialdini and Kenrick, 1976) and empathy (Coke, Batson and McDavis 1978) can have a strong influence on creating a positive attitude toward helping.

To date, very little marketing research has been conducted in this area in spite of its relevance to the advertising strategies for mass media campaigns. Recognizing this void in our knowledge about emotions, consumer researchers (Allen, Machleit and Marine, 1988) have recently underscored the need for more research on the effects of negative emotions in advertising appeals.

The purpose of this paper is to discuss the role of negative emotions in communication appeals and to examine the process by which these affective responses mediate the message recipient's attitude and behavioral intentions. First, we will review some of the major categories of affective responses that previous research has traditionally defined as negative emotions. Second, we will examine the role of affect and its influence on consumer responses to advertising appeals. Third, the paper will examine the relationship between negative emotions and attitudes toward helping. In this context, the mediating roles of focus of attention and empathy will be discussed. Finally, given these theoretical relationships, we present a communication framework which proposes that the arousal of negative emotions may sometimes lead to positive rather negative attitudes toward helping and towards the ad. This relationship is dependent upon two mediating conditions: a) The extent to which the perceiver's attention is focused on the feelings and the plight of the victim; and b) The amount of empathic concern that is generated toward the victim. The theoretical implications for advertising and public service appeals are also discussed.

CATEGORIES OF EMOTIONS

Much has already been written about the classification of positive and negative emotions by both social scientists (Izard, 1977; Plutchik 1980) and consumer behaviorists (Allen et al. 1988; Batra and Ray 1986; Havlena and Holbrook 1986; Holbrook and Westwood 1987). Izard (1977) identified ten fundamental emotions; interest, joy, surprise, sadness, anger, disgust, contempt, fear, shame, and guilt. Holbrook and O'Shaughnessy (1984) attempted to develop a positive/negative typology of emotional responses. This typology draws heavily on Mehrabian's (1977) three emotional dimensions: pleasure, arousal and dominance and Osgood, Suci, and Tannenbaum's (1957) studies on the semantic differential (evaluation, activity and potency). In Holbrook and O'Shaughnessy's work, for example, joy (positive) versus sadness (negative) are the bipolar representations of the emotional dimension classified as pleasure. (Complete details of this classification of emotions are available in Holbrook and O'Shaughnessy 1984, p.54). According to Holbrook and O'Shaughnessy, the systematic classification of typologies of emotions should help marketing researchers to improve their understanding of the role of emotional content in advertising and may also help to clarify the underlying strategic managerial issues.

In their empirical investigation of the role of feelings in understanding advertising effects, Edell and Burke (1987) reported a wide range of both positive and negative emotions. Subjects' negative emotions were described as: angry, annoyed, critical, depressed, disinterested, fed-up, irritated etc. Interestingly, Edell and Burke found that: (1) both negative and positive feelings toward advertising appeals can co-occur; for example, individuals may experience both sad and happy feelings during exposure to different parts of the same advertisement; and (2) both categories of emotions play a significant role in predicting the effectiveness of the ad.

Although researchers have made reasonable progress in exploring the mediating role of emotions in the consumer's responses to advertising, most of this work has focused on positive feelings (see also Aaker, Stayman and Hagerty 1986; Batra 1986; Batra and Ray 1985; Holbrook and Batra 1987; Holbrook 1986; Holbrook and Westwood 1988). Recognizing the need for future research, Batra and Ray (1986) suggested that "a wider sample of commercials needs to be studied that includes negatively valenced affective responses such as fear and anxiety, among others" (p. 247). Allen, Machleit and Marine (1988) expressed the sentiment that negative emotion, given its cognitive complexity, may prove to be more difficult to evoke than positive emotion (Isen 1984). Consequently, ads designed to produce negative emotions such as fear and guilt may not " work as often or as reliably as those designed to yield joy or interest" (p. 14). For these and other reasons, Allen et al. emphasized the need for additional advertising research on the role of negative emotions.

In the next section of this paper, we will discuss some of the highlights of previous research in social psychology on the role of negative emotions on attitudes -- particularly attitudes toward helping. Within this context the concept of empathy and its influence on helping behavior will be discussed.

NEGATIVE EMOTIONS, EMPATHY AND HELPING BEHAVIOR

The effects of negative emotions and moods on helping behavior are somewhat inconsistent and have therefore generated considerable debate (Cialdini, Baumann, and Kenrick 1982; Batson 1987). In contrast, the results of experiments manipulating positive emotions have been generally consistent: people who are happy, joyous, successful etc., are more likely to offer help to someone else than those people who are made to feel depressed, sad, angry, etc. (Dovidio 1984; Rosenhan, Salovey, Karylowski, & Hargis 1981. In general, negative emotions have been shown to enhance attitudes toward helping (Carlsmith & Gross 1969; Cialdini, Darby & Vincent 1973; Donnerstein, Donnerstein & Munger 1975). However, in other cases negative emotions have produced a reverse effect (Moore, Underwood & Rosenhan 1973; Underwood et al. 1977), and in a few instances no significant effect was reported (Harris & Siebal 1975; Holloway, Tucker & Hornstein 1977). These apparent inconsistencies have motivated researchers (e.g., Carlson & Miller 1987) to examine the possible role of moderator variables which may be influencing the impact of negative emotions on helping behavior. Two relevant theoretical perspectives on this issue will be briefly reviewed (see also Rogers, Miller, Mayer & Duval 1982).

The Negative-State Relief Hypothesis (NSR)

This theoretical explanation (Cialdini, Baumann & Kenrick 1981; Cialdini & Kenrick 1976; Cialdini, Kenrick & Baumann 1982; Kenrick, Baumann & Cialdini 1984; Manucia, Baumann & Kenrick 1984) suggests that when an individual observes another person being harmed or in need of help, it produces a negative emotional state which itself motivates an internal drive to reduce this negative feeling. Presumably, helping others is used as an instrument to alleviate this negative state (Harris 1977). While this theoretical account may be intuitively appealing, recent research (Carlson & Miller 1987) designed to examine the validity of various explanations for the effect of negative affect on helping behavior has concluded that the negative-state relief model seems incapable of accounting for the variety of situations in which negative affect enhances helping behavior.

As Carlson & Miller (1987) argue, if the NSR model assumes that the desire to help is based on a conscious and deliberate attempt to relieve a negative state (Clark & Isen 1984; Manucia et al. 1984), three conditions must be satisfied for the effect to occur: (1) the helping act should be perceived as pleasant (2) the individual must be convinced that his/her negative state can be changed, and (3) there must be empirical evidence that the helping act was performed specifically to relieve the negative state. The negative-state relief model does not seem to provide an adequate explanation for the role of negative affect on helping behavior (Carlson & Miller 1987).

The Attentional Focus Hypothesis

This theoretical model (Rosenhan, Solovey, Karylowsky & Hargis 1981; Thompson, Cowan & Rosenhan 1980) proposes that negative emotions increase the desire to help to the extent that the perceiver's attention is being focused on the needs or misfortunes of others; conversely, negative emotions may decrease helpfulness when the perceiver's attention is directed inwards to his/her own personal needs or problems. Thompson et al. (1980) exposed subjects to an audio tape containing the story of an imaginary close friend who was supposedly dying of cancer. To induce negative affect in the attention-to-self condition, subjects were exposed to emotions that described 'their own' worry about their friend's illness. In the attention-to- other condition, subjects focused on the suffering and distress experienced by the friend as death approached. The results provided support for the hypothesis that focus of attention mediates the relationship between negative affect and helping behavior. Negative affect enhanced willingness to help among subjects who were encouraged to concentrate on the feelings of the victim but not among those who were instructed to focus on their own feelings.

Thompson et al. (1980) suggest two theoretical arguments to account for the attentional focus effect (see Carlson & Miller 1987). First, subjects whose attention is directed to the misfortunes of another are presumably afforded greater opportunity experience empathy for the victim. This empathic concern, in turn, stimulates the belief that helping could be personally rewarding and consequently produces greater willingness to help. The second argument suggests that the decision to help is strongly influenced by the thoughts or cognitions that are activated when the attention is focused on the misfortunes of the victim. As a result, when confronted with a request for help, subjects whose attention has been directed toward the distressing needs of another may be likely to think first of solving the problems of others. Additional empirical evidence in support of the notion that adopting the perspective of another significantly influences helping behavior has also been reported (Hoffman 1975; Stotland 1969; Underwood & Moore 1982).

EMPATHY AND THE PROTECTION MOTIVATION HYPOTHESIS

In harmony with the attention focus hypothesis, empathy has been defined as a special type of emotion vicariously experienced by taking the perspective of the victim who is perceived to be in need of help (Batson 1987). Shelton & Rogers (1981) defined empathy as "an individual's emotional arousal elicited by the expression of emotion (usually distress) in another" (p. 367).

Coke, Batson & McDavis (1978) have demonstrated that the role of empathy as a mediator of helping behavior can be represented as a two-stage process: (a) taking the perspective of the victim who is perceived to be in need of help elicits an empathic emotional response, which, in turn, (b) enhances the perceiver's motivation to offer help or protection.

Roger's (1982) Protection Motivation Theory offers an interesting theoretical explanation for the relationship between negative emotions, empathy and helping behavior. In its original form, Protection Motivation Theory predicts that when the individual feels personally threatened by some impending danger (knowledge of this danger, for example, may be acquired from mass media fear appeals), one basic human response to such an appeal is to attempt to protect oneself. Shelton & Rogers (1981) demonstrated empirically that this theory could be extended to explain the empathy/helping behavior relationship. It is argued that as the focus the danger shifts from oneself to someone else, the motivation to 'protect' the other individual will be aroused. In other words, to the extent that a negative emotional appeal is capable of persuading us to protect ourselves, to that same extent we may also be persuaded to protect others. The intensity of this empathic arousal is determined by the extent to which respondents are motivated to focus their attention on (i.e., to take the perspective of) the plight of the victim.

CONCEPT MEASUREMENT

Perspective Taking

Taking the perspective of another requires the perceiver to imagine how the other person is affected by his/her situation (Stotland 1969). In laboratory settings, perspective taking is usually induced by instructions (Stotland 1969; Coke, Batson & McDavis 1978). Alternatively, perspective taking can be measured on an individual difference level. For example, Davis' (1980) recent perspective-taking scale includes items such as, "Before criticizing somebody, I try to imagine how I would feel if I were in their place"; "I sometimes try to understand my friends better by imagining how things look from their perspective". (For the entire scale, see Green et al. 1984, p. 380).

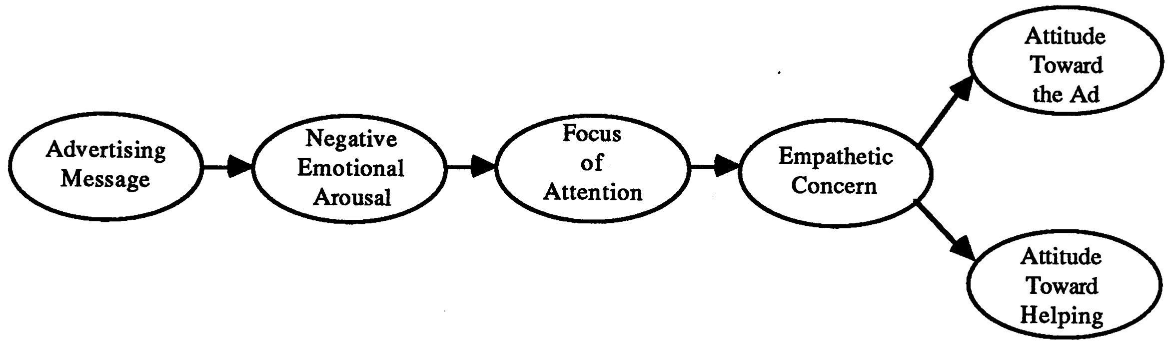
Empathic Concern

Several approaches have been utilized to measure or manipulate empathic response; however, only some of the more significant approaches will be mentioned here. One approach uses respondents' self-reported paper-and-pencil responses to individual difference scales which presumably measure the respondent's predisposition to be empathetic (e.g., Davis 1980; Hogan 1969; Mehrabian & Epstein 1972; Hogan 1969). For example, the Mehrabian & Epstein (1972) Emotional Empathy Scale treats empathy as a tendency to respond emotionally to the experience of others, while the Hogan (1969) Empathy Scale is a more cognitive measure of empathy. The Interpersonal Reactivity Index (Davis 1980) views empathy as a multidimensional construct and uses four separate but related subscales to measure the various dimensions of empathy: perspective taking, fantasy, empathic concern and personal distress. Examples of items measuring empathic concern are: "When I see someone being taken advantage of, I kind of feel protective toward them"; "I often have tender, concerned feelings for people less fortunate than I" (Davis 1980). In many studies, the high and low empathy conditions are determined by a median split on the empathic concern index (Coke, Batson and McDavis (1978)).

Another method of measuring empathy is to analyze the respondents' self-reported emotional responses to encountering a person in need. For example, Batson and colleagues (reported in Batson (1987)) asked respondents to report on a 7-point scale (1 = not at all; 7 = extremely) how strongly they were feeling each of a series of emotions using a list of 14 adjectives. Factor analysis revealed two separate

FIGURE

AN ILLUSTRATION OF THE MEDIATING ROLE OF NEGATIVE EMOTIONS AND EMPATHY ON ATTITUDES TOWARD HELPING



factor loadings: (a) Eight adjectives loaded on one factor identified as personal distress -- alarmed, grieved, upset, worried, disturbed, perturbed, distressed, and troubled. (b) The six other adjectives loaded on a second factor presumably relating to empathy -- sympathetic, moved, compassionate, tender, warm, and softhearted. Analysis of the data indicated that greater self-reported empathy was associated with increased helping, whereas greater self-reported personal distress was not (Batson 1987, p. 107).

To summarize, what can be said about the conditions under which negative emotions may mediate attitudes toward helping in communication appeals? An affective advertising message such as a fear appeal, is likely to elicit from the respondent a variety of negative emotional responses. Associated with these emotional reactions is an empathic arousal to do something to help or protect the victim. However, the degree of empathic concern may be determined by the extent to which the individual's attention is self-focused or specifically directed toward the needs or misfortunes of the victim (Thompson et al. 1980; Batson 1987). Finally, the greater the level of empathic arousal, the more positive the attitude toward helping (Batson & Coke 1981; Batson 1987).

NEGATIVE EMOTIONS AS MEDIATORS OF ATTITUDE TOWARD HELPING IN ADVERTISING APPEALS

The theoretical relationships underlying the role of negative emotions and attitudes towards helping present challenging research propositions for advertising researchers. Today, more than ever before, an increasing number of non-profit organizations are relying upon mass media public service announcements to persuade consumers to make contributions to their programs. Furthermore, many organizations such as The American Heart Association, The American Red Cross Society, The Society For The Prevention Of Child Abuse and so on, have chosen to use emotional appeals to enhance the persuasive impact of their communication appeals.

The theoretical relationships depicted in the Figure represent a very simplified illustration of the role of negative emotions as mediators of attitudes toward helping in a typical advertising appeal. This figure is not meant to represent a theoretical model.

The Figure illustrates a message recipient's response to a highly emotional public service appeal, presumably for an organization such as the Society For The Prevention Of Child Abuse. This TV advertisement shows a young child desperately running and screaming through his home trying to escape from someone (not shown in the picture, but presumably a parent) who is threatening to do him harm. Predictably, this type of ad should evoke a variety of negative emotions such as fear, anxiety, anger, distress, sympathy, compassion, and so on.

According to the Protection Motivation Hypothesis (Rogers and Mewborn (1976)), these negative emotions should motivate the message recipients to express a desire to protect the child (the victim) from the impending danger. This protection motivation, in turn, evokes strong feelings of empathy for the child. However, this empathic response is more likely to be elicited from subjects whose attention has been directed toward the feelings and the plight of the child than from those individuals whose attention has been focused on their own personal problems and needs (Thompson et al. 1980). Moreover, it is expected that individuals demonstrating the highest level of empathic concern, are likely to exhibit positive attitudes towards the advertisement as well as positive attitudes toward helping the child. In this case, for example, helping is measured by the subject's willingness to make a financial contribution to the sponsoring organization. In general, it is expected that negative emotions should be highly correlated with positive attitudes.

DISCUSSION

In this paper, we have attempted to examine some of the current literature which suggests that negative affect can sometimes be instrumental in producing positive attitudes. The dependent measure of interest is attitude toward helping, an attitude concept which is of major importance to fund-raising and charitable organizations. However, what is interesting about the theoretical framework that we have outlined is that the effect of negative emotions on attitude toward helping is dependent upon: (a) the extent to which the perceiver's attention is focused upon the needs and feelings of the victim and (b) the degree of empathic concern that is generated toward the victim.

With the exception of recent research on the effects guilt appeals (Bozinoff and Ghingold 1983; Ruth 1988), very little is known about the mediating role negative emotions in mass media advertising.

Future research should attempt to test the theoretical assumptions presented in this communication framework. First, we need to know for sure what are the categories of negative emotions that likely to be produced by certain types of message appeals. Second, we need to know what are the conditions under which negative emotions are likely to generate genuine empathic concern for the needy victim. Third, it is quite likely that affect is not the only factor operating when the decision to help is being made. Before the decision is made, consumers conceivably engage in some form of "hedonic calculus" or benefit analysis to evaluate the benefit versus the cost of helping (Batson 1987). More research should be conducted in this area.

Finally, we must emphasize that the use of negative emotions as an advertising technique should not be abused. If this technique is employed in public service appeals, advertisers should proceed with caution. Attitudes toward helping can be enhanced through mass media appeals.

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Extending Imagery Research to Sounds: Is a Sound Also Worth a Thousand Words?

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ABSTRACT

The imagery process has been the focus of considerable attention in the consumer behavior and psychology literatures in recent years. An issue that has not been tested is how nonvisual imagery cues, and sounds in particular, affect the information processing of consumers. This paper reviews the imagery literature and the relevant literature on attention theories, and draws implications for the use of audio imagery cues. Research questions arising from consideration of the theoretical areas are suggested, and methodological concerns are raised.

INTRODUCTION

The topic of imagery is a research area that has enjoyed widespread attention in recent years in the consumer behavior literature and conferences. Most imagery studies to date have examined "visual imagery" or the effect of visual cues on imagery activity. A nearly completely overlooked issue is the possibility that other types of sensory cues may affect imagery activity. Audio imagery cues (sounds) would seem of particular interest to researchers in marketing and consumer behavior since they are easily controllable in test settings and they have obvious marketing and advertising applications.

The intent of this paper is to provide a selective review of imagery theories and research and to consider another theoretical area (attention) that has implications for the use of audio imagery cues. Research questions that emerge from consideration of the imagery and attention theory areas will be discussed, along with research methodology considerations.

IMAGERY

Imagery Defined

Imagery, or mental imagery, has been defined in various ways over the years. Bugelski (1971) reviewed the imagery literature and found that although images are commonly thought of as "pictures in the mind," different researchers have defined imagery in different ways: An early consideration of the meaning of imagery was Titchener's (1921) conceptualization of imagery as consisting of "impressions made upon a plastic substance," which treated imagery as the mental remnant of some perceptual process. More fully developed descriptions are currently available. Richardson (1969) defined imagery as follows: "Mental imagery refers to (1) all those quasi-sensory or quasi-perceptual experiences of which (2) we are self-consciously aware, and which (3) exist for us in the absence of those stimulus conditions that are known to produce their genuine sensory or perceptual counterparts, and which (4) may be expected to have different consequences from their sensory or perceptual counterparts." While definitions vary somewhat, an effort to combine their implications yields a conceptualization of mental images as *mental experiences* that resemble more or less closely an actual perceptual occurrence and that may take place even when the actual perceptual occurrence (the perception of sensory information) is not currently happening. When a person actively imagines sights, sounds, or other perceptual events, s/he may be said to be experiencing the phenomenon of mental imagery. It is necessary to distinguish between imagery activity and "imagery cue," which refers to the external image, that is, the picture, word, sound, etc, that acts as a cue to elicit the internal imagery process.

To date, the discussion of imagery has usually been limited to visual imagery and visual cues, although imagery is thought by some to be possible in any of the senses. Holbrook (1983) proposes that nonverbal imagery may consist of not only visual components, but gustatory, olfactory, tactile, and auditory components as well. Paivio (1971a) also allowed for types of imagery other than visual, cautioning researchers to be certain to specify them as such. Despite the acknowledgment of imagery in other senses, even the most recent reviews (e.g., MacInnis and Price, 1987) are notably lacking in their coverage of any imagery executions except visual. The vast majority of the work on imagery has dealt with the process thought to occur in response to external visual cues or instructions to create a visual image. The lone exception was work (Segal and Fusella, 1970; described in detail later) that examined interference effects when subjects were involved in visual versus sound imaging and given signal detection tasks.

An extensive review of the psychology literature and the consumer behavior literature revealed almost no studies that have examined responses to auditory imagery cues -- sounds. The possibility that sounds may act as external imagery cues to encourage the generation of images in listeners presents interesting research questions. It would be an extension of current knowledge to compare what we know about pictures as imagery cues to the analogous use of sounds as imagery cues in the virtually untested auditory mode. Findings that sounds are able to evoke images in listeners as pictures can in viewers would provide a valuable theoretical extension of imagery theories.

Experimental Approaches to the Study of Imagery

Several experimental approaches have been used in the examination of the imagery process. Three of the most commonly used techniques, and an overview of their typical findings, are presented in this section.

One general approach to studying imagery has been to examine the differential effects of high-imagery versus low-imagery words on learning and memory tasks. Generally, concrete words are considered to be examples of words that are high in imagery potential, while low-imagery words are abstract words. Ratings performed on over 900 nouns indicated that the imagery dimension and the abstract-concrete dimension of words, while not perfectly related, are highly correlated (Paivio, Yuille, and Madigan, 1968). Many studies have demonstrated the clear superiority of concrete over abstract words on a variety of measured outcomes: free recall of words presented in lists during the experimental session, recognition memory of words from experimental lists, and paired-associate learning of both nouns and adjectives (e.g., Gorman, 1961; Paivio, 1969; Paivio, 1971a). In addition, response times have been used to indicate that the ease with which an image may be attached to a stimulus word or sentence depends on the concreteness of that stimulus (Paivio, 1971a). Specifically, it was found that subjects were able to generate an image to concrete words and sentences significantly more quickly than to abstract words and sentences.

A second approach to manipulating imagery and testing outcomes has been to use pictures as imagery cues. The experimental outcomes of numerous comparisons between pictures and words resemble those for high- versus low-imagery words. Presentations of object pictures have been shown to result in better recognition and recall of the objects than presentations of object names (e.g., Jenkins, Neale, and Deno, 1967; Paivio, 1983; Paivio and Csapo, 1973).

A third approach to manipulating imagery has been through explicitly instructing subjects to generate images. Subjects report being able to do this when instructed, and experiments comparing imaginal processing to rote repetition of to-be-remembered items yield results similar to the outcomes of the other two approaches. Paired associate learning, recognition, and recall measures of memory have all been demonstrated to be higher when subjects have been instructed to engage in imagery than when they rotely repeat the stimulus information (Bower, 1970; Paivio, 1971a).

Theories of Imagery

There is no widespread agreement on the imagery process that has been studied using these approaches, but several models have been proposed to explain imagery effects. Paivio's dual code theory (1971b) has been widely referenced. In it, he asserts that there exist independent but interconnected imagery and verbal systems to handle different presentations of information. The verbal system deals with discrete linguistic units and structures, while the imagery system is thought to be specialized for encoding, storing, organizing, transforming, and retrieving nonverbal information concerning "concrete objects and events." These two systems are thought to be interconnected, so that with the appropriate instructions or cues, nonverbal information can be transformed into verbal information and vice versa. The two systems are also considered to be independent, each activated separately by the stimuli most relevant to it. The imagery system represents our knowledge of the world in a form that is highly isomorphic with perceptual information. The presentation of pictures, or other nonverbal information, is thought to directly activate the imagery system, and result in the formation or retrieval of the appropriate perceptual code. This perceptual code is thought to consist of only perceptual information; the imagery system is activated and acts independently of verbal or semantic information. The presentation of verbal information triggers the verbal system.

Paivio cites as evidence for his theory the results of the research on the processing of concrete versus abstract words and the superiority of pictures over words in learning tasks. Additional support for the dual coding theory is found in the response time latency experiments that pitted object names against object pictures (Paivio, 1975). Paivio found that when subjects were presented with the names of two objects and asked to indicate which object was larger, reaction times were fastest when the objects differed greatly in size. He also found that differences in the size of the words had no effect on size judgments, but differences in picture size did: when the size relationship of the pictures was incongruent with the objects' true size relations (for example, a picture of a rabbit was larger than a picture of an elephant), reaction time was slowed. The reason provided by the theory illustrates the essence of the dual coding theory. The meaning of words was thought to come from the *processing* of their semantic components, so there is no reason to expect letter size differences to affect judgments based on meaning. However, the pictures served to access stored image codes directly, and incongruencies in picture size and true object size had to be resolved before the judgments could be made. The result was that judgments were made less quickly in the incongruent picture condition.

An alternative to the dual coding model of Paivio is the "relational associations" theory proposed by Bower (1972b). Bower had thoroughly reviewed the paired associate learning paradigm studies and found that subjects using an imagery mnemonic outperformed subjects given instructions to use rote-rehearsal, subjects told to produce a meaningful sentence using the pair of words, and subjects told to use whatever learning strategy they typically used (cf., Bower, 1972a). Bower developed two explanations for the superior performance of the subjects who used imagery. One reason dealt with the distinctiveness of the encoding of the imagery information. The distinctiveness explanation was not in direct opposition to Paivio's dual coding view; it merely emphasized the strength or distinctiveness of the image code. Alternatively, the imagery formed about a word pair might have provided information about an association between the two words--it was possible that a spatial relationship could be found or described that rendered the two items part of a "perceptual whole." Thus, the recall of one word given the other would be higher. This perspective is in disagreement with Paivio's theory, which maintains that the imaged items have separate perceptual codes that render them more memorable individually; Bower's relational association theory argues that it is the relationship imagined between the items that is key to better recall.

Bower tested his ideas by comparing recall of word pairs that were learned under different instructions. Subjects were to use rote repetition, to construct an interactive image using the two words in each pair, or to imagine the two objects "noninteracting and separated in 'imaginal space'." Recognition of the words was unaffected by the instructions, but recall of the word pairs was significantly better when interactive imagery was used than when either of the other strategies was employed. Such evidence was taken as support for the relational association explanation, since both imaging strategies should have resulted in codes that used the same picture elements and should have been equally distinctive in terms of the shapes and features involved. Other researchers have found evidence that supports this conclusion as well (Lutz and Lutz, 1977; Wollen and Lowry, 1971; Wollen, Weber and Lowry, 1972), although not all studies have documented the superiority of interacting imagery cues (Biron and McKelvie, 1984).

A third model of the imagery process was offered by Kieras (1978). His propositional representation model is not in disagreement with Bower's theory, but it is much more general. The propositional representation model conceptualizes images as internally constructed perceptual descriptions, separate and different from semantic information, yet handled by the same overall processing system that is responsible for semantic processing. The images, or perceptual representations, in his model are thought to be nodes in memory structure containing perceptual information that have more interconnections to other nodes in the memory network than most verbal or semantic information.

"Context availability" is a theoretically promising component of the perceptual representation model, according to Kieras (1978). According to this view, a key process in the comprehension and recall of a sentence is assigning a framework or context to the sentence. If a context can be assigned, the sentence is better comprehended and better learned as a result. This view maintains that high imagery sentences would be expected to be better remembered because their image content has more chance of being interconnected with information already in memory, and thus they are more easily assigned a relevant context. The availability of the relevant context is key, however--when such a context is not available, recall even of imagery information suffers.

Support for this view comes from research that has demonstrated that the availability of a contextual framework is a determinant of recall. Bransford and Johnson (1972) found significantly better comprehension and recall of an ambiguous verbal passage when a complete context was first provided. An important aspect of their finding was that providing the context after the information to be learned was significantly less effective than providing it before--the timing of the availability of a context was important.

Pedzak and Royer (1974) found that providing a to-be-remembered sentence at the end of a context-providing paragraph resulted in better recall of abstract but not concrete sentences. Bower, Karlin, and Dueck (1975) found that providing subjects with an interpretation of each nonsense picture at the time of exposure resulted in significantly more picture information being recalled than when subjects were not provided the context-supplying interpretation. Thus, whether the to-be-remembered information consists of picture or verbal material, it seems that a key to effective learning of the information is the availability of a relevant context or framework in which the information can be interpreted.

The three imagery theories are not all very closely aligned, yet the contributions of each to the understanding of the imagery process are quite complementary. The biggest discrepancy is the conceptualization of the form in which the image information is stored in memory. Even on that dimension, the implications of the dual coding theory can be accounted for by the perceptual representation approach as well. The implications of the models, and particularly of the perceptual representation model, which approaches the issue from a broader information processing perspective, will be the basis for research questions dealing with a particular way in which imagery may be evoked--the use of sounds--and its expected effects.

Related Processes

Elaboration

The idea that elaborative thinking facilitates learning has been widely studied and is generally accepted. Elaborative thinking refers to the active relating of the target information to concepts, events, and other information already stored in memory. The result is a more elaborate network connecting the target information and existing information in memory--the new information is said to be more elaborately encoded than it would have been without these relational, connective thoughts. In general, elaboration has been found to result in enhanced learning, as measured by recall, of the stimulus information (cf., Bower and Clark, 1969). Elaboration works by enabling the to-be-learned information to be incorporated into the memory structure more easily, thanks to the links that have been established through elaboration, to existing knowledge in memory.

However, it has been found that the types of elaborations that are generated are important. Elaborations that are semantically congruous with the information to be learned have resulted in improved learning (Craik and Tulving, 1975; Fisher and Craik, 1980). Stein and Bransford (1979), however, found that the elaborations most directly related to effective learning were those that allowed the learner to understand the significance of the information. Bransford et al (1982) found that the generation of elaborations that enhanced the significance of relationships between parts of the verbal passages that were to be learned was the key to successful learning. They went on to speculate that past personal experience or stored relevant knowledge may enable learners to generate relevant elaborations more easily.

The concept of elaboration is thus clearly linked to Kieras' propositions that imagery may be effective because of the more numerous connections between images and other information in memory. Images are thought to be coded more elaborately than non-image information, and so may be more frequently connected to stored information. It is the elaborate encoding of imagery information that provides the better-connected memory trace, which results in better memory and easier elaboration of the information. The notion of context availability is related to elaboration as well. Learners would be engaging in elaboration when they seek a relevant context for understanding and remembering stimulus information; to the extent that a contextual framework is readily available, the elaboration process is made easier.

Perception

Perception refers to the *processing* of incoming stimulus information--identification and interpretation of the features of the stimulus that lead to a meaning being attached to that stimulus. The imagery process has been conceptualized as being similar to perception. In fact, imagery processes have been demonstrated to involve the formation and use of the same qualitative *types* of information that are generated by perceptual processes (cf., Crowder, 1976). However, imagery may take place even when the physical stimulus information is not present in the individual's environment, while perception occurs when the person is processing information that is present in her/his environment. The finding that imagery and perception share the same processing system would imply that imagery and perception processes should interfere with one another if attempts are made to perform both simultaneously.

This interference has been documented experimentally. Segal and Fusella (1970) manipulated the perception task subjects performed, either an audio or a visual detection task, and also manipulated the imagery task, imagination of a visual cue or a sound, that the subjects were performing simultaneously with the perception task. Results indicated interference: performance on the signal detection task was poorer when imaging was going on, regardless of the sense mode of either operation. In addition, a significant interaction was found, such that when the perception task and the imaging were being performed in the same sense mode (iso-modal), performance was worse than when the perception task and imaging were taking place in different sense modes. This iso-modal interference finding provides support for the notion that the imaging process shares some of the same analyzers or capacity within the processing system as the perceptual process. Further support for modality-specific interference was provided by the experimental findings of den Heyer and Barrett (1971), Bower (1972), and Peterson and Graham (1974). These results support the expectation that a message or task that encouraged subjects to form images while they were perceiving information in the same modality would result in worse learning of the information than would the nonsimultaneous performance of imaging and perception.

Imagery and advertising

Two advertising researchers (Rossiter and Percy, 1983) suggest that advertising can stimulate visual imagery in consumers in any of three ways: (1) by using stimuli known to increase the probability of image generation, (2) by instructing consumers to form visual images, and (3) by trying to capitalize, through target audience selection, on individual differences in visual imaging ability. Several attempts to apply visual imagery notions to advertising have been undertaken over the years.

Research interest has been focused on pictures (visual image cues) and the effects of their inclusion in an advertising message on consumers' learning and evaluative reactions. Starch (1966) found that ads with pictures were significantly more likely to be recognized than ads without pictures. Kisielius and Sternthal (1984) hypothesized that the effect of pictures on the evaluative response of the consumer would depend on the valence of the information recalled by the individual, and could be difficult to predict a priori. As discussed earlier, Lutz and Lutz (1977) and Biron and McKelvie (1984) found recall of product class - brand name pairings to be better when the verbal information was accompanied by pictures.

Childers and Houston (1984) concluded that including pictures in an ad was likely to enhance recall when either the motivation or capability of consumers to process the ad at a semantic level (attending to the verbal content) was reduced. Edell and Staelin (1983) found that in order to be effective in enhancing audience learning, pictures must create images that are somehow related to the advertised brand. Results of other studies (Mitchell and Olson, 1981; Mitchell, 1986) indicate that pictures may affect attitudes independently from beliefs. In summary, generally positive effects of related pictures in ads for recall of brand name or ad information have been found. Effects on evaluative reactions, either toward the advertised brand or the ad itself, have been mixed, with some studies reporting significant effects of pictures on attitudes toward the ad or the brand, and others finding no effects.

It is important to note that the findings of facilitative effects of pictures on recall were found in tests that used static pictures and words. It is not clear that the same positive effects should be expected when imagery occurs in response to cues presented in a dynamic message (e.g., radio or television advertising). As others have recognized (cf., Wright, 1974), dynamic presentations present more difficult processing situations for the message recipients. In light of the additional demands on the message recipient's processing capabilities caused by dynamic presentations, it would be expected that the effectiveness of imagery cues would depend on whether imagery activity would interfere with the other processing activities taking place concurrently. For this reason, consideration of the individual's attentional system and capacity is needed.

ATTENTION

The second major theoretical issue to be examined concerns the possibility that providing sounds as imagery cues in audio messages may interfere with the reception and/or processing of other message information. Thus, the findings on attention and processing capacity limitations merit consideration.

Attention is commonly defined as the allocation of processing capacity, or the conscious, controllable, selective aspects of perception and response (Triesman, 1969). Several theories have been developed to describe how the attentional system works (cf., Broadbent, 1958; Duncan, 1980; Kerr, 1973; Posner, 1982).

A potentially insightful model is the limited capacity central mechanism hypothesis (see Kerr, 1973), which proposes that some but not all mental operations require space in a single limited capacity central mechanism. Processes that do not require the central system can be performed in parallel with other operations without interference, but processes that *do* require the central mechanism can not be performed simultaneously without interference. Results of secondary task studies (Posner and Keele, 1970; Johnston et al, 1972; Kerr, 1973) indicate that processes such as low level, single item encoding, monitoring, and routine memory look-up operations may be performed in parallel with other tasks without resulting in any secondary task performance decrements. However, to note or interpret a stimulus, or to do something with the incoming information, such as rehearse it, transform it, or respond to it, requires central capacity, so that the processing of multiple inputs is expected to result in interference (Duncan, 1980; Posner, 1982), less complete processing, and subsequent worse recall for either or both of the input stimulus streams.

The extent to which simultaneous stimuli will result in interference will depend, in part, on the number of different channels occupied by the incoming stimuli and the tasks involved. Studies suggest the degree to which operations interfere may depend on the extent to which they place overlapping demands on specific subsystems, such as the verbal system or the spatial system (Kerr, 1973; Kimchi, 1982; Segal and Fusella, 1970).

A test of audio interference was reported by Warshaw (1978), who tested subjects' recall of simultaneous nonredundant audio and video messages versus their recall of either channel alone. His findings that recall was lowest for the simultaneous audio and visual presentation supported the limited processing capacity conceptualization of the processing system. Another test of audio attention is the reading comprehension test performed by Zimmer and Brachulis-Raymond (1978), in which student subjects were tested for their comprehension of material that they had read under one of four noise conditions: no noise, music, speech unrelated to the reading material, and industrial noise. Significantly worse comprehension was found for the material that had been read under the industrial noise condition; no other differences were significant. The authors concluded that perhaps the findings were a result of "habituation," and they cited other work that provided evidence that students are able to quite effectively "gate out" or screen out familiar stimuli, such as music, when their attention is focused on a task such as studying.

These results support Triesman's (1969) findings that individuals can be very effective in selecting their focus of attention, so that one stream of sensory input is selected for processing and all other streams of incoming information are, for the most part, ignored. This does not imply that distraction will never occur, but it appears that individuals can to some extent screen out information streams that are of no interest to them, rather than allowing those information streams to be automatic causes of distraction.

Attention to Advertising

An important factor that distinguishes consumer learning of advertising information from individuals' learning of other information is the exposure setting. Exposure to and processing of advertisements usually takes place in a setting characterized as "noisy," with many streams of information competing for consumers' attention. In addition, the consumer is unable to control the pace at which much of the information is being presented, so that processing may be rushed or incomplete (Wright, 1974). Moreover, most consumers are not motivated to expend much cognitive effort on interpreting, processing, and integrating most advertising information (Batra and Ray, 1983).

This difficult exposure environment results in consumer processing that is different from the processing that results from most laboratory research tests, which generally produce high levels of subject involvement. Recent studies and related findings have proposed that "low involvement" processing may be a more ecologically valid approach to the study of advertising effects (cf., Batra and Ray, 1983; Mitchell, 1983; Mitchell, 1986; Park and Young, 1986).

The notion that consumers can select a target and focus their attention effectively and at will has found wide acceptance in the psychology literature (cf., Triesman, 1969; Glass, Holyoak and Santa, 1979). In advertising practice, it provides the rationale for "borrowed interest" techniques (i.e., using an attention-attracting stimulus in an ad, even if that stimulus has no close relation to the advertised product) for attracting attention from other environmental stimuli. In fact, Batra and Ray (1983) suggest that one way to convert the low interest level of a consumer advertising audience to a "pseudo high involvement" one is to add borrowed interest techniques that "artificially" raise the level of "natural" drive or interest in the situation. They caution that an advertiser must take care to ensure that the attention-attracter does not draw attention away from the advertised product itself, but rather draws attention from distracting elements outside the commercial.

RESEARCH ISSUES

In light of the research findings in the areas of imagery theory and attention, consideration of non-visual imagery cues leads to several issues that merit research attention:

1) Can non-visual cues stimulate imagery activity? The power of non-visual cues has not yet been established. So far, the non-visual imagery activity of subjects has been tested only under experimental conditions that included instructions to subjects to imagine particular sounds (Segal and Fusella, 1970). The question of interest here is whether sounds are capable of producing in subjects mental images when listeners are not instructed to imagine.

2) How does imagery evoked by non-visual cues affect learning and memory? Imagery research findings would indicate that positive effects of imagery may result from elaboration and context availability processes, while the findings on perception and attention indicate that negative effects of imagery might result from perceptual interference and the exceeding of processing capacity limits. A question of real interest, then, is under what conditions would each of these effects would be expected to dominate.

3) Is there a way that imagery cues could be presented or placed within the message so as to maximize their positive effects on learning and memory and minimize their negative effects? The work on interference and context availability indicates that a variable worth consideration is the ordering of verbal information and sounds within the message. Arranging for nonsimultaneous occurrence of sounds and words in the message would be expected to lighten the informational load facing the listener at any instant, and should reduce the likelihood of interference in the reception of the audio channel information. As well, sounds, as imagery cues, may serve as frames for the processing of subsequently presented information.

4) Does personal experience with the imagery cues affect the efficiency with which the cues evoke images? People often react very differently to the same sounds--e.g., the music of the '60s has been found to appeal much more strongly to the "baby boomers" than to the elderly. Imagery cues may be used effectively to segment the audience on the basis of their experiences.

5) How does the ambiguity of cues affect the listener's attention level, imagery activity, and learning and memory? It may be that ambiguous sounds are attention-attracting, but findings from research on elaboration suggest that imagery activity might be curtailed, with negative consequences for learning and memory.

Methodology Considerations

The method by which these issues are to be tested also merits consideration. Given the reality of noisy reception environments for many, if not most, mass media communications, a strong case can be made for research environments that are externally valid, or that at least include several interventions to render them more realistic. Beyond external validity concerns, there are theoretical considerations that should affect the research setting decision as well: important distinctions exist between the implications of high and low involvement processing. Another methodological consideration is the importance of the use of multiple operationalizations of the imagery cues. Since the images evoked by any particular sound, or other imagery cue, may be idiosyncratic and dependent on the individual's past experiences, any test of the imagery processes under consideration would require replication across different imagery cues.

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Maintaining the Delicate Balance: Industry and Academic Approaches to Advertising Research

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ABSTRACT

It is argued that advertising professionals and academic researchers confront similar problems in the study of advertising, but differ in the way they choose the solve these problems. Each group uses a perspective that solves their immediate needs, but at the cost of failing to accumulate knowledge about advertising as a general phenomenon over the long term. The common character of advertising problems is highlighted in the paper as a means for bridging the gap between the two perspectives.

INTRODUCTION

There has long been a healthy tension between advertising researchers in industry and those in academic settings. Such tension is inevitable given the the differences in the perspectives, goals, and compensation structures of the two groups. Yet, throughout the present century, at least, there has been a healthy exchange between the two groups. This exchange has been both substantive and personal. On the personal level, there has been frequent movement of professionals between the two groups. Walter Dill Scott, Daniel Starch, and Bill Wells are among just a few of the distinguished academics who have ventured into the applied arena. Clark Leavitt, Malcolm McNiven, Joe Eastlack and others are representative of individuals with distinguished careers in industry who have moved into full time academic careers. Such individual cases suggest, at minimum, that the skills required for success by the two areas are not mutually exclusive.

At the substantive level there has also been a very healthy exchange. Many theories of persuasive communication, attitude formation and change, attention, and information processing are now routinely used to justify specific advertising strategies, and methodological advances pioneered by academic scholars have frequently found application and enhancement in applied advertising settings. At the same time, feedback from the industry has served to shape much academic thinking and the direction of academic advertising research. Further, some important theoretical developments have had there origins in applied problems of various types. Despite the intensive nature of the exchange between academic and industry researchers, there remains considerable misunderstanding between the two groups. The present paper provides one perspective on the nature of this misunderstanding and the reasons that this tension, and even occasional conflict, persists between the groups. It is the thesis of this paper that much of this tension grows from a tendency to simplify a complex phenomenon, advertising, and that many of the apparent differences between academic and industry professionals grow from differences in the simplifications that each emphasizes. The paper is written from the perspective of someone who has spent time in both camps, though with the admitted bias that more time and more recent experience has been in the academic setting.

Much of the misunderstanding between academic and industry researchers revolves around differing definitions of advertising. For many academic researchers advertising often provides a convenient and relevant focus for research on more fundamental human processes, attention, information processing, memory, mood, emotion, psycholinguistics, and persuasion. Yet, advertising is more than a specific manifestation of a given underlying process. Advertising is a uniquely defined phenomenon. Indeed, it may be inappropriate to think about advertising as a single phenomenon, but rather as a class of potentially very different phenomena. Advertising occurs for a specific purpose, in a well defined context, and is transmitted via particular communication channels. Advertising is also a social and cultural phenomenon that is unique to specific types of societies. Much academic research fails to examine what is unique about the phenomenon largely because advertising is viewed as just another case of more general phenomenon. Yet, this view results in a loss of understanding of what makes advertising unique and interesting in its own right, and may serve to reduce the perceived relevance of academic research for industry practitioners. Further, it fails to capture the complexity and richness of the phenomenon.

Industry professionals often suffer the opposite problem. While they understand the unique character of advertising as a social phenomenon, they are confronted with the need to design advertising for specific products, services, and organizations. The result is that industry researchers often have little time to build general theories of advertising. Instead, they tend to build theories of advertising for very special circumstances. The general character of the advertising phenomenon is lost in the process of building a product specific theory of advertising. This frequently leads academic researchers to unfairly lament the lack of theory building among practitioners.

The peculiar circumstance in relationships between academic researchers and industry professionals is that both groups have well developed theories, specific research norms, and a well developed body of knowledge, yet neither may, in fact possess a general theory of advertising. The theories of practitioners may be too narrow and product specific to generalize to advertising more generally defined, and the theories of academic researchers may be too general to provide relevant insights into how advertising, as distinct from all other forms of communication, influences the consumer. Further, it would appear that rather than suffering from different problems in their approaches to the study of advertising, they both suffer the same problems, but choose different solutions. Rather than dwell on differences in solutions, the remainder of the current paper will consider the problems common to both groups. After enumerating a number of these problems, the paper will conclude with some comments on how academic and industry researchers might solve these problems in ways that serve to advance general knowledge about advertising. First, the problems:

Problem No. 1, The Tendency to Treat Advertising As a Generic-There is a tendency to treat all advertising as though it is the same phenomenon rather than recognizing that there are different types of advertising that serve very different purposes. Both academics and industry professionals have a tendency to view all advertising as the same, when, in fact, there are many forms of advertising and many purposes. Industry professionals suffer from this problem, at least in part, because they tend to work with individual products or classes of products, for which the type and purpose of advertising is similar. Academic researchers often fail to understand the particular role that advertising is designed to play in the broader marketing mix.

Problem No. 2, Ignoring Context-Related to the first problem, is the tendency to look at the impact of a specific factor (Appeal, Promise, Mode of Presentation, or Executional Device) rather than the overall net impression created by the combination of executional elements. There is certainly nothing wrong with examining individual effects (whether described as a test of a theory or "effects" research), but it must be recognized that individual elements often work together. This is especially true for nonverbal elements of an advertisement (cf. Edell 1988, Stewart and Hecker 1988), but is also true for verbal elements of a message. Further, there is likely to be an interaction between the type of product, the medium, and various elements of the persuasive message.

Problem No. 3, Convenient Measurement- While it is not universally true of all academics or industry professionals, there is a widespread tendency to use measures of advertising effectiveness and efficiency that are most readily available and convenient rather than relevant to the purpose of the advertisement. This problem also grows in part from problem number one above.

Problem No. 4, Isolated Measures- The richness of the process by which advertising has its effect is often lost when measures of effect are examined one at a time. Even when multiple measures are obtained there is often a tendency to look at individual measures of advertising effectiveness without consideration of their relationships.

Problem No. 5, Looking for Large Effects Rather Than Small Effects- Virtually all of the empirical data available to us suggests that advertising is at best a very weak force. Yet both academic researchers and industry researchers spend a great deal of time seeking large changes in consumer response rather than small effects.

Problem no. 6, Looking for Short-Term Effects Rather Than Long Term Effects-There is a frequent assumption that the effect of advertising should be immediate rather than longer term. While there is no doubt that advertising has some short term effects, longer term effects tend to be ignored in much research by both academic and industry researchers.

Problem No. 7, Always Seeking Incremental Responses to Advertising-There is a frequent assumption by both academic and industry researchers that responses to advertising must always be positive and incremental when in many cases, and for many measures, the only measurable effect is likely to occur when advertising is discontinued. Advertising for mature products that are well known to consumers and have strong brand franchises may well have its effects through reinforcing habitual behavior not by changing behavior. This ia a view long held by Ehrenberg (cf., Ehrenberg 1974 , 1988). This means that it may be more appropriate to measure the effects of advertising in some circumstances by removing it.

Problem No. 8, Inappropriate Foundation for a Theory of Advertising- Virtually all theories of advertising, whether developed in a product specific context by advertising professionals or in a more general context by academic researchers, use what may be called a replacement model of advertising. The replacement model of advertising (which has its origins in replacement theory in the psychology of learning) suggests that advertising has its effect by replacing competitive or undesirable behavior with new behavior. Thus, the tendency to buy a competitive product is assumed to be replaced by a tendency to purchase the advertised product. Yet, this model is inconsistent with much of what we know about how human learning occurs and how advertising works. Stewart (1988 a & b) has recently argued that a more appropriate model of advertising is the accumulation model, which suggests that competing response tendencies exist side-by-side. Advertising may serve to strengthen one response tendency over another, but it does not cause one tendency to replace another. Indeed, where there is strong competitive advertising, several response tendencies may be strengthened simultaneously. The accumulation model, which explicitly considers competing responses, appears to be more appropriate to the competitive environment in which most advertising occurs. It also suggests that absolute measures of advertising effects may be irrelevant; rather, measures relative to competitive responses may be more appropriate.

Recognition of these common problems may do more than help academic and industry researchers better understand one another. In recent years there has been an increasing feeling among managers and even some advertising professionals that advertising simply does not work. While there have always been critics of the efficacy of advertising, criticism has increasingly been translated into action as funds are transferred from advertising to promotions. New and large databases have become available in recent years, and analyses of the effectiveness of advertising employing such data often finds little or no effect. Yet, these findings may simply reflect the fact that the wrong questions are being put to such data, questions that are wrong because they have there origins in a view of advertising that suffers from the problems discussed above.

Today, more than ever before, academic and industry researchers have a common interest in assuring that advertising is not prematurely dismissed as an ineffective marketing tool. This means that there is a greater need than in the past to work together to find common solutions to the problems identified above. Solutions of the past, even where successful, simply do not provide the types of answers that are now required to maintain the viability of advertising as an area of study for academics and a useful marketing tool for industry professionals. It is time to consider the general problem of advertising, the types of questions that should be addressed when considering its effects, and the types of data that will be required to answer those questions. Academics and industry professionals need one another to achieve these ends. We need the balance that each perspective provides.

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On the Nature of Product Attributes and Attribute Relationships

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ABSTRACT

Consumer researchers have come to regard product attributes as relatively concrete, objective properties while using a number of ill-defined and overlapping terms to label a product's more abstract qualities. The present paper argues for a unification of these distinctions into a single concrete to abstract attribute continuum along which attributes are instrumentally, reflectively, or vicariously related. The proposed framework emphasizes the complex structure of consumers' product knowledge over a labeling of knowledge content. A general methodology and a potential scaling technique for studying attribute relationships are briefly outlined.

INTRODUCTION

Consumers describe products using a vast array of attributes. Although attributes are commonly defined to include inherent characteristics and ascribed qualities, consumer researchers tend to adopt a narrow view of attributes as concrete and objective. The more abstract characteristics or qualities that consumers associate to products have, in turn, been described using a wide range of loosely defined and overlapping terms, including characteristics, functional consequences, psychosocial consequences, benefits, instrumental values, experiential aspects, and terminal values.

Recent research suggests that this proliferation of terminology is both unnecessary and limiting. The present paper argues for a unification of the existing range of concepts and terminology into a single concrete to abstract attribute continuum. The paper begins by contrasting alternative views of product attributes and then, using attribute abstraction as an organizing principle, describes a framework for studying the inherently complex structure of product attribute relationships. The paper ends with a brief discussion of a general methodology for examining the framework and a potential scaling technique for identifying attribute relationships.

ATTRIBUTES, CONSEQUENCES, AND VALUES

Our narrow view of attributes as concrete properties can be traced to at least two developments in consumer research. One was the proliferation of process tracing research in the 1970's (see Bettman 1986 for a review). These studies, many of which relied on brand by attribute matrices or information boards (Jacoby et al. 1976), examined how consumers used relatively concrete attributes, such as the cooking levels and capacity of microwave ovens (Bettman and Park 1980), to evaluate and choose among brands. It was natural for these studies to focus, at least initially, on consumers' everyday processing of concrete, brand-level information. However, an unintended consequence of this research was the equating of attributes with the concrete, objective properties of products (Holbrook and Hirschman 1982).

Another important development has been the proliferation of terminology designed to distinguish and describe a product's more abstract qualities. In marketing, for example, Haley (1968) tabbed these abstract properties as benefits. In economics, Becker (1976) used the term characteristics to describe the qualities that products provide. The greatest proliferation of terms occurred under the general label of means-end chains. This research draws on Rokeach's (1973) concept of human values, or our enduring beliefs regarding modes of conduct and end-states of existence. Rokeach dichotomized "modes of conduct" and "end-states" into instrumental and terminal values, respectively. Instrumental values are considered more concrete values of "doing" while terminal values are more abstract values of "being."

The goal of a means-end chain is to link presumably concrete product attributes with the consequences of those attributes and, in turn, to link consequences with consumers' values or desired end-states (Gutman 1982; Gutman and Reynolds 1979; Olson and Reynolds 1983; Vinson, Scott and Lamont 1977; Young and Feigin 1975). Olson and Reynolds (1983), for example, postulate six levels of concrete to abstract attributes, consequences, and values: concrete attributes → abstract attributes → functional consequences → psychosocial consequences → instrumental values → terminal values. Within this approach, lower levels of the chain are instrumental in affecting higher levels. Typically, attributes are restricted to a very concrete, objective level (for exceptions see Cohen 1979 and Geistfeld, Sproules, and Badenhop 1977).

There are at least three major problems with this approach. First, whether values, consequences, or desired end-states, the distinctions made in a means-end chain are not well defined. Just where do attributes end and consequences begin? Similarly, where do consequences end and values begin? And just how conceptually and empirically distinct are instrumental and terminal values? It is difficult to find clear, working definitions for many of these terms. Second, attributes, consequences, and values are linked instrumentally from the concrete to the abstract. Qualitatively different types of relationships are typically ignored, such as the perceived correlation among attributes at the same level of abstraction (Brunswik 1943) or the reflective, concrete implications of a product's abstract attributes (Cohen 1979). By their very nature means-end chains describe unidirectional relationships from means to ends. And last but not least, means-end chains, by concentrating on the content of knowledge, focus attention away from the structure of knowledge. As a result, means-end chains fail to provide a solid foundation for theoretical development. Although they may offer significant pragmatic value (see, for example, Gutman and Alden 1985), their ability to advance our theoretical understanding of the nature of consumer product knowledge is limited.

Theory development in psychology, particularly in the areas of verbal learning (Paivio 1971), memory (Quillian 1968; Collins and Loftus 1975), and categorization (Rosch 1975; Rosch and Mervis 1975; Rosch et al. 1976), has adopted a very different view of attributes. This view is consistent with the general definition of attributes as inherent characteristics or ascribed qualities. Accordingly, attributes are viewed as varying along a continuum from the concrete to the abstract. Abstractness, in this context, is defined as the inverse of how directly an attribute denotes particular objects or events, and is equated with the specificity-generality of terms and the subordination-superordination of category labels (Paivio 1971; Rosch 1975; Rosch et al. 1976). Concrete attributes describe some particular aspect of a product while more abstract attributes more generally and completely describe a product. Similarly, more abstract or superordinate category distinctions encompass larger, more general product groupings.

A central thesis of the present paper is that it is advantageous to simply view attributes as lying on a continuum from the concrete to the abstract, a continuum that encompasses characteristics, consequences, benefits, and values. At least two other constructs are fundamentally tied to this concreteness-abstractness continuum. One is the inherent objectivity-subjectivity of an attribute. Consistent with the above definition of abstractness, concrete attributes are the more objective, direct aspects of a product, while abstract attributes are more indirect and necessarily subjective. Attribute concreteness-abstractness is also critically linked to an attribute's inherent feature-dimensionality (Johnson and Fornell 1987). While abstract attributes often resemble continuous dimensions, concrete attributes may be more akin to dichotomous features. Central to their similarity is the property of inclusion that underlies the two constructs. Abstraction implies a summation or concentration of information. Thus a single abstract attribute (the safety of an automobile) may capture several more concrete product attributes (seat belts, air-bags, brakes). Similarly, a single dimension may be viewed as a set of nested features (Gati and Tversky 1982).

There are several arguments in favor of deemphasizing the vast collection of terms that consumer researchers have borrowed or spawned in favor of a single, concrete to abstract attribute continuum. An attribute continuum avoids the use of overlapping and ill-defined distinctions. Abstraction, meanwhile, is a relatively well-defined organizing principle for theory development (cf. Bettman and Sujan 1987; Howard 1977; Johnson 1984, 1986; Johnson and Fornell 1987; Sujan 1985). A continuum also allows for other than simply instrumental attribute relationships. Finally, there is growing empirical support for a continuum in a consumer products context (Johnson 1984; Johnson and Fornell 1987).

Presuming a continuum of concrete to abstract attributes does not imply that consumers think in terms of a continuum. Operationally, consumers distinguish and describe products at particular levels of the underlying continuum. The important point is that the concept of abstraction can be used to organize the attributes that consumers themselves ascribe to products without imposing attribute, consequence, and value distinctions. Product knowledge may still be meaningfully classified. At a general level, for example, product knowledge includes a product's attributes, the meaning of those attributes, and a product's temporal and spatial information (Anderson 1983; Brucks 1986; Wyer and Srull 1986). Yet there is limited value in imposing a number of ill-defined distinctions on any one aspect of product knowledge, such as product attributes.

A Hierarchical View of Product Attributes

Postulating a single concrete to abstract attribute continuum allows consumer research to focus on an important theoretical issue: the inherently complex structure of attribute or propositional knowledge (Anderson 1983; Oden 1987). In particular, Howard's theory of buyer behavior (Howard 1977; Howard and Sheth 1969) uses a concreteness-abstractness continuum to begin to address the critical question of attribute structure.

Following the basic principles of categorization (cf. Rosch 1975), Howard views consumers as systematically grouping and distinguishing products, on the basis of similarity, into hierarchies. Consumers make choices at different levels of these hierarchies or different levels of abstraction. Category-level choices occur at more abstract levels of a hierarchy, while brand-level choices occur at a more concrete level.

An important component of Howard's model is that consumers also form hierarchies of attributes, from the abstract to the concrete, that correspond to their product hierarchies. A major prediction of the model is that consumers select and process attributes at a level of abstraction of their attribute hierarchies that corresponds to their level of choice. Howard thus predicts a direct relationship between the level of abstraction of a choice (e.g., category versus brand) and the abstractness of the choice criteria. Boote (1975), using Rokeach's instrumental and terminal values as proxies for concrete and abstract choice criteria, reports a study that supports this hypothesis. Recently, Johnson and Fornell (1987) found support for a generalized version of Howard's hypothesis. They found the abstractness of descriptive product attributes, not just choice criteria, varying directly with the abstractness of the product. This result is consistent with existing views of human memory (Anderson 1983) and, in particular, the concept of cognitive economy (Collins and Loftus 1975). Another aspect of Howard's attribute hierarchies that is well supported is the notion that descriptive attributes generally decrease with abstraction (Boote 1975; Johnson 1984). Abstraction, by definition, implies a concentration or summation of attribute information.

However, a hierarchical view of attributes and abstraction may be overly restrictive. A strict hierarchy presumes that each lower level attribute maps into or affects but one abstract attribute. At the other extreme, a product's concrete attributes may map into each of several relevant abstract attributes (Rokeach 1973). Johnson (1986) recently modeled the attribute abstraction process as lying somewhere at or between these two extremes. It is quite natural, for example, to expect an automobile's size to affect not only its safety but its economy and prestige.

The next section of the paper advances a framework for studying attributes and their relationships. The goal is to integrate qualitatively different attribute relationships, from Howard's notion of an attribute hierarchy to Brunswik's notion of vicarious functioning, into a single attribute relationship framework.

ATTRIBUTES AND ATTRIBUTE RELATIONSHIPS

The proposed framework is designed to capture the structure of consumers' product attribute knowledge. This use of the term knowledge is similar to both Anderson's (1983) notion of propositional knowledge and Wyer and Srull's (1986) notion of referent bins. Attribute structure is taken to mean the relationships among a product's associated attributes, either within an associative network (Anderson 1983) or an integrated product schema (Wyer and Srull 1986). (The differences between a general associative network and schema models of memory are not critical to our discussion. Both tend to reduce to network relationships (Oden 1987) and are not necessarily incompatible (Wyer and Srull 1986).)

The framework's main organizing principle is the concrete to abstract continuum along which attributes may be described. This continuum is hierarchical in the sense that concrete attributes generally map into more abstract attributes, and the number of relevant attributes decreases with abstraction. At the same time, lower level attributes may map into several higher level attributes, and higher level attributes may infer lower level attributes. Finally, attribute relationships may exist at the same level of abstraction. In other words, product knowledge is only loosely rather than strictly hierarchical.

Within this hierarchy, three qualitatively different types of attribute relationships are postulated to explain the associative and inferential structure of product knowledge: *instrumental* relationships, *reflective* relationships, and *vicarious* relationships. An instrumental relationship, drawing on Rokeach's terminology, exists whenever a relatively concrete attribute is instrumental in affecting or changing a more abstract attribute. Decreasing the size of an automobile may, for example, have a direct, positive effect on fuel consumption which may, in turn, increase economy. Recall that means-end chains are conceptually limited to this type of instrumental relationship.

Reflective relationships, meanwhile, capture the concrete consequences that result from a change in the level of a more abstract attribute. Reflective relationships capture many of our abstract-based inferences regarding a product's concrete attributes, or what Cohen (1979) refers to as derived beliefs. Although noise level may not be instrumental in affecting an auto's economy, it may be very reflective of economy cars. In many cases, reflective relationships are the direct result of one or more instrumental relationships. Size, engine size, and weight may, instrumentally, increase economy which may, in turn, be reflected by an increase in noise level. In contrast to instrumental relationships, reflective relationships run from the abstract to the concrete.

Both instrumental and reflective attribute relationships are directional, or propositional (Anderson 1983), in nature. They capture the perceived change in or existence of an attribute resulting from the change in or existence of some higher or lower level attribute. In contrast, vicarious relationships capture the perceived covariance among attributes. Brunswik (1943; 1956) conceptualized the existence of vicarious attribute or cue relationships within a lens model framework. Given the redundancy among certain attributes, much of the information in one may be inherent in another. This allows individuals to process attributes vicariously in order to achieve their processing objectives. Brunswik coined the term "vicarious functioning" to describe this substitutability of attributes. In our automobile example, consumers may perceive a relationship between an auto's size and its color. Although there may be no direct, functional relationship connecting size and color, many large cars are black while many small cars are red.

There are two important distinguishing characteristics of vicarious attribute relationships. First, while instrumental relationships flow from the concrete to the abstract, and reflective relationships flow from the abstract to the concrete, vicarious relationships exist at the same general level of abstraction (e.g. size and color). This is in keeping with Brunswik's initial concept of vicarious functioning. Second, in many cases, vicarious relationships are the indirect result of some combination of instrumental and/or reflective relationships. While, for example, a large size and a black color may contribute to a car's prestige, a small size and red color may contribute to a car's sportiness. A vicarious relationship between size and color may, therefore, result from their common instrumental effects on more abstract attributes.

These three relationships are hypothesized to capture the majority of a consumer's product attribute knowledge. They operate within and across the levels of abstraction of a generally hierarchical structure. As with any associative model, individual relationships will vary in strength depending on the consumer's experience (Howard 1977) and the consumption situation (Belk 1975). Finally, instrumental and reflective relationships between any two attributes at different levels of abstraction are not mutually exclusive. That is, the association between any two attributes varying in abstractness may be a combination of instrumental and reflective relationships.

The major advantage of the present framework is that it is designed to flexibly capture the entire range of concrete to abstract product attributes and their relationships. The framework is also very parsimonious. It presumes a single continuum of attributes that may be directly or indirectly related via one or more of three possible relationships. The range of ill-defined and problematic terms used in previous approaches is avoided. And consistent with existing psychological views of memory and cognition (Anderson 1983; Oden 1987), the complexity of consumer knowledge is captured by a complex system of product attribute relationships.

A GENERAL METHODOLOGY

Four general stages are required to operationalize the structure of product attribute knowledge using the proposed framework. In stage one, the researcher must specify the product, product-situation, or schema of interest. That is, what part of the consumer's associative network (Anderson 1983), or what referent bin (Wyer and Srull 1986), is relevant to the research? For example, one might be interested in how a change in a beverage's concrete attributes affects it perception on the more abstract attributes that beverages compete on across categories. Does, say, adding calcium to orange juice make it a more attractive thirst quencher or more nutritious breakfast drink? Alternatively, one might simply be interested in gaining a general understanding of a product's attribute associations and their relationships.

In stage two, the range of relevant product or schema related attributes must be generated. Depending on the research focus, these attributes may, for example, be obtained from the protocols of a choice task (Johnson 1984) or the thought listings of a memory probe (Rosch and Mervis 1975). In stage three, these attributes must be operationalized along the concreteness-abstractness continuum. Johnson (1984) describes a procedure whereby judges rate attributes on a scale from 0 (very concrete) to 10 (very abstract) in order to produce reliable concreteness-abstractness values (see also Johnson and Fornell 1987). Finally, the important relationships must be identified. A scaling technique with the potential to capture these relationships is described below.

Scaling Attribute Relationships

Additive tree scaling is one particularly promising method for identifying or uncovering attribute relationships across levels of abstraction. Additive tree procedures, such as Sattath and Tversky's ADDTREE (1977), are free tree scaling methods with a path length metric. One of the advantages of additive trees over traditional scaling techniques (i.e., multidimensional scaling and hierarchical clustering) is their ability to capture "nearest neighbor" relationships, where certain stimuli are more central within a stimulus set (Tversky and Hutchinson 1986). According to Tversky and Hutchinson, centrality exists when a stimulus is more similar to the other stimuli in a set than those stimuli are to each other. Borrowing one of these authors' examples, a fruit is more similar to either an orange or a banana than an orange and banana are to each other. Notice that centrality is a common property of stimulus sets that combine relatively concrete stimuli with more abstract, superordinate level stimuli. Additive trees capture centrality relationships by placing the more central or abstract stimuli on shorter branches that are closer to the root of the tree.

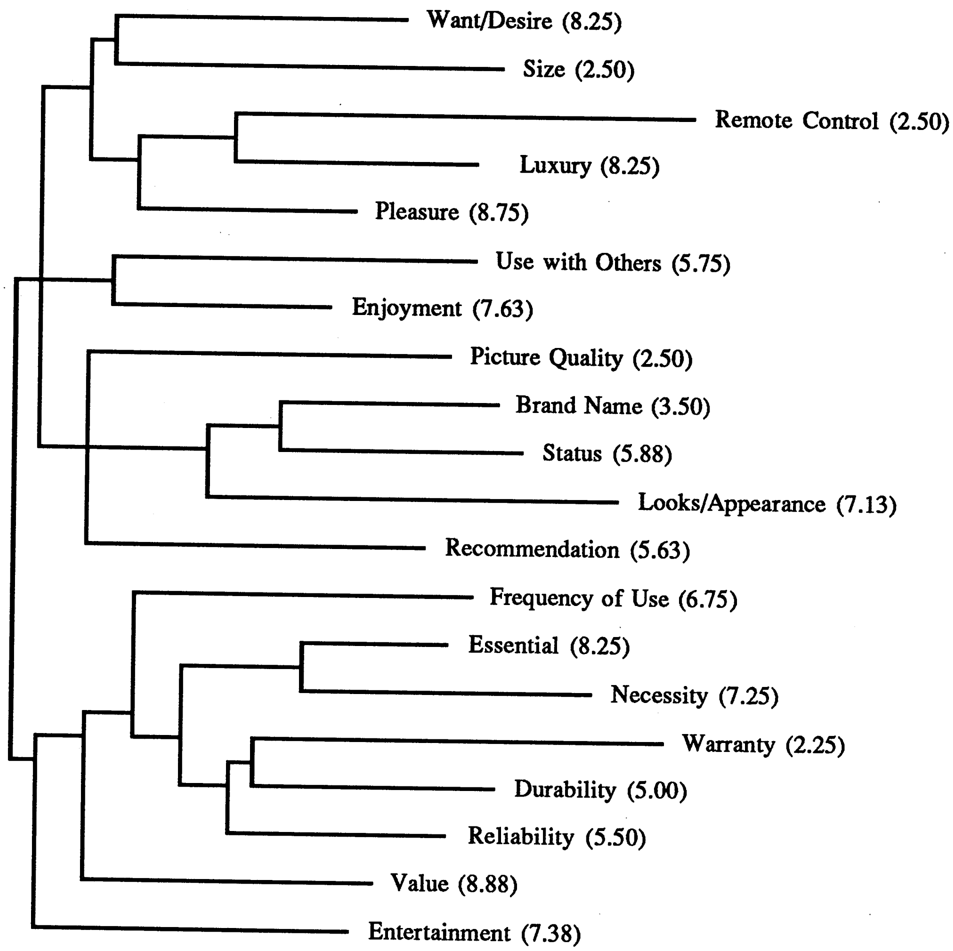
Because additive trees are superior at capturing hierarchical *stimulus* relationships, they may provide considerable insight into hierarchical *attribute* relationships. To illustrate the possibilities, a sample additive tree scaling for the choice attributes of televisions, estimated using ADDTREE (Sattath and Tversky 1977), is presented in the Figure. The perceived similarity of twenty television attributes that varied widely in their level of abstraction served as input. These attributes were obtained from a previous study in which subjects made choices involving televisions (Johnson 1984) and were selected on the basis of frequency of mention within different ranges of attribute abstraction. A convenience sample of six subjects was asked to provide pair-wise similarity judgments for all possible pairs of the twenty attributes (n=190). These input judgments were then scaled using ADDTREE. The attribute concreteness-abstractness ratings (from Johnson 1984) are provided in parentheses.

There are several interesting observations regarding the ADDTREE solution. First, the solution captures the attribute similarities better than either a two- or three-dimensional multidimensional scaling solution. Although additive trees use approximately the same number of parameters as a two-dimensional MDS solution (Carroll 1976), and fewer parameters than a three-dimensional solution, Kruskal's stress for the ADDTREE was .10 compared to .21 and .13 for the two- and three-dimensional MDS solutions respectively. Second, there is indeed a relationship between the level of the attributes in the ADDTREE solution and their rated level of abstraction. The distance from the root of the tree to the attribute nodes is significantly negatively correlated with the attribute abstractness ratings ($r=-.57$, $p<.01$). That is, more abstract attributes are generally closer to the root of the additive tree. Finally, the solution provides insight into potential attribute relationships. Remote control, for example, appears instrumental in affecting the luxury and pleasure derived from a television. Alternatively, a television's warranty may reflect its reliability and durability. Although a superior warranty may not be instrumental in affecting reliability or durability, it may be very reflective of these qualities.

This illustration is by no means a test of the proposed framework. A simple similarity measure is naturally limited. Although similarity may be a good indication of the strength of a relationship, it does not delineate the nature of the relationship. A natural direction for future research is to collect both similarity and directional attribute judgments (i.e., for product X, does attribute A imply attribute B?), in

FIGURE

ADDTREE Solution for Television Attributes



conjunction with concreteness-abstractness ratings, in order to delineate instrumental, reflective, and vicarious attribute relationships.

CONCLUSIONS

A major argument of the present paper is that attribute abstraction provides a logical organizing principle for the study of product attributes and their relationships. Abstraction is a relatively well-defined alternative to the numerous attribute, consequence, benefit, and value distinctions in the consumer behavior literature. A parsimonious framework is described for studying the structure of product attribute knowledge. This framework integrates previously separate perspectives in order to capture instrumental, reflective, and vicarious attribute relationships across and within levels of abstraction. Finally, additive tree scaling is presented as an alternative to traditional scaling techniques which may aid in uncovering these relationships.

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Attribute Importance Weights in Conjoint Analysis: Bias and Precision

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ABSTRACT

Consumer researchers have used conjoint analysis to evaluate the importance of an attribute in forming preferences. Although past researchers have tested the validity and reliability of the overall conjoint analysis results, some of the properties of the individual importance weights have remained unknown. Using a simulation, the current paper estimates the bias and precision of the importance weights. The bias and precision are each found to vary as a function of the estimation algorithm, judgmental error level, evaluation strategy used, number of profiles and attributes in the evaluation task and the number of attribute levels. When the dominant attribute evaluation strategy is used, the estimates of the importance weights have large biases and poor precision.

INTRODUCTION

Conjoint analysis is used extensively to model consumer preference. It is also widely used in other areas of consumer behavior (Green and Srinivasan 1978). One of the principal applications of conjoint analysis is the assessment of attribute importance weights (Jaccard, Brinberg and Ackerman 1986; Klein and Bither 1987). Consumer behavior researchers treat the magnitude of the importance weight as a measure of the effect of an attribute on the consumer's preference structure. They generally assume that the importance weights are not biased. This implies that the estimated importance weights will converge to the true importance weights when measured repeatedly over different samples. Consumer researchers would prefer an estimator used to study any behavioral phenomena to be unbiased.

A second desirable quality of estimated parameters is precision or low variance (Bickel and Doksum 1977). If the variance is low, the estimated importance weights lie in a narrow range around the mean. This increases the confidence in the results. Ideally in any study, the estimated importance weights should be unbiased and have a high precision. Some researchers suggest the mean squared error as an appropriate criterion for evaluating a good estimator where mean square error is a combination of the bias and the variance :

$$\text{Mean squared error} = \text{bias}^2 + \text{variance}.$$

However, past research in the conjoint analysis area has not systematically evaluated importance weights on the basis of these two properties - providing a basis for this study.

PAST RESEARCH

Past research evaluating the quality of conjoint analysis results has focused on measuring the reliability and the validity of the estimated importance weights. Carmone, Green and Jain (1978), Acito and Jain (1980), and Wittink and Cattin (1981) studied the robustness of conjoint analysis algorithms in recovering the observed rank order of the product profiles. McCullough and Best (1979) and Malhotra (1982) established the structural reliability and the stability of the parameters estimated using conjoint analysis.

Leigh, MacKay and Summers (1984) compared the predictive validity of self-explicated weights and conjoint analysis weights and found the former to be marginally superior. Segal (1982) and Parker and Srinivasan (1976) used the alternate forms method to establish reliability.

However, none of these studies address two of the most important issues relevant to the applicability of a psychometric measure in consumer behavior - the bias of the estimate and its precision (or standard deviation) as a function of the conjoint design. A simulation was used in this study to estimate the bias and precision by comparing observed estimates against true values. In empirical studies, where the consumer's true preference is never known, the bias cannot be calculated; thus making simulation the preferred method for this study.

The aims of this study are to compare the biases and the precision of the importance weights across conjoint design conditions. The different conditions include algorithm used, evaluation strategy, judgmental error, attribute level, number of attributes and profiles. The expected effects of these conditions are discussed in the next section.

BACKGROUND

Several factors are expected to influence the bias and the precision of the estimated importance weights.

Algorithm. Three algorithms are used in this study: LINMAP (Srinivasan and Shocker 1973), MONANOVA (Kruskal 1965), and OLS. When used in conjoint analysis, OLS is sometimes referred to as rank regression because it uses ranks as the dependent variable (Carmone, Green and Jain 1978). Past studies have indicated that LINMAP produces slightly better results than MONANOVA and OLS (Green and Srinivasan 1978). Jain et al. (1979) found that the estimated importance weights of attributes were different across estimation algorithms used. Therefore, the estimation algorithm is expected to influence the bias and precision of the attribute importance weights.

Evaluation strategy. Two evaluation strategies are considered. The first is an equal weighted linear compensatory strategy, henceforth referred to as an equal weighted model, where a consumer places the same importance on each attribute. The second is a dominant attribute linear compensatory strategy, henceforth referred to as a dominant attribute model, where one of the attributes has an overwhelming influence on the preferences (Wittink and Cattin 1981). The evaluation strategy has been found to affect the recovery of the preference order of the profiles. In a simulation study by Wittink and Cattin (1981) preference predictions using OLS were superior for the equal weighted models whereas predictions using LINMAP were superior for the dominant attribute models. In this study, in a dominant attribute model 90 percent of a consumer's preference was determined by one attribute, while the remaining attributes contributed 10 percent of the model's explanatory power.

Judgmental error. Judgmental error in conjoint analysis is the difference between the consumers' "true" preference and their self reported preferences. Based on measurement theory, the precision of any judgment based estimate is expected to decrease with increasing judgmental error (Nunnally 1978). Mean error levels used in this study were five percent and twenty five percent of the variance of the true preferences.

Number of Levels. Researchers have found that increasing the number of levels within an attribute increases the estimated importance weight of the attribute (Creyer and Ross 1987; Currim, Weinberg and Wittink 1981; Wittink, Krishnamurthi and Nutter 1982). Three level and two level attributes were investigated in this study.

Number of attributes and profiles. Four different designs were used to simulate the data collection. The choice of designs was intended to represent product profile and attribute combinations commonly used in conjoint simulation studies (Wittink and Cattin 1981). A profile is a description of a product that is provided to the consumers in a conjoint analysis task. Two attribute conditions were used - five attribute profiles with two of the attributes having three levels and three of the attributes having two levels, and eight attribute profiles with three of the attributes having three levels and the other five having two levels. Profiles in the evaluation set were defined using the orthogonal sets presented by Addelman (1962). Sets of sixteen and thirty two profiles were described using five attributes. Similarly, two more sets of sixteen and thirty two profiles were described using eight attributes.

METHOD

Simulation

A Monte Carlo simulation was conducted to test the influence of the design factors on bias and precision of the estimated importance weights. As described in the background section, utility functions were specified for each of the conjoint designs at two levels of experimental error. Individuals indicating their preference for the hypothetical product profiles could be expected to make some intransitive judgments. Therefore, it was appropriate to add some error to the true assessment of preferences before calculating the rank order (Carmone, Green and Jain 1978). The following additive linear model was used for defining consumer preference.

$$(1) \quad U_j = \Sigma\, a_i X_{ij}$$

where:

U_j is the utility of profile j,
a_i is the importance weight of attribute i,
X_{ij} is the level of the attribute i for profile j.

To this model the specified levels of error, e_j, were added, which results in the preference function given in Equation 2.

$$(2) \quad U'_j = U_j + e_j$$

In the simulations, the error, e_j, was generated as a normal distribution $N(0, S^2)$, with mean zero and standard deviation S, using the GGNML subroutine (IMSL 1982). The normality of the generated error corresponding to each set of stimuli was tested using the Shapiro-Wilk statistic (Shapiro and Wilk 1965). Less than five percent of the sets failed this test. The GGNML subroutine was used to regenerate these sets.

After the preference, U'_j, was calculated from Equation 2, the profiles were ranked. Two thousand sets of rankings were simulated for each treatment condition. For this study, mean error levels were set at five percent and twenty five percent. Thus, an added error of 25% in Equation 2 implies that the ratio of variance(e_j) to variance(U_j) is 0.25.

Measures

Bias. Bias is the deviation of the estimated importance weight from the true weight. However, this measure cannot be averaged across all attributes within a model since the sum of the biases equals zero. Therefore, an alternative measure of bias was defined by taking the absolute value of the bias of each attribute. The absolute measure of bias is commonly used by researchers in marketing (Chapman and Staelin 1982; Lee and Sabavala 1987; Malhotra 1987 and Srinivasan and Weir 1988). For this study bias is expressed as a percentage, as shown in Equation 3.

$$(3) \quad B = (\text{Absolute } (E - T)/ T) * 100$$

where:

B is the percentage absolute bias of an importance weight,
E is the estimated importance weight, and
T is the true importance weight.

This statistic was averaged across the attributes to obtain a mean absolute bias for each treatment combination. The true importance weight is the value used to simulate the preference process. Division by the magnitude of the importance weight helps to

TABLE 1

ANOVA RESULTS FOR THE EFFECT OF CONJOINT ANALYSIS DESIGN ON BIAS OF THE ESTIMATED ATTRIBUTE IMPORTANCE WEIGHTS

Source	df	Sum of squares	F
A. Algorithm	2	18794.	4.69[a]
B. Evaluation strategy	1	135198.	67.53[a]
C. Number of attributes	1	26843.	13.41[a]
D. Number of profiles	1	16277.	8.13[a]
E. Judgmental error	1	51.	0.03
A * B Interaction	2	16572.	4.14[a]
A * E Interaction	2	567.	0.14
B * E Interaction	1	28.	0.01
C * D Interaction	1	11492.	5.74[a]
Residual error	35	70076.	

[a] F statistic is statistically significant at $p < 0.05$.

compare the bias across dominant attribute and equal weighted models.

Precision. In order to avoid magnitude effects, precision was defined as the ratio of the standard deviation of the importance weight to the magnitude of the importance weight, expressed as a percentage. This statistic is sometimes referred to as the Coefficient of Variation (Snedecor and Cochran 1974, p. 62). The advantage of using this coefficient is that it adjusts the standard deviation for the magnitude or scaling of the variable of interest. It is computed as given in Equation 4.

(4) $P = (S/E) * 100$

where:
P is the precision of the estimate,
S is the standard deviation of the estimate, and
E is the estimated importance weight.

RESULTS

The bias for each attribute importance weight was calculated using Equation 3 and averaged across all the attributes. This mean absolute bias was then averaged over 2000 replications for each design condition. An analysis of variance was conducted to test the effect of the design factors on the mean absolute bias. A visual inspection of the data indicated that the bias was distributed as a truncated normal distribution. Since the ANOVA model is extremely robust with regard to the normality assumption, the use of ANOVA was justified (Tiku 1971). The results of this analysis are presented in Table 1. The most important result is that all the three algorithms provide biased estimates of the importance weights ($p < 0.05$). These biases exist even after averaging over 2000 replications and therefore cannot be attributed to random effects. All the main effects, except for judgmental error, are statistically significant ($p < 0.05$). The evaluation strategy had the greatest impact in determining mean absolute bias. In order to avoid saturation, only those interactions that were expected to have an affect on bias, on an *a priori* basis, were tested in the ANOVA model. For instance, the interaction of algorithm and evaluation strategy was tested based on the results on predictive validity obtained by Wittink and Cattin (1981). This interaction is statistically significant (p

TABLE 2

MEAN PERCENT OF ABSOLUTE BIAS OF ESTIMATED IMPORTANCE WEIGHTS FOR LINMAP, MONANOVA, AND OLS

Conjoint Design	LINMAP	MONANOVA	OLS
Evaluation Strategy			
Equal weighted	4.6%	4.9	7.4
Dominant attribute	85.3	84.0	166.0
Number of Attributes			
Five	19.0	26.6	59.6
Eight	71.0	62.4	113.8
Number of Profiles			
Sixteen	71.3	58.6	101.5
Thirty two	18.6	30.4	71.9
Judgmental Error			
Five percent	42.7	48.1	82.2
Twenty five percent	47.2	40.8	91.2
Attributes * Profiles			
5 16	14.9	27.6	71.5
5 32	23.0	25.6	47.8
8 16	127.6	89.6	131.5
8 32	14.3	35.2	95.9
Overall Mean	45.0	44.5	86.7

< 0.05), as shown in Table 1. Similarly, the interaction of the number of attributes and the number of profiles had significant impact on the mean absolute bias ($p < 0.05$). These results clearly indicate that the magnitude of the mean absolute bias is strongly influenced by the design factors.

The extent of the mean absolute bias corresponding to the design factors can be observed by examining the means for each level of the design factors and their significant interactions. These results are presented in Table 2, separately for each algorithm.

For all the three algorithms, the mean absolute bias is substantially larger (17 to 23 times larger) for the dominant attribute model as compared to the equal weighted model. The large percentage bias for the dominant attribute model results, primarily, from the bias in the less important attributes. For instance, in the dominant attribute model with five attributes, the true importance weight of each of the four less important attributes is 0.025 (= (1 - 0.9)/4). If the estimated importance weight turns out to be 0.05, the bias is 100%. Such extreme biases were not observed for the equal weighted model. A noteworthy result is that the mean absolute bias is quite low for the equal weighted models for all the three algorithms.

The mean absolute bias of the importance weights using eight attributes is worse than when using five attributes. The larger the number of attributes, the higher the chance for one or two attributes to have a particularly large bias. Further, the bias is lower when using 32 profiles than when using 16 profiles. In standard regression, where the estimates are unbiased, a large sample size leads to a decline in the standard error of estimation. Apparently, the effect of sample size on non-metric estimation and rank regression (OLS) is to reduce the bias. Differences in judgmental error do not result in changes in the biases. All the above results hold across the three estimation algorithms. Further, the mean absolute bias, when averaged across all treatments, is about equal for LINMAP and MONANOVA. However the mean absolute bias for OLS is about twice that for the other two algorithms (44.5% vs. 86.7%).

The precision for each importance weight was calculated using Equation 4 and averaged across all the attributes. This mean precision was averaged across

TABLE 3

ANOVA RESULTS FOR THE EFFECT OF CONJOINT ANALYSIS DESIGN ON THE PRECISION OF THE ESTIMATED ATTRIBUTE IMPORTANCE WEIGHTS

Source	df	Sum of squares	F
A. Algorithm	2	63970.	4.00[a]
B. Evaluation strategy	1	110815.	13.87[a]
C. Number of attributes	1	3457.	0.43
D. Number of profiles	1	32.	0.00
E. Judgmental error	1	3422.	0.43
A * B Interaction	2	61438.	3.85[a]
A * E Interaction	2	21887.	1.37
B * E Interaction	1	12524.	1.57
C * D Interaction	1	25001.	3.13
Residual error	35	279543.	

[a] F statistic is statistically significant at $p < 0.05$.

2000 replications for each design condition. An ANOVA was used to test the affect of the design factors on the precision of the estimated importance weights. The results are presented in Table 3. The algorithm, the evaluation strategy used and the interaction of the two had statistically significant effects on the precision of the estimated importance weights ($p < 0.05$). The interaction of the number of attributes and the profiles was only marginally significant ($p < 0.10$). Comparing Tables 1 and 3, the design factors appear to have a stronger influence on the mean absolute bias of the importance weights than on the precision of the estimated weights. These results are noteworthy since they differ considerably from the results expected from ordinary regression where estimates are unbiased and the judgmental error is the principal determinant of precision.

For each algorithm, the mean levels of precision are presented in Table 4.

The precision of the the estimated weights for the dominant attribute models is substantially worse (i.e., higher deviation) than for equal weighted models. However, unlike the results for mean absolute bias in Table 2, the precision for the equal weighted model is about equal for LINMAP, MONANOVA, and OLS. The precision of the estimated weights in the dominant attribute model is somewhat better for OLS as compared to LINMAP. MONANOVA appears to be the worst in estimating the dominant attribute model. Across all the treatment conditions, the mean values of precision appear to be consistently worse for MONANOVA.

Using the criterion of minimizing both mean absolute bias and precision (Tables 2 and 4), LINMAP appears to be the best algorithm. As compared to LINMAP, OLS produces much larger bias and MONANOVA provides worse precision. Therefore, as a general use algorithm, LINMAP appears to be well suited.

In equal weighted models, two level attributes have lower mean absolute bias than the three level attributes ($p < 0.05$). Further, the estimated importance weights for the two level attributes are downward biased and for the three level attributes upward biased. This result conforms to prior observations by researchers that in most conjoint analysis studies, the attributes with more levels appear to be more important (cf., Wittink, Krishnamurthi, and Nutter 1982).

CONCLUSIONS

The results show that the importance weight estimates obtained in any of the conjoint analysis algorithms, used in this study, are biased. In any study, the researcher must note that the estimated importance weights will have an associated bias and standard deviation. If the bias is large, increasing the number of replications or the sample size is unlikely to yield accurate estimates of importance weights.

TABLE 4

MEAN PERCENT OF PRECISION OR ADJUSTED STANDARD DEVIATION OF ESTIMATED

Conjoint Design	LINMAP	MONANOVA	OLS
Evaluation Strategy			
Equal weighted	25.7%	27.3	25.8
Dominant attribute	87.9	223.0	56.3
Number of Attributes			
Five	55.2	105.3	37.0
Eight	58.4	145.0	45.1
Number of Profiles			
Sixteen	65.5	110.7	44.3
Thirty two	48.2	139.6	37.7
Judgmental Error			
Five percent	47.8	163.7	36.8
Twenty five percent	65.8	86.7	45.2
Overall Mean	56.8	125.1	41.0

Note: Adjusted standard deviation is the ratio of the standard deviation to the attribute importance weight, in percent.

Both bias and precision are influenced by design factors; the former to a greater extent.

Several recommendations can be made using the results obtained in this study. Overall, in order to minimize the bias and increase the precision, LINMAP is the preferred algorithm. This recommendation conforms to past research suggesting superior performance of LINMAP based on predictive validity of preference rank order. However, if precision is of principal interest, OLS should be used. If minimizing the bias is of concern, larger profile sets should be designed. However, this number should not exceed the information overload threshold of the consumer. Researchers must be particularly concerned with the quality of the estimates when the dominant attribute evaluation strategy is used by the consumers. On a percentage basis, the more important attribute has a much lower bias than the less important attribute when such a strategy is used.

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A Comparison of Several Approaches for Infering Individual and Aggregate Attribute Effects in Pairwise Comparison Conjoint Choice Tasks

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ABSTRACT

This paper compares binary logit analysis with approaches proposed by Kendall and Saaty for estimating the relative effects of attributes from multiattribute binary choice tasks. In the empirical example described in the paper, all methods produce similar results as regards the ordering of effects in the aggregate. This is important because the Kendall and Saaty methods can be applied to individual-level choice data and binary logit generally cannot because of data requirements. A comparison of these analytical techniques for binary choice data is made possible by a new way of designing binary choice tasks. Our new method allows researchers to apply any of these approaches to analyze the choice data and obtain estimates of the relative attribute effects. We conclude the paper by providing an illustration of how the results can be used in conjunction with normalized singular value decomposition methods to examine the relationship of attribute effects to sociodemographic measures.

INTRODUCTION

Binary and multinomial logit choice models have received much recent attention in the analysis of consumer choice behavior. Such models are attractive because many behaviors of strategic interest in marketing are discrete -- which one of N brands is chosen given that a brand is chosen, whether to choose any brand, whether to delay purchase, whether to complain about an unsatisfactory purchase or take some other action, etc. Discrete choice models can be applied to both observational data such as scanner panel data (e.g., Guadagni and Little, 1983; Wisniewski, 1984), survey data (e.g., Malhotra, 1983) or designed choice experiments (e.g., Louviere and Woodworth, 1983; Louviere, 1988). Thus, unlike conjoint models which have been applied widely to study consumer preferences, choice models belong to a family of statistical techniques that can be used to analyze choice data derived from a wide range of sources in addition to designed choice experiments.

Despite the increasing popularity of discrete choice analysis methods, the data demands that must be satisfied to achieve statistical efficiency has limited their usefulness for modeling individuals. In particular, the statistical properties of discrete choice models are large sample properties; hence, in general, one has to obtain many more observations from single individuals to attain the same estimation efficiency one normally expects from more traditional metric analysis models like OLS regression. For example, Chapman (1984) has demonstrated numerically that the precision of multinomial logit (MNL) estimates is exponentialy related to the number of choices that can be observed. Similarly, Batsell and Bunch (1988, forthcoming) provide numerical evidence that estimates of MNL models stabilize only with a large number of observations. Thus, as Louviere and Woodworth (1983) note, it is generally not feasible to obtain individual-level results without task sizes that would be impractical in field applications.

The purpose of this paper, therefore, is to explore alternate methods of obtaining estimates of the effects of attributes on choice for single individuals. The methods we discuss can be applied to pairwise comparison data: the relative dominance approach of Saaty (1980), the Kendall (1970) averaging approach and the binary logit approach. Unfortunately, the Saaty and Kendall approaches cannot be used to predict choice behavior, but can be used to develop individual-level estimates that can be the basis for further analysis. Our empirical results indicate that all methods produce similar results; hence, if this result can be generalized to other empirical problems, then the techniques can be used in a complimentary fashion by both academics and practitioners.

In the next section we discuss the theory behind our approach to design and analysis. Following that, we describe the empirical application, including the details of design and analysis. Next we outline the results, and conclude the paper by providing a discussion of the approach and some conclusions and recommendations for further research.

THEORETICAL BACKGROUND

The problems of interest in this paper are as follows:

1. How to design pariwise comparison choice tasks to allow one to estimate the effects of the attributes of interest at both individual and aggregate levels.

2. How to analyze the choice data from appropriately designed pairwise comparison tasks.

3. How to draw insights about relationships between attribute effects and characteristics of individuals using singular value decomposition techniques.

Design of Pairwise Comparison Tasks

We want to design sets of multiattribute alternatives such that one can infer the effects of the attributes and predict the observed choice probabilities given assumptions about the choice process. We propose a new design approach that allows us to apply the Saaty, Kendall and binary logit methods to estimate individual and aggregate attribute effects. The advantage of the proposed approach is that it allows us to use conjoint-like tasks involving multiple profiles, but apply "single-attribute-at-a-

TABLE 1

A Pairwise Attribute Tradeoff Design
(G=good, B=bad)

Object 1					Tradeoff Design					Object 2				
Attributes					Attributes					Attributes				
A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
G	B	B	G	G	1	2	2	1	1	B	G	G	B	B
G	B	B	B	B	1	2	2	2	2	B	G	G	G	G
G	G	G	G	B	1	1	1	1	2	B	B	B	B	G
G	G	G	B	G	1	1	1	2	1	B	B	B	G	B
B	B	G	G	G	2	2	1	1	1	G	G	B	B	B
B	B	G	B	B	2	2	1	2	2	G	G	B	G	G
B	G	B	G	B	2	1	2	1	2	G	B	G	B	G
B	G	B	B	G	2	1	2	2	1	G	B	G	G	B

time" analysis techniques like the Saaty and Kendall approaches.

A design approach that satisfies the objectives can be realized by creating pairs of conjoint profiles such that each pair of profiles always contains opposite levels of the attributes. That is, if the first object in a pair has a "good" level of attribute 1, then the second should have a "bad" level of attribute 1. This can always be done for two level attributes by creating a two-to-the-number of attributes design such that design code 1 means that the level of the attribute for object one is "good" and the level for object two is "bad", and design code 2 means that the level of the attribute for object one is "bad" and the level for object two is "good". Thus, if there are J attributes, one develops a (fractional) design based on a 2-to-the-J factorial to create the pairs. An advantage of such a design strategy is that it is easy to create non-dominant pairs of profiles, and the task forces subjects to make tradeoffs among the attributes. As well, the design is orthogonal in the attribute differences or contrasts; hence, difference in utility models such as the binary logit or binary probit Thurstone (1927) can be used to infer the attribute effects.

An example of such a pairwise attribute tradeoff design is given in Table 1 for five two-level attributes. The tradeoff design is in the center of the table, and the two sets of objects in each pair produced by the design are placed to the left and right of center.

One can note that "Bad" (B) for attribute A is paired with "Good" (G) for attribute A eight times: Object 1 is G when Object 2 is B four times, and Object 1 is B when Object 2 is G four times, and similarly for all other attributes. This design therefore permits one to observe how many times a G is chosen over a B when both are available. In this way one can construct a paired choice matrix of the total number of times that an object is chosen when attribute i's level is G and attribute j's level is B, or vice versa. This produces a matrix of the number of times that attribute i was G and attribute j was B when a choice was made, as well as the number of times that attribute i was B and attribute j was G when a choice was made. The total number of such comparisons is always constant in this type of design: Let C be the total number of choice sets or pairs and L be the number of levels of the attributes, then the total number of comparisons is always C/L. In Table 1 C=8 and L=2, hence, there are always four comparisons of G with B and four comparisons of B with G.

These totals are the object of analysis for each individual as well as the aggregate of individuals. We analyze these totals using the Saaty relative dominance and Kendall averaging methods. For binary logit analysis, we use the pairwise comparison totals in each pair to estimate the effects of the differences or contrasts. We now discuss the application of these methods to pairwise choice data obtained from a design of the type described above.

ANALYSIS OF PAIRWISE CHOICE DATA

Kendall Analysis

Let us first consider the Kendall approach because it is relatively straightforward. Suppose that an individual provides the following choice sequence in response to the Table 1 design: 1 2 1 2 1 2 1 2, where 1 means choice of object 1 and 2 means choice of object 2. We can define a K (Kendall) matrix of pairwise comparisons of attributes as follows:

1. Consider only those objects which were chosen.

2. Compare attribute i to attribute j for the chosen objects such that if i=G and j=B, then i "beats" j. Count 1 for i beating j, 0 for a tie, and vice versa for j beating i.

TABLE 2

The K Matrix of Pairwise Attribute Comparison Totals

	Attributes A	B	C	D	E	Row Totals
A	1	2	2	0	2	7
B	2	1	2	0	2	7
C	2	2	1	0	2	7
D	4	4	4	1	4	17
E	2	2	2	0	1	7

3. Calculate the row totals, i.e., the total number of times that i beat all other j (j=/i). The row totals are the Kendall estimates.

4. Repeat this process for every subject.

For example, consider the construction of the K matrix for the hypothetical subject choice vector 1 2 1 2 1 2 1 2 mentioned above. This sequence of choices for the Table 1 design leads to the data matrix in Table 2.

The hypothetical example in Table 1 and 2 indicates that attribute D dominates the choice patterns, while the remaining attributes have much less, but approximately equivalent effects.

Saaty Relative Dominance Approach

The Saaty relative dominance approach operates on the K matrix of pairwise comparisons. In the usual Saaty approach, subjects compare attributes using a 7 category scale, and Saaty assumes that a rating of "3" for the dominance of attribute A over B corresponds to a value of "1/3" for the dominance of B over A. Unlike Saaty's questioning method, our approach allows us to observe both totals for A over B and B over A without the need to assume reflexivity.

To implement the Saaty approach one calculates a total index of dominance, w(i), of attribute i compared to all other attributes. The total dominance index may be expressed as

$$w(i) = \lim_{t} K^t 1/1'K^t 1,$$

where $1' = [11...1]$ and $K^t = K.K...K$ (t times), and $w(i)_t = K^t 1/1'K^t 1$.

The process terminates when the difference between two successive $w(i)_t$ and $w(i)_{t+1}$ is negligible with respect to a predetermined quantity (e.g., in Table 2: A (.15), B (.15), C(.15), D (.40) and E (.15). For Table 2, the Saaty results are indistinguishable from the Kendall results. We also transformed the K matrix to conform as closely as possible to Saaty's (1977,1980) eigenvector scaling approach and conducted additional analyses on these data. As these latter results were virtually identical to those obtained from direct analysis of the K matrix, we report only the Kendall results because the origin of the K matrix is clearer.

Binary Logit Analysis

Unfortunately, without a large number of comparisons one cannot derive stable individual estimates by applying binary logistic regression to either the discrete pairwise choices or the choice totals in the matrix in Table 2. Thus, we are restricted to applying binary logit to aggregate choice totals. For example, we attempted to estimate a binary logit model from the totals in Table 2, and the maximum likelihood routine would not converge: it set the values of attributes A, B, C and E to zero, and let the value of attribute D go to infinity. Of course, indirectly, this reinforces our earlier results using the Kendall and Saaty methods. Similarly, we attempted to estimate the effects of the attributes directly from the discrete choice data revealed by the choice sequence applied to Table 2. Again, the estimation algorithm would not converge, sending the estimate for attribute D off to infinity.

We report these seemingly "bad" results in part to emphasize how sensitive discrete choice models are to small amounts of data and to the pattern of the discrete responses vis-a-vis the design matrix. This result, of course, indicates why it is important to investigate alternative methods of analyzing individual choice data that are not subject to this type of analytical limitation.

AN EMPIRICAL ILLUSTRATION

To illustrate and compare the approaches we analyze the binary choices of a convenience sample of 157 individuals who responded to a survey regarding their likely vacation choices. The choice experiment of interest involved nine attributes at two levels. A 12 treatment latin square orthogonal array was used to create pairs of hypothetical vacation destinations with juxtaposed "good" and "bad" attribute levels. The nine attributes and their levels are as follows:

FIGURE 1

A Typical Pair Shown to Subjects in Vacation Choice Task

	Place A	Place B
Total cost of the vacation	high	low
Length of trip	short	long
Things to do one likes	many	few
Weather/climate	good	bad
Concern about food/water	little	much
Getting by without a new language	hard	easy
Amount of beautiful scenery	much	little
Safety from crime or terrorism	safe	unsafe
New/different things to experience	few	many

Total cost of the vacation (high or low)
Length of trip (short or long)
Number of things to do one likes (few or many)
Weather/climate (good or bad)
Need for concern about food/water (little or much)
Ease of getting by without a new language (easy or hard)
Amount of beautiful scenery (little or much)
Degree of safety from crime or terrorism (unsafe or safe)
New and different things to see/do/experience (many or few)

The levels in parentheses were defined in a previous portion of the survey by the subjects' evaluations of a sample of real vacation destinations with respect to these attributes. Hence, subjects already had a previous frame of reference which defined the terms in parentheses. A typical pair shown to subjects is presented in Figure 1.

Analysis and Results

The choices of the 157 subjects were analyzed in the manner described for the Kendall averaging and the Saaty relative dominance approaches to obtain individual-level and aggregate estimates. Aggregate estimates were obtained by summing the choice totals over all subjects for the matrix of attribute-by-attribute comparisons as described with reference to Table 2. This matrix is given in Table 4. The total of K(ij)+K(ji) is 942, or 157 subjects times six comparisons per attribute pair. For the Kendall averaging and the Saaty relative dominance methods, the matrix in Table 4 was operated upon as described earlier in the paper. As well, we applied binary logit analysis to Table 4 by using dummy variables to capture the effects of the contrasts in each attribute (LOGIT1); we also estimated the effects of the attributes directly from the aggregate choice data observed in the choice experiment (LOGIT2). The results are given in Table 5.

Table 5 reveals that all methods rank the order effects similarly. Further, all produce interval scale level estimates of the differences in effects.

The rank order correlations among the four sets of results are reproduced in Table 6. Pearson product moment correlations produced virtually identical results. Table 6 reveals, as one might expect from the results in Table 5, that the results of all methods are strongly correlated.

It is, however, worth noting that the four methods produce different estimates of the magnitudes of the effects. In particular, the Kendall and Saaty approaches appear to suggest that the effects are relatively similar in magnitude, while the two logit results suggest that the magnitudes of the effects differ considerably. Thus, it is one thing to correctly rank the effects, it is another matter to capture their magnitude. Because the LOGIT2 results were calibrated directly to the aggregate choices of the pairs, these results capture the magnitudes of the effects as revealed in the subjects' choices. These results clearly indicate that choices were dominated by considerations of personal safety (crime/terrorism), climate and things to do that subjects like to do. The riskiness of the food and water and new things to experience were somewhat distant fourth and fifth. Other attributes, including cost, were less important.

DISCUSSION AND CONCLUSIONS

This paper compared three methods for estimating individual and aggregate attribute effects from binary choice data. Discrete choice models such as multinomial and binomial logit or probit models have been widely applied to such problems in marketing (e.g., Arnold, Oum and Tigert 1983; Batsell and Lodish 1981; Corstjens and Gautschi 1983); however to satisfy large sample assymptotic statistical properties these models require large numbers of choice observations for single individuals (see, e.g., Chapman 1984). Thus, without relatively large choice tasks and/or resource allocation responses (Louviere and Woodworth, 1983; Batsell 1980), one generally cannot assume satisfaction of large sample properties. This problem limits the use of discrete choice models for studying individual choice behavior.

In this paper we explored the ability of other types of models to provide estimates of effects from pairwise choice tasks. In particular, we examined Saaty's (1980) relative dominance approach and an

TABLE 4

Aggregate Choice Totals (K Matrix) for the Vacation Data

	A	B	C	D	E	F	G	H	I
(A) COST	157	519	401	395	445	492	455	396	439
(B) TIME	423	157	353	347	397	444	407	348	391
(C) THINGS TO DO	541	589	157	465	515	562	525	466	509
(D) CLIMATE	547	595	477	157	521	568	531	472	515
(E) FOOD/WATER	497	545	427	421	157	518	481	422	465
(F) LANGUAGE	450	498	380	374	424	157	434	375	418
(G) SCENERY	487	535	417	411	461	508	157	412	455
(H) SAFETY	546	594	476	470	520	567	530	157	514
(I) NEW EXPERIENCES	503	555	433	427	477	524	487	428	157

TABLE 5

Estimates of the Aggregate Effects of the Attributes Derived from the Kendall, Saaty and Binary Logit Analyses

ATTRIBUTE	KENDALL	SAATY	LOGIT1	LOGIT2
(A) COST	.105	.105	.208	.290
(B) TIME	.092	.094	.000	.120
(C) THINGS TO DO	.123	.122	.508	.812
(D) CLIMATE	.124	.123	.534	.866
(E) FOOD/WATER	.111	.111	.319	.601
(F) LANGUAGE	.099	.100	.118	.277
(G) SCENERY	.109	.109	.276	.395
(H) SAFETY	.124	.123	.530	.932
(I) NEW EXPERIENCES	.113	.113	.345	.550

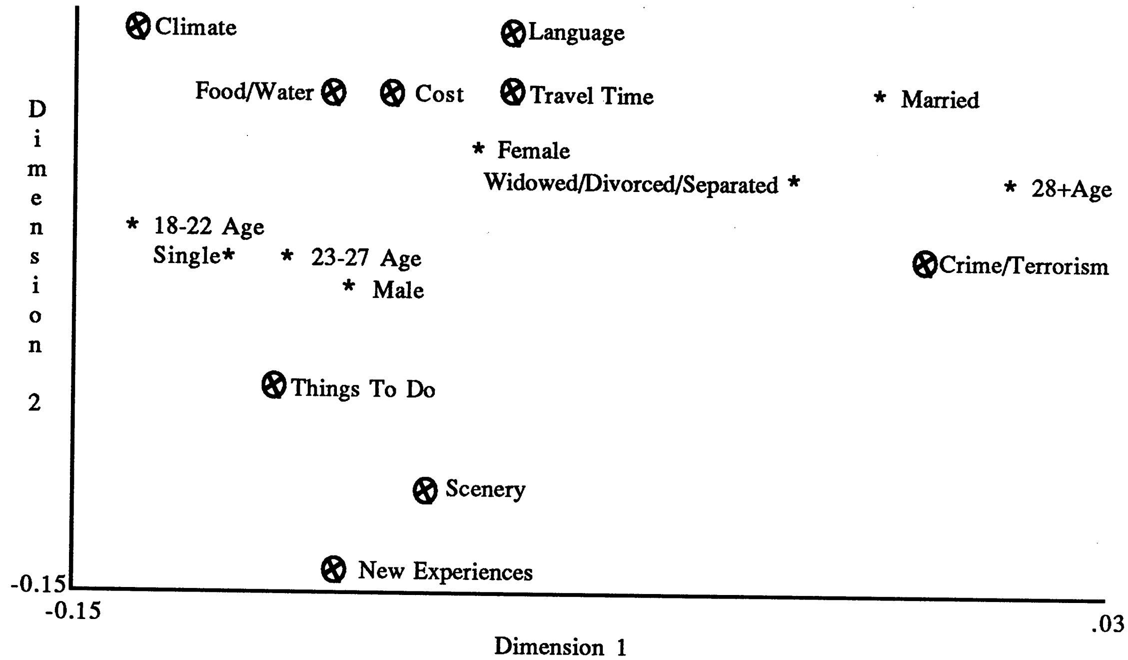
TABLE 6

Rank Order Correlations Among the Four Estimation Results

	K	Saaty	Logit 1	Logit 2
Kendall	1.00			
Saaty	0.95	1.00		
Logit 1 (Table 4 Data)	0.97	0.95	1.00	
Logit 2 (Choice Task Data)	0.98	0.95	0.97	1.00

FIGURE 2

Results of Normalized Singular Value Decomposition Analysis



approach due to Kendall (1970). Both methods permit one to estimate the relative effects of attributes in binary choice tasks designed such that each multiattribute profile is paired with its mirror image or foldover. Unfortunately, unlike statistical choice models, the estimates of effects derived from the Saaty and Kendall methods have no statistical properties, and hence, cannot be tested. In this respect they are similar to estimates of part-worth utilties derived from rank order conjoint tasks.

Further research is needed to determine whether the measures of effects produced by the Kendall and Saaty methods or other similar methods can be useful and meaningful empirically. In the interest of shedding some preliminary light on the "meaningfulness" issue, we analyzed the Kendall results together with sociodemographic measures observed for each subject in the vacation survey using singular value decomposition methods (Nishisato 1980; Lebart, Morineau and Warwick 1984; Kaciak and Sheehan 1987)). The results are portrayed graphically in Figure 2.

It should be noted that the graph in Figure 2 is based on the singular value decomposition of a matrix in which subjects are rows and the columns are the nine Kendall measures for each attribute. The sociodemographic measures of interest were treated as supplementary variables and mapped into the solution for the Kendall measures. To do this we first normalize the matrix within each column by dividing each column entry by the total of the column entries. This permits us to derive a unique scale of attractiveness of the destinations and relate sociodemographic measures directly to the relative locations of the destinations (Kaciak and Sheahan 1987).

Figure 2 displays the relationship between the attribute effects and the sociodemographic measures on the first two dimensions of the space. The first dimension separates concerns over crime and terrorism and concerns over remaining attributes. The second dimension separates the attributes into physical versus emotional considerations associated with the destination, with personal safety in between. As well, Figure 2 reveals that concern over crime and terrorism is associated with subjects over age 28 who are married or divorced/ separated/widowed (other). Female respondents were primarily concerned with travel time, costs, language difficdulties and riskiness of food and water; male respondents were more responsive to things to do and scenery. Climate and new experiences are associated with young singles. Figure 2 also indicates that married respondents tend to be concerned about the physical aspects of the trip, while young singles are primarily concerned with emotional aspects of the trip.

These results seem plausible; hence, we suggest that designing binary choice tasks in this way and using the Kendall approach to measure attribute effects is a potentially useful way to estimate effects for single subjects. Furthermore, the use of singular value decomposition applied to object normalized data to further analyze the results derived from such tasks (e.g., Kaciak and Sheahan 1987) appears to be a particularly fruitful way to develop insights of both an academic and practical nature about relationships between differences in attribute effects and differences in types of individuals.

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Consumer Research and Demand Forecasting for Wideband Telecommunications Services: Some Perspectives

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ABSTRACT

In the near future, consumers will be exposed to new telecommunications services beyond simple dial-tone and long-distance calling. With advances in distribution techniques, consumers' homes will be "wired" in such a way as to send and receive more than just voice or low-rate data over modems. As fiber optics pervade the residential arena, households will have access to new services such as video-on-demand, videophone and wideband videotex.

The demand for these new services, known as wideband services because of the wide or large amount of information and richness, is tricky to forecast. The difficulty arises because of consumers' inability to react adequately to concepts and services that are in a domain in which they have no hands-on experience. These services are technologically driven and are "truly new and unique".

This inability to assess demand accurately ultimately can affect the design, delivery and marketing of new wideband services. For example, technological solutions that entail lower fixed costs may be implemented even though they result in greater total cost at levels of demand greater than those indicated by initial estimates. Another major technological and marketing problem is that any one new wideband service will not justify the capital expenditures for the necessary network upgrades while there are no existing (non-wideband) offerings that necessitate these upgrades.

This paper examines previous field trials and wideband service offerings, and then addresses the relationship between technology and marketing in the realm of new services. Potential problems are identified and solutions are suggested. Specifically, the use of problem quantification (rather than benefit evaluations) is recommended as a means to uncover areas of consumer interest. Since consumers have difficulty articulating the desired benefits since they are unfamiliar with them, problems in broadly defined areas are explored and quantified. These problem-areas feed a series of "ideation" groups comprised of specialists who use their technological sophistication to flesh out the attributes of potential new wideband services. The resulting concepts are again screened by consumers for interest and willingness-to-pay. The use of stand-alone prototypes to test consumer reaction to technological implementations is also discussed.

1. OUTLINE

In this paper, we will first evaluate several of the more important field trials of wideband residential services and provide a marketing critique of these trials. We will then describe a process for designing new telecommunications services, and indicate how a process such as this one would add substantial value to the trials by employing a multi-step strategy incorporating marketing research, systems engineering and rapid prototyping. At each step of this process, we attempt to assess what customers want and how much they might pay for it. We also measure how much they pay for existing solutions in an effort to anchor their stated willingness-to-pay in more concrete spending levels. Field trials, in this process, become marketing tests of hypothesized trial and repeat, leading to more reliable estimates of demand at stated price levels.

Our orientation throughout this paper is that of consumer researchers and marketers. Engineering terminology is kept to a mimimum, and is used only if necessary.

2. DEFINITIONS

The usual services we obtain today over our telephone lines fall into the domain of "narrowband" services, i.e., they do not require high trasnsmission rates to move from source to destination. The reasons they do not require high transmission rates are (1) the amount of information contained in each transaction is low, and (2) the number of transactions per unit of time is small. Examples of narrowband services include standard voice telephone calls, modem connections to computers and credit card verification found in most department stores.

By contrast, "wideband" services require much higher transmission rates. There does not appear to be industry consensus as to what rate is required to support these wideband services; however, a data rate of 140 million bits of information per second (140 Mb/sec.) is commonly quoted as sufficient for transmitting high-quality video. For high-quality digital audio, a data rate of 2 Mb/sec. is sufficient. In comparison, narrowband services require data rates of 64Kb/sec. or less.

What are these wideband services that will require these enormous transmission speeds? A useful typology is found in Rothamel (1986) and is displayed as Exhibit 1. Note that the services that require the highest data rates are all video-based. All document and audio services can be transmitted at the lower rate.

At this point, it may be useful to define a few terms. Exhibit 1 lists four types of Service Classes: Dialog, Messaging, Retrieval and Distribution. Information must flow between a source and a destination, typically the user, and the breakdown in Service Classes is based upon how the information flows.

In Dialog services, the source and destination interact continuously via the same mode. For example, in video telephony, both source and destination continuously send video images to each other.

EXHIBIT 1

Some Wideband Services and their Data Rates

Service classes	*Broadband services*	*Data rates (Mbit/sec)*
Dialog services (conversational services)	o video telephony	140
	o video conferencing	140
	o electronic news gathering	140
	o fast document transfer	2+
	o high-speed telefax	2+
	o high-speed file transfer	2+
Messaging services	o picture mail	140
	o document mail	2+
Retrieval services	o broadband videotex	140
	o video retrieval	140
	o hi-res image retrieval	2+
	o document retrieval	2+
	o sound retrieval	2+
Distribution services	o TV, including HDTV	140
	o sound program	2+
	o broadband cable text	2+

Source: Adapted from Rothamel (1986)

In Messaging services, the source sends information, such as a video image for picture mail, which is saved and then retrieved at a later date by the destination.

In Retrieval services, the user interactively controls the information content that is sent by the source. The request for information may be of one mode and the information requested may be of another. For example, in Image Retrieval, the request could be sent by pushing buttons and the information retrieved could be a page of the Sears, Roebuck catalog displayed on a video monitor. Another example of a Retrieval service is Video-on-Demand, in which a user may request a specific program or movie that (s)he wants to view and also specify when the show is to be viewed.

The last group of services, Distribution services, gives the destination selection of, but not control over, what is sent by the source.

There are several unique features in many of these wideband services. First, they are all outside of the consumer's experience. Second, there is no directly competing product or service with which consumers can compare the potential new services. Third, consumers' price expectations are likely to be inaccurate (because they have no idea of the underlying investment or operating costs). Fourth, adoption of any one of these services is likely to be influenced by the mix of services offered: broader penetration will result from offering many different services that appeal to different market segments with different needs.

The net result of these features is that consumer research becomes a tricky exercise, and demand forecasting even more so because the services offered are inter-related.

How, then, does one conduct useful marketing research and generate meaningful estimates of consumer demand? For inspiration, we first turn to some of the laboratory and field trials that have been conducted to date. These trials were not designed as marketing tests, but rather as technology tests. However, we intend to point out that there are substantial weaknesses in technology tests devoid of marketing concerns.

EXHIBIT 2

Summary of Laboratory Experiments & Services Offered

Place and Year	Number of Subs.	Services
Geldrop Netherlands 1983	2	- data transmission - telephony - *2-4 TV channels* - *31 digital stereo* - *video telephony*
Berlin FRG 1984	4	- telephony - *15 TV channels* - *32 stereo* - *1 HDTV* - *video telephony*
Turin Italy 1984	3	- telephony - *interactive TV* - *videophone over TV* - *3 TV channels*

3. LABORATORY EXPERIMENTS

Laboratory experiments have usually been conducted on very small numbers of homes/users (hereinafter referred to as subscribers), usually under 10. These subscribers have been given access to wideband services in a laboratory setting, rather than at home.

The very limited number of subscribers make these laboratory experiments interesting only for exploring the possibilities of wideband technology. While it is possible to undertake consumer research for services such as TV reception over phone lines and high-definition TV, it is unclear whether any research was actually undertaken. With a service such as video telephony, the small number of subscribers limits consumer research to tests of usability of the service. Clearly, demand forecasting is impossible without a fairly large number of subscribers hooked up with video telephones.

4. FIELD TRIALS

There have been several medium-to-large scale field trials to date, of which we describe and evaluate four. The trials are distinguished by the size of the subscriber base and the range of services offered:

- Biarritz, France
- BIGFON in 7 cities, F.R.G.
- Tokyo and Mikata, Japan
- Westminster, U.K.

4.1 Biarritz, France

This field trial began in Biarritz in 1984, with 1,500 subscribers (1,200 residential and 300 business). Subscribers were given "access to a wide range of broadband services -- videophony, audiovisual databases, TV and stereo sound program distribution, and an on-line TV program library -- in addition to conventional narrowband services like telephony and videotex" (Touyarot, 1987).

This trial is unusual in one respect: it is the only field trial in which no free services were offered. Despite this strength, there are several problems with this trial.

First, the French Minitel experience has probably predisposed the French public into accepting both the concept of videotex-like services and the additional "box" in the home. The Minitel terminals have been given away free in the past to educate the public and to avoid the problems of having consumers pay for their own terminals.

Second, these services were offered to subscribers at very low prices, almost equivalent to regular telephone service: one additional telephone call unit was charged for each 10 minute interval after the first 10 minutes (Touyarot, et. al, 1985).

Third, the French billing system provides only an "all-in-one" figure produced bimonthly. This aggregation, in contrast to the U.S.'s itemized billing, makes it difficult to interpret the cost consequences of using the "higher priced" wideband services. For example, the published data state that the average bimonthly phone bill rose by 30% and then stabilized. Moreover, the French (Touyarot, 1987) claim that: 1) as of March, 1986, 64% of the calls between any pair of videophone terminals were "always" conducted with videophony; 2) an additional 16% were "in many cases" made with videophony; and 3) that "within the first months folowing connection, some 40% of subscribers use [videophones] for over two-thirds of their calls, and this figure is increasing".

Attempting a rational integration of these usage patterns with the stated increase in the bimonthly bill becomes impossible due to the "all-in-one" characteristic of the French billing system. How could so many calls use the videophone and yet the average phone bill increase by only 30%? Could it be that 30% of the videophone calls last more than 10 minutes but less than 20 and thus accrue an additional telephone unit, or do 15% of the videophone calls last between 20 and 30 minutes? We can't tell.

To gain some perspective on the cost of delivering videophony relative to telephony, we use the cost of video conferencing relative to that of audio conferencing (Carey and Moss, 1985). The relative cost of videoconferencing, at commercial rates in the U.S., exceeds 50 times the cost of audioconferencing. Granted that the cost basis of U.S. rates may be much higher for video than audio, and that conferencing costs may be higher than simple two-way phone service, the Carey and Moss calculations suggest that the prices charged subscribers in the French trial were subsidized to such an extent as to make dubious any estimates of demand for the wideband service.

Informed estimates at GTE suggest that if pricing is based upon the *bandwidth requirements* of video versus audio telephony, the price of videophony is more likely to be some 100-250 times that of plain old telephone service.

Whichever estimate is used, it is clear that the Biarritz prices charged were far too low to bear any resemblance to the actual prices that might be charged by a for-profit U.S. telecommunications firm.

The fourth and final marketing weakness in the Biarritz trial pertains to an apparent lack of concern with the marketing mix. Without knowledge of the marketing mix employed, it is very difficult to judge what demand estimates might mean in the real world.

4.2 BIGFON, West Germany

This field trial began in 1984 and connected 320 subscribers in 7 large German cities (Kneisel, et.al., 1986) with optical fiber. Of these, 68 subscribers were equipped with videophones at no charge. The test was clearly labeled as a test of wideband technology and not of customer demand, which was assumed to exist: "The overall number of subscribers who can be connected to the videoconference network, i.e., a maximum of about 300, is rather modest compared to the immense investments required for the basic infrastructure. However, it is assumed that there is a latent demand for additional connections in trade and business centres" (Kneisel, et. al., 1986).

While the BIGFON trial appears to have been a good design for testing technology, it failed as a piece of test marketing. For all the reasons given above regarding the weakness of the Biarritz trial, and because the videophone services were free, BIGFON remained another wonderful wasted opportunity to conduct careful marketing experiments.

Especially noteworthy is the fact that investments to the tune of DM 2 billion have been made or planned for the 1984-1988 period on the basis of testing free services to 68 subscribers. This network is anticipated to connect a maximum of about 300 subscribers, making the investment cost (assuming that 300 subscribers actually sign up and pay real money for the service) a staggering DM 6.7 million per subscriber.

4.3 INS, Tokyo and Mikata, Japan

This trial began in 1984 (Takeda, et. al., 1986), and provided a total of 310 "service monitors", both business and residential, access to a variety of wideband services: videoconferencing, videophony, television, video monitoring, high-speed fax, and interactive video services (VRS, or Video Response System). The actual number of subscribers is unclear, since the 310 service monitors represent the total number of terminals needed for the different services offered. Also, 45 of the 310 monitors were located in the showrooms of NTT, the Japanese telephone company.

Early results reported below were derived from a total of 20 residential and 60 business "service monitors". In discussing videophony and their Video Response System, the authors state: "In spite of the fact that it is free of charge, only a few subscribers were using the service because for the most part they were strangers to each other. About 50% of all service monitors used VRS more than twice a week." (Takeda, et. al., 1986).

Again, as in the previous trials reported above, free service was provided, and questionable estimates were derived for the demand for wideband services. All criticisms of the BIGFON German trial and the Biarritz French trial are applicable to the INS Japanese trial.

4.4 Westminster, U.K.

The Westminster trial is probably the most extensive of its kind, serving a customer base of some 50,000 subscribers. The trial began commercial operation in 1985 in Westminster Borough, London.

The second distinguishing feature (other than its large subscriber base) of this trial is the fact that the cable network is switched in such a fashion as to allow for considerable expansion in the range of services offered. To date, TV channels, FM radio stations, an interactive videotex program guide, and a videolibrary have been implemented (Powter and Fox, 1986). The videolibrary was being tested in pilot form for payment-based service due to start in late 1986 (Kerr, 1986). Services listed as "awaiting commercial exploitation" in 1986 included a larger videotex service (at a cost to the subscriber), a gateway to other databases, and a pictorial videotex system (Powter and Fox, 1986). While a recent brochure (British Telecommunications plc, 1988) suggests that the pictorial videotex service had been tested and was commercially available, we have not uncovered any test results.

It appears that British Telecom is selling its technology as a package to cable television operators. In light of this "hard-dollar return", it is surprising that customer-research data have not been collected and widely disseminated. The only prior research we are aware of is the results of a market analysis conducted in rather perfunctory manner, in which the cost and availability to the customer of broadcast TV, pay-cable, movies and videotape rentals and purchases were calculated to get ballpark estimates of the competitive frame for videolibrary (Kerr, 1986). An analysis of traffic levels from viewership data for television is also reported in the same source.

We have no data that suggest that the Westminster trial was any more "marketing oriented" than the others reported on above. However, the British have simply put an infrastructure in place and are awaiting the development and commercialization of wideband services. Major investments in actually providing wideband services such as videophony have not been made.

5. EVALUATION OF THE FOUR MAJOR FIELD TRIALS

The most noticeable fact about all these field trials is that they were all tests of technology, and not of customer demand for wideband services.

It is commonly believed that wideband networks will become financially justifiable only when they support extensive video-based *entertainment to the home*, thus allowing the recoupment of network cost. However, for such ubiquitous demand for video-based services to pervade the marketplace, sufficient consumer experience must be accumulated, which requires that the infrastructure to deliver the services be in place first.

This Catch-22 situation has generally been resolved in favor of first putting in the expensive network and switching capabilities, and then offering services that can be distributed over this network. The Germans have recognized this in stating that the "unconventional approach adopted by the Deutsche Bundespost in undertaking substantial investments without an accurate picture of the demand to be anticipated may at first seem rather unusual. However, from the Deutsche Bundespost's point of view, it is the only way out of the chicken and egg dilemma: demand can also develop after investments have been made in a network since potential customers can very soon expect other customers to use the network, and secondly, because customer interest can be stimulated by demonstrating the facilities of the new service." (Kneisel, et. al., 1986)

What does this mean in practice? While the Germans were willing to invest almost DM 7 million per user in the infrastructure, it is unlikely that private enterprise in the U.S. will do likewise. In fact, the most likely outcome is that trade-offs between network designs with different fixed and variable costs will be resolved in favor of solutions with lower fixed costs. Such technological decisions may, in the longer term, limit the number and quality of services that are offered. Amortizing large investments over a smaller number of services and subscribers will also lead to higher total cost in the longer term.

Our contention is that wideband network decisions should be driven by *customer need for wideband services, not by technology*. We will describe a process that, from the marketer's standpoint, will enable the firm to make huge investments with reasonably accurate knowledge of customer demand, and with a base of careful consumer research underlying the estimates.

Other problems that have plagued previous trials are discussed below.

5.1 Absence of prior customer research

From the published literature, it is questionable whether the trials reported above were preceded by any "reasonable" consumer research. Can truly new services beyond the experience base of consumers be "researched" in any reasonable manner prior to the service concept being fully formulated? We think they can, and that the process described in this paper is a good example of how to do it.

5.2 Undefined marketing mix and free services

For all of us in this audience, these problems are glaring. For the telecommunications engineers typically in charge of these trials the problems are recognized, but not viewed as being critical. Recall that these individuals have backgrounds in regulated businesses where services are guaranteed a rate-of-return on investment. Figuring out the cost of doing business is adequate to build a business plan, because the rate of return to the firm is mandated by law.

5.3 Underutilized research opportunity

These trials also have one other feature in common: they present remarkable opportunities for marketing experiments. The published work suggests that the research conducted was limited to a few focus groups and some survey work.

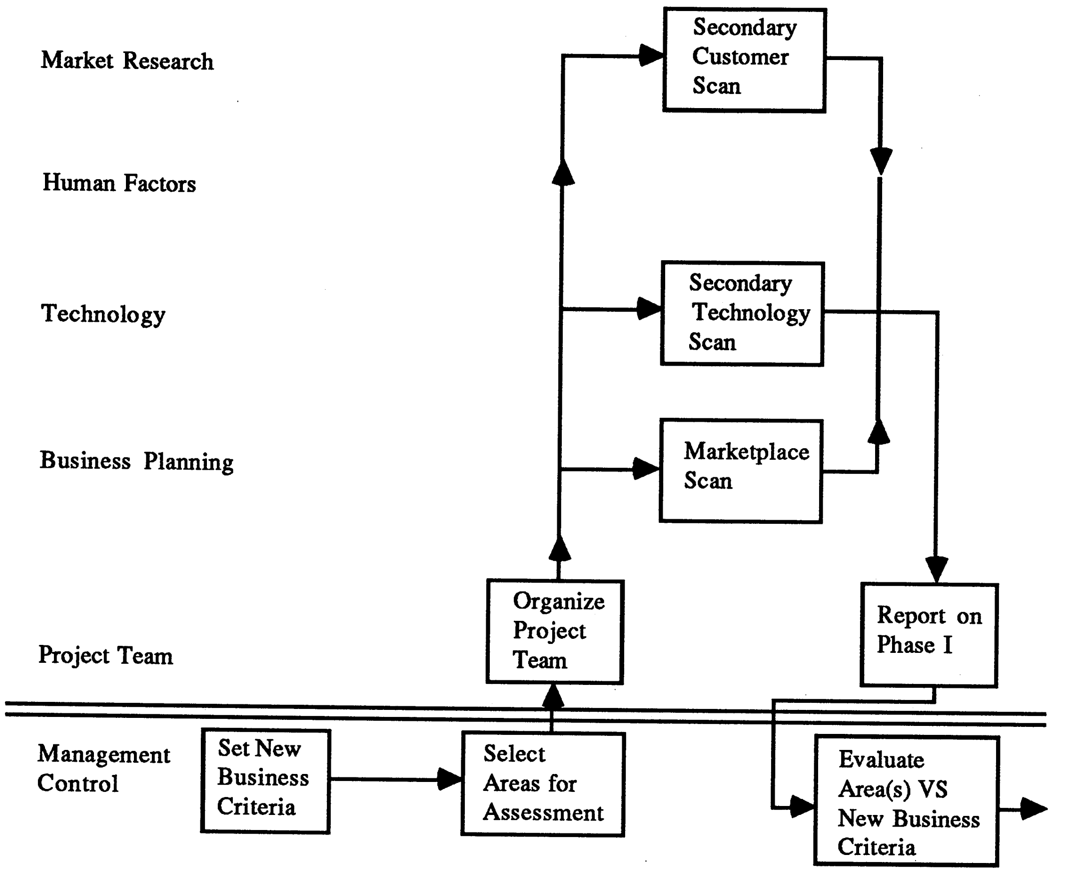
In summary, it is probably fair to say that as telecommunications companies emerge from the protective shroud of regulation, these "directly-to-field" approaches to assessing consumers' needs and forecasting demand will prove disastrous. More careful and thorough approaches will be needed to assess customers' needs and how much demand they will create at *given price levels*.

6. A PROPOSED PROCEDURE FOR NEW SERVICE INTRODUCTION

The ideas to be discussed in this section should be seen as the way marketers view the issues in

EXHIBIT 3

PHASE 1: SELECT SERVICE AREA



telecommunications services research. It represents the marketer's view of the *mandate* of the marketing concept, which is *to propose and refine a process for designing new telecommunications services which will improve the quality of business decisions by focusing on consumer needs.*

Our process does this by both focusing on the needs of consumers and matching those needs with the capabilities and inclinations of the firm to market only those services that provide a profit to the firm.

The *group* that we feel necessary is a multi-disciplinary one, with technologists, marketing researchers and human factors specialists working together to design promising new services. The technologists come in two flavors: those traditionally associated with telecommunications engineering (switching, transport, CPE and systems engineers), and those who specialize in producing the "look-and-feel" of real telecommunications services via creation of prototypes of these services.

The *premise* underlying the process we are about to describe is that we need to filter "areas" in which to develop new service ideas through a coarse screen; then progressively use finer and finer screens to allow only promising service concepts in these areas through to the next steps. Thus, the earlier steps are intended to be very broad and low-cost, while subsequent steps are narrower and narrower in scope and potentially higher in cost. Our thinking in this area draws upon many points of view (Cooper, 1984, Urban and Hauser, 1980 and others).

Our proposed process is divided into three major phases. In Phase I, we select the service *area* to be investigated further. In Phase II, we develop service *concept(s)* in the area(s) we selected in Phase I. In Phase III, we design and test the *service(s)* which were developed as concepts in Phase II.

We will exemplify our process using the area of *"video entertainment services to the home"* as our wideband application. There are several reasons for using this example. It is clear from the required data rates that the main justification for wideband networks is the transmission of *video* services. Also, all previous trials have provided some form of video-based services. Finally, experts in this area suggest that only video-based *entertainment services to the home* will generate enough usage to justify the huge capital costs of providing the infrastructure for wideband services.

We will point out how the proposed process makes a systematic attempt to build a business case for the service that will best satisfy customers' needs and provide the desired level of profitability to the firm.

6.1 Phase I: Select Service Area

The bulk of the work proposed in this Phase is in the areas of organizing people, collating and digesting secondary sources of data and providing a summary of the different efforts to a management team for a GO/NO GO decision. In the home-video case, the following outputs are considered necessary:

Customer Scan:

o For major media (broadcast, basic cable, premium cable, pay-per-view, video rentals and purchases, and movies)

- ownership, viewing habits and trends
- household characteristics of users

Technology Scan

o For major components of telecommunications technology (switching, network, consumer premise equipment, etc.)

- current state of technology, features, cost
- likely future costs
- competitive evaluations

Marketplace Scan

o For major media (broadcast, basic cable, premium cable, pay-per-view, video rentals and purchases, and movies)

- revenues and trends
- major competitors
- cross-media competition
- competitive strengths and weaknesses

Phase I of this process follows the text-book approach to understanding whether the firm should enter a broad area, and whether the area has the requisite fit with corporate goals and the firm's resources to develop new services in this arena.

6.2 Phase II: Develop Service Concept

This Phase is critical to understanding customers' unmet needs and developing technologically-feasible services that meet those needs. There are two major activity streams in this Phase. In the first, we propose development of a *Core Service Concept*, which is a statement of which unmet customer needs we will attack, what we know about the target customer, and who the major competitors (media and/or firms) are. The intent of the consumer research steps in this stream is to isolate existing consumer problems in the area under investigation. Rough estimates of how much consumers will be willing to pay for solutions are also obtained, to enable us to build the demand side of a business case.

If the Core Service Concept meets new business criteria, we proceed to the next activity stream, which yields a fully-formed *Service Concept Statement*. The consumer research steps include the use of techniques such as conjoint measurement. Testing of the Service Concept Statement is done in the context of competitive offerings, with a price tag associated with the new service concept. The Service Concept Statement may be likened to a semi-finished advertisement, for marketing research purposes. Even at this stage, rough estimates of market potential are made.

6.3 Phase III: Design and Test Service

We enter this Phase with a complete description of the service, with features, pricing, competitive positioning and source-of-business estimates. However, the service still does not have a user-interface, and consumers have *assumed* some characteristics of it. For example, an interactive in-home on-demand video service with 5,000 shows to choose from may be considered by reasonable humans to be difficult to use, and their reactions to the concept may be based on assuming this level of difficulty. The key question is whether respondents will react to the functionality of the service or how easy or difficult to use they perceive it to be.

We like to say that the service entering Phase III is likely to be *useful* to consumers, but not necessarily *usable*.

In Phase III, we propose first to build a prototype of the service, which is a "look-and-feel" delivery mechanism. Customers can interact with and evaluate the service for both usefulness and usability. We then add other characterizational elements, such as a name and advertising position, and the *positioned* prototype is evaluated in extended-use testing. This is the stage where we propose to estimate whether repeat usage of the service will measure up to our expectations and whether the business case is a reasonable one. At this stage, we also assess whether there is any fall-off in usage over time after the novelty of the new service has worn off.

Expected outputs of these steps are more precise estimates of trial, and the first moderately robust estimates of repeat. With these data available, service costs and marketing costs are factored into a business plan for the "Test Market Simulation". Note that, until this stage, no investments have been incurred for switches, network installation or modification, equipment at the customer site (CPE) or marketing. In the simulated test market, we are unsure whether the infrastructure to provide the service(s) will be in place or whether we will "kluge" it to give customers the illusion of the "real thing".

We expect to get out of the simulated test market quite robust estimates of trial, repeat usage, customer response to pricing variations, and the usual consumer research measures (awareness, usage, churn, likes, dislikes, problems, etc.). If the numbers hold up, and the new service is likely to meet the firm's requirements for profitability and quality, we then

EXHIBIT 4

PHASE II: DEVELOP SERVICE CONCEPT

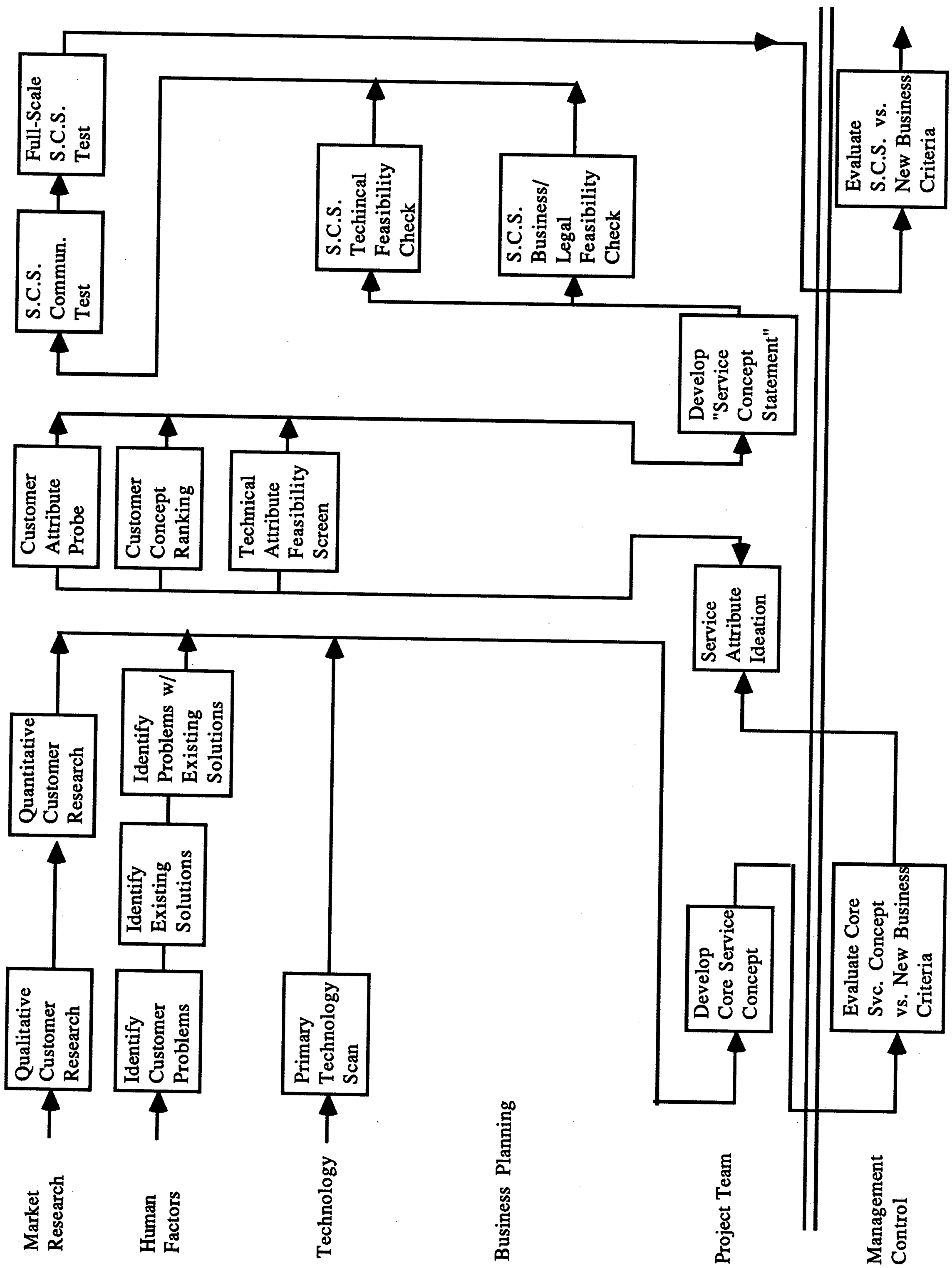
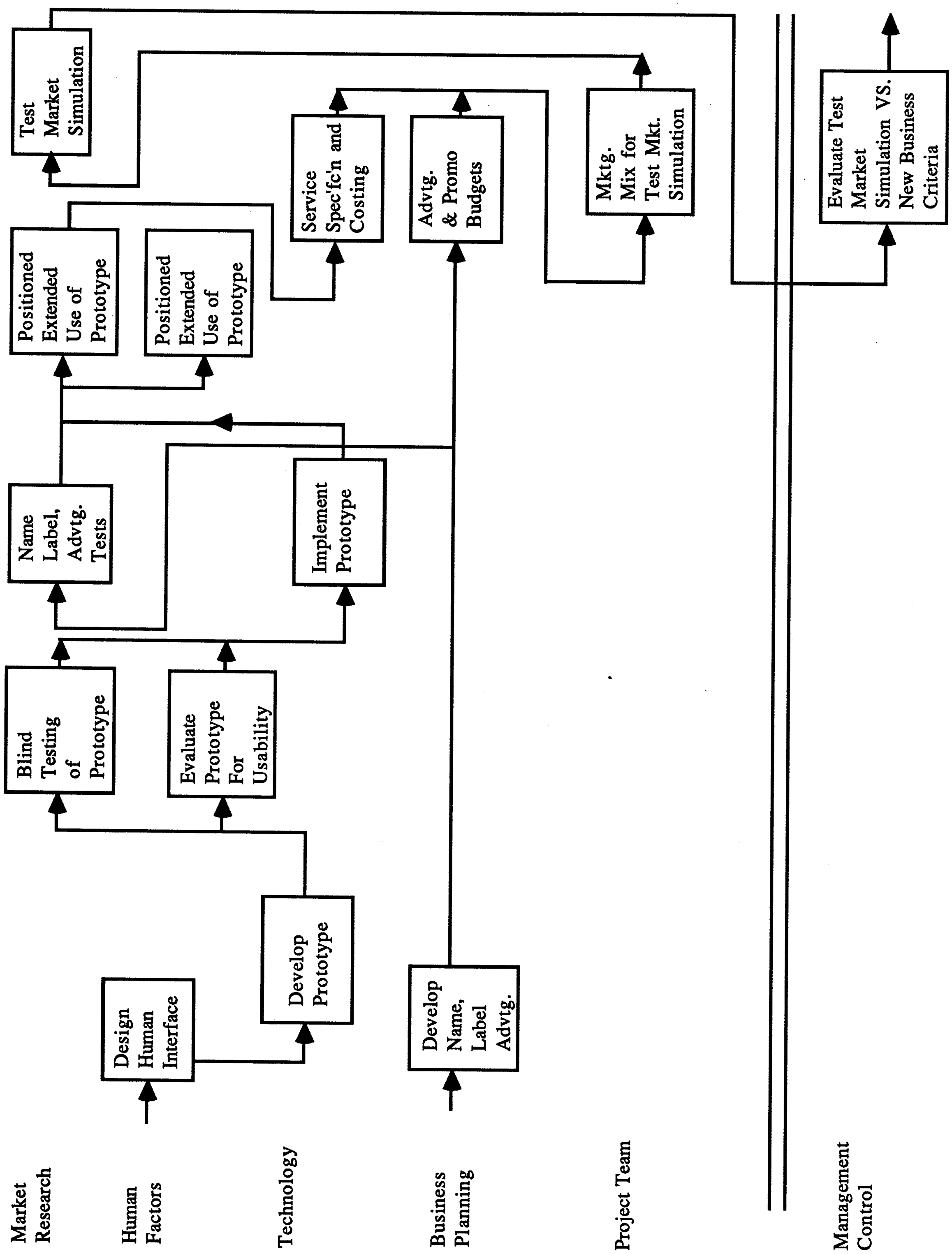


EXHIBIT 5

PHASE III: DESIGN & TEST SERVICE



suggest taking the new service into Test Market or roll-out. Since the infrastructure costs of wideband services is quite high, it is highly likely that the roll-out has the look and feel of sequential test markets. This characteristic of local markets makes it possible to fine-tune the marketing mix on a local-area basis.

7. SUMMARY AND CONCLUSIONS

We have described the usual procedures employed in tests of wideband services in the telecommunications industry. Our biggest criticisms of these are that (1) they appear to be based on little, if any, prior customer research; (2) they make no effort to recognize that pricing is critical to both the level and time-path of customer acceptance; (3) their field results are dependent on the unspecified marketing mix employed in introducing the service, and most importantly (4) that a firm should not make major investment decisions without adequate justification. While the philosophy of technology-driven service deployment was fine in regulated businesses, it is inappropriate in an unregulated environment.

The process we have described is an early prototype of one we plan to test and refine at GTE Laboratories. We have a long way to go before we can state which research approaches are appropriate to what business and market conditions. However, we do have in place a process from which we expect to ascertain certain basic facts about the market at certain stages. These stages are *hypothesized* to be the most appropriate for obtaining that information, given the amount of time, money and service specificity available. We feel that this process overcomes the four problems that plague the way telecommunications firms have traditionally determined customers' needs and estimated demand.

We will be testing the need for each of these steps, the specific tools and techniques appropriate at each step, and whether or not we can make valid and reliable estimates of the measures we need to make the investment up to the next step.

Stay tuned, we'll be updating you in the next several months.

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Against All Odds: The State of Videotex in France

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ABSTRACT

The French videotex system, Teletel, has been hailed as the world's most successful effort to make videotex into a mass medium. This article reviews the key factors to which the system's initial success has been attributed. In addition, a number of recent developments in the system's organization and consumer use patterns are discussed based on data provided by the French telecommunications authority. The implications of the French experience for videotex elsewhere are also considered.

INTRODUCTION

The purpose of this paper is to provide an up-to-date, descriptive report on the state of the world's most successful videotex system oriented toward the general public--the French Teletel system.[1,2] This report comes at a time when hopes in videotex in the United States have been rekindled by the introduction of Prodigy by an IBM-Sears partnership and by an easing of court-imposed restrictions on the ability of Bell regional operating companies to enter the field. Still, any optimism generated from an examination of the French videotex system must be extremely guarded given the amount of money has been lost in videotex investments in the United States to date.

HALLMARKS OF THE FRENCH VIDEOTEX APPROACH

To the extent that the French videotex system can be considered a "success," five factors seem to have been important: (1) the distribution of free terminals; (2) the development of a nationwide electronic telephone directory; (3) a pay-as-you-go pricing mechanism ("kiosk"); (4) an innovative, dynamic, and entrepreneurial group of small service providers; and (5) a loose and flexible legal environment. These factors will be discussed very briefly here for those readers unfamiliar with the French system. More extended descriptions can be found elsewhere (Hall and Terren 1987; Mayer 1988).

Free Terminals

Beginning in 1983, the telecommunications authority (formerly the DGT but recently renamed France Telecom) distributed terminals (Minitels) free of charge to telephone subscribers. In addition to the basic model offered free, individuals and organizations can rent enhanced versions from the telecommunications authority. The total supply of videotex terminals is expected to exceed 4 million by the end of 1988 (DACT 1988b). In the view of many observers, the free distribution of terminals was the critical step in overcoming the chicken-and-the-egg problem of consumer reluctance to invest in equipment for unknown services and service provider unwillingness to invest in services until the dimensions of the potential videotex market were clearer. Indeed, the Minitel terminal is so closely linked with the entire French videotex system that the latter is typically referred to as Minitel.

Electronic Directory

The electronic telephone directory serves as an icebreaker for users who are unfamiliar with or skeptical about the utility of videotex. It provides videotex users with easy, rapid, and flexible access to nationwide directory assistance. The directory combines the functions of both the white and yellow pages. Moreover, it allows for searches by name, address, or line of business. It even accommodates misspellings. It is free for consultations of up to three minutes, and there is no limit on the number of calls an individual can make. As of mid-1988, the electronic directory logged over a million connect hours per month (DACT 1988b), the rough equivalent of 100,000 three-minute inquiries per day.

Kiosk Pricing

Although there are essentially three networks with three different pricing mechanisms available in the French videotex system, the most common one used for services oriented to the general public is the kiosk. Under this mechanism, consumers are free to call up any service on the kiosk network without having to subscribe in advance or receive a password. Originally, all kiosk services were priced at a fixed hourly rate of about 60 francs per hour.

Unlike videotex system where users incur multiple charges for subscriptions, access, and telephone use, the kiosk mechanism (as well as the other French pricing options) involves a single charge. In addition to the simplicity of a single charge, the spontaneity of the kiosk pricing system is also attractive to consumers. For service providers, it holds out the possibility of being profitable based on light use from a large number of unknown users. Furthermore, billing and collection are performed by the telecommunications authority, which reimburses service providers monthly in accordance with their level of consultation (after taking a portion for itself).

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[1] Unlike the United States where there are several distinct videotex systems, the vast majority of videotex services in France are organized in a single government-run system and are carried by one data transmission network (TRANSPAC).

[2] Virtually all of the data reported in this paper were collected, either directly or indirectly, by the French telecommunications authority, France Telecom. While data from other sources seems consistent with that reported by France Telecom, obtaining independent data remains one of the major difficulties in assessing the French videotex experience.

Entrepreneurs

France is not generally known for its entrepreneurial approach to business, but the videotex market revealed an untapped vein of entrepreneurial spirit. Many of the most innovative services, especially those utilizing the interactional rather than the simple information retrieval capacities of videotex, were begun by small service providers. Except for some initial restrictions designed to favor the participation of the French press, barriers to entering the videotex market have been minimal.

Legal Flexibility

Rather than pass new laws in anticipation of videotex-related abuses, and thereby possibly discourage service provision, the French adopted a wait-and-see approach. Consumer protections applicable to mail order and door-to-door sales were slowly extended to videotex purchasing. In addition, the content of videotex messages was initially regarded as a form of private communication and therefore beyond censorship.

NEW DEVELOPMENTS ON THE FRENCH VIDEOTEX SCENE

In the past two years, a number of changes have occurred in the French videotex system. The most important of these changes can be grouped into the categories of pricing, services, distribution, and regulation.

Pricing

Perhaps the most important and long-awaited change in the French videotex system involves the kiosk pricing mechanism. Instead, of a single price for all services, service providers can choose among three possible prices, including one slightly lower (50.05 francs per hour) and one significantly higher (75.1 francs per hour) than the former single price level (now 58.4 francs per hour). This pricing change allows for the possibility of price competition based on quality differences.

In addition to the expansion of the kiosk pricing mechanism, 800-type numbers now exist which consumers can call without any charge. Previously all users had to pay at least for a local telephone call.

Two other pricing developments remain for the future. One is the continuous display of charges as they accumulate. For obvious reasons, neither service providers nor the telecommunications authority are eager to increase consumer awareness of costs by creating the equivalent of a taxicab meter. The other pricing developments that remains on the horizon is the proliferation of "smart cards" and smart card readers among members of the general public. Smart cards look like credit cards but contain microchips. Because of their capability of storing and processing relatively large amounts of information, smart cards are thought to hold the key to the popularization of banking and shopping via videotex.

Services

The growth in the number of videotex services available to professional and nonprofessional users continues unabated. In December 1985, for example, there were 2278 access name abbreviations issued to service providers on the three networks, with the kiosk network having the fewest, 500 (DACT 1986a). By June 1988, there were 8774 name abbreviations issued, the majority of which (4449) were for the kiosk network (DACT 1988b).

The French telecommunications has defined its role as transmission rather than provision of videotex services. The electronic telephone directory obviously deviates from this rule, and over time, two more developments have occurred which blur the distinction between transmission and service provision. In 1987, France Telecom introduced a greatly improved guide to the services. The cost for using the guide is 21.9 francs per hour, and it can identify services by their name, the name of their provider, or their principal subject matter (e.g., sports, banking, shopping, forums, games). The guide then provides a brief description of the service, including how to access it. In addition to the guide to services, the French telecommunication authority also now uses the videotex network to transmit telegrams. (The cost is 28 francs for the first twenty-five words.) While not providing message content, France Telecom is clearly engaging in a function, electronic mail, that could be provided by private service providers.

Distribution

When one thinks about the distribution of videotex services, one really is referring to the terminals. Two recent innovations in this regard are the introduction of the bistandard terminal (Minitel 1B) and the placement of terminals in public places on an experimental basis. The bistandard terminal allows users to enter data in ASCII format (80 columns) in addition to the French Teletel videotex format (40 columns) and allows the terminal to be compatible with commonly used data terminals. The Minitel 1B is available free to telephone subscribers, although the basic Minitel 1 suffices for most residential users.

The Point-Phone Minitel is the videotex equivalent of the pay telephone. It also contains a small printer that allows the user to copy the information provided by a particular service (e.g., the times and locations of various movies playing that night). The pay terminals are currently being tested in 80 sites. The plan is to eventually make them commonplace in hotels, restaurants, bars, service stations, post offices, airports, and government buildings.. The party renting the machines would be responsible for their safety and would share in their receipts (DACT 1987).

Regulation

After the loose regulatory regime that characterized the first years of the Teletel system, a number of legal issues are slowly being resolved. In early 1988, three laws clarified issues pertaining to shopping via videotex, fraud, and privacy. For instance, the buyer's right of recision applicable to door-to-door sales was extended to purchases conducted over the videotex medium.

Probably the most important feature of these legal changes involved the differentiation of private and public communication. This had been a persistently hot topic given the popularity of the messaging services and their sexually explicit content. Because of France's permissive traditions regarding matters of the heart, the authorities were reluctant to get involved in the control of messaging services, but a ruling became inevitable. Essentially, private correspondence is defined as a message destined for one or several specific individuals; it enjoys the same protections as mail. Public correspondence is defined as a message sent to an undifferentiated audience and whose content is not tailored to a particular individual. Public correspondence is subject to the same constraints as audiovisual communications, for example, television broadcasts. As a result of these definitions, messaging services can continue to be uncensored and therefore retain their popularity.

PATTERNS OF CONSUMER USE

The best source of data on videotex attitudes, knowledge, and behavior by members of the general public is a panel study sponsored by the France Telecom. It consists of a nationwide sample that has a number of unusual features. First, it is supposed to be representative not of all French adults but only those with government-provided terminals in their homes. Second, the sample increases in size over time, not so much due to replacement, but to the fact that free distribution of terminals occurred gradually from region to region, and the sample expanded in parallel. As a result, the sample grows from 1400 respondents in the first wave (June 1985), to 1601 respondents in the second wave (March 1986), to 1758 respondents in the third wave (December 1986), to 3172 in the fourth and most recent wave (January 1988). Only during the study's fourth wave was the sample representative of all regions in France. Unfortunately, additional details on sample selection and replacement are not found in publicly available documents.

Continuities

In several respects, there has not been a great deal of change across the four waves of the panel study. Four such continuities are the overall frequency of use, the concentrated pattern of use among a few heavy users, the perception of the services as expensive, and the services of which consumers are most aware.

There has been only a slight increase regarding frequency of use. Using 3-6 times per week as a standard, the number of heavy users increased from 31 to 35 to 36 to 42 across the four waves. Similarly, there has been a slight decrease in the extent to which French videotex use is concentrated in the hands of a relatively small percentage of heavy users. Data on user concentration are only available for the third and fourth waves of the study and even then are not strictly comparable. Nevertheless, during the third wave the top 23% of users accounted for 68% of total volume, while the top 24% accounted for 71% of volume in the fourth wave.

Regarding perceptions of the costs of using videotex services, there has been little improvement over time. Only 43% of respondents in the first wave described the services as expensive or somewhat expensive. In the three additional waves, the percentage has hovered in the sixties (61, 69, and 61 percent respectively).

A final continuity involves consumer awareness of services. Across all waves the electronic telephone directory is clearly the best known service, whether measurement is based on aided or unaided responses. In the most recent wave of data collection, 92% of respondents spontaneously mentioned the directory and 99% cited it in an aided response format. After the electronic directory, the most commonly known services consist of those offered by newspapers, banks, transporters (e.g., trains and planes), and mail order sellers. Unaided and aided awareness of these service providers has remained fairly stable since the second wave, with typical figures being 30% for unaided responses and 60% for aided responses.

Changes

The most notable respects in which change has occurred are the rates of service consultation, the degree of consumer satisfaction, the segmentation of consumers by the types of services they use, and the degree of consumer acceptance of advertising in the videotex medium. Regarding rates of consultation, almost all categories have experienced increases throughout the study period. Table 1, based on unaided responses, shows the rates of increase for most of the important service categories.

Levels of consumer satisfaction have also risen noticeably. Respondents were allowed three forced-choice responses: very satisfied, somewhat satisfied, and not satisfied. The clearest pattern is for the percentage of respondents selecting not satisfied; their percentage declined consistently from 40 to 27 to 20 to 10 across the four waves.

The most interesting pattern of change concerns the differentiation of users into market segments. A plausible nine-category classification was derived from a factor analysis of first wave results, and the categories were retained in the analysis of later waves of data collection. Table 2 presents the nine categories as well as their changing distribution across time.

Based on table 2, one might say that the good news is that the percentage of respondents who used only the electronic directory has declined over time, although the only dramatic decrease occurred between waves one and two. Also, videotex advocates might be heartened by the fact that the respondents who use a variety of services (All Services: Heavy and All Services: Light) increased from 9% in the first wave to 33% in the fourth wave. From the point of view of maximizing service provider and telecommunications authority revenue, the bad news is that the respondents who are heavy users of services (Kiosk

TABLE 1

Changes in Rates of Service Consultation

	June 1985	January 1988
Electronic Directory	76%	90%
Travel & Tourism	13%	33%
Banking	14%	25%
Teleshopping	10%	24%
Newspaper Services	8%	16%
Games	7%	14%
Sample Size	1780	3172

Sources: "Teletel mode d'emploi" 1986; DACT 1988a

TABLE 2
TYPES OF MINITEL RESIDENTIAL USERS

	June 1985	March 1986	Dec. 1986	Jan. 1988
Electronic Directory Only	54%	31%	32%	28%
Practical: Banking Only	10%	8%	8%	8%
Practical: Teleshop Only	5%	9%	7%	9%
Practical: Travel Only	5%	2%	2%	1%
Practical: All Services	3%	4%	4%	5%
Kiosk Only: Heavy	9%	8%	9%	3%
Kiosk Only: Light	5%	13%	13%	13%
All Services: Heavy	3%	9%	10%	7%
All Services: Light	6%	18%	15%	26%
Sample Size	1411	1598	1770	3172

Source: DACT 1988a

Only: Heavy and All Service: Heavy) declined distinctly between the third and fourth waves, constituting only 10% of the total sample. Overall, there does seem to be growing diversification of individual use, if not growing intensity of use.

A final example of change in consumer response to the French videotex system concerns the use of advertising as a source of information regarding videotex services. Respondents were asked to name, without assistance, any methods they use to become informed regarding existing videotex services. The percentage of people spontaneously citing advertising has increased steadily across the four waves, from 12% to 18% to 20% to 38% The other most frequently mentioned sources of information about videotex services are the paper directory, the on-line guide to services (described above), and the various magazines that cover videotex developments.

CONCLUSION

Videotex is a fact of life in France, but it took an enormous investment by the government--not just deep pockets, but bottomless pockets. Thus, unless entities on the scale of the Bell regional operating companies increase their involvement in the videotex arena, it is unlikely that a videotex system in the French mode will be established in the United States. Nor is it unclear whether such a massive investment in videotex would be justified on either economic or social grounds.

Given these reservations, what lessons can be drawn from the French videotex experience that might be applicable to other nations? First, videotex services get used in France "because they're there." This not only refers to the free distribution of terminals, which greatly reduces the cost of becoming a videotex user, but also to the growing presence of terminals in schools and other public places. The Minitel terminals, although they come in a variety of styles, have become a familiar sight to the average Frenchmen and have worked their way into popular culture, including a number of folk legends (De Lacy 1987). A further respect in which the diffusion of French videotex occurred in a nondisruptive manner involves its method of billing and collection; it is all done by the telecommunications authority, with videotex charges simply being added to bimonthly telephone bills.

A second general lesson is that services get used when they are either inexpensive or provide a unique benefit. The electronic telephone directory and banking via videotex exemplify inexpensive yet highly useful services. For example, videotex users can use banking services to keep funds in interest-bearing savings accounts until immediately before a bill is due. The various real-time dialog and forum services ("messageries") illustrate the potential popularity of a service that cannot be duplicated in other media. In contrast to "chat lines" using telephones, messageries afford users a higher degree of anonymity and playfulness, although at the cost of having to do communicate through text rather than speech.

A final lesson that can be drawn from the French videotex system is the need to encourage small service providers as a mean of unlocking entrepreneurial energies. It is a truism that a great deal of innovation originates with small companies, but this fact tends to get lost in light of the huge financial investments needed to operate a nationwide videotex system. The key to the French approach is the combination of the vast telecommunications authority as the carrier of services with a dynamic sector of relatively small providers of service content. In contrast, videotex systems in other nations have often combined these two roles (e.g., Prestel in the United Kingdom) or largely confined service provision to large institutions (e.g., several systems in the United States). Thus, the most important lesson that can be derived from the French videotex experience is how to combine the best of large- and small-scale organizations.

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EFTPOS and the Consumers

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INTRODUCTION

As consumers we are exposed to an increasing number of new forms of technology. This represents a challenge for us as consumers as well as researchers. A common approach to this field of research is, somewhat simplified, to assume that technology evolves and spreads throughout society by some endogenous mechanism, and then to analyse the consequences for society. A quotation from a marketing researcher, T. Leavitt, (with reference to the distribution system) may illustrate this approach:

> Technology is the acknowledged master, the engine that pulls all the rest along and determines where the future shall be, how fast it shall be attained, what we shall do within it, and who shall prosper, who languish, who fossilize. (Levitt 1985)

The role of a researcher is then to find out where the future shall be, what we shall do there, etc., and, perhaps to give an evaluation of whether this development is good or bad for the consumer.

In this paper I will argue for an alternative; an actor-based approach to this field of research. A main argument in this approach is to view the technology in it's context of use (cf. Bijker et al. 1987, Latour 1988). With reference to the consumers, this implies to view the technology as one element among others in their daily life. The second part of the argument is then to view the technology in the context of other actors' use it (banks, retailers etc.). Following this line of thought, it then becomes essential to study the development and diffusion of the technology. Through this actor-based process, the shape of the technology, as it is presented to the consumers, is determined.

Within this approach, it becomes important to be specific with regard both to the technology in question, and it's context of use. I will here use EFTPOS (*E*lectronic *F*unds *T*ransfer at the *P*oint *o*f *S*ales), as an example. In the following, the concepts of activity and technology will be outlined, before a brief sketch of the EFTPOS-system will be given. Then I will give a presentation of the different actors in the EFTPOS-system, and their role in the operation and establishment of the system. Finally some implications of this approach are suggested.

ACTIONS AND TECHNOLOGIES

When arguing for an actor-based theory, it is necessary to elaborate the concepts of action and technology.

Using a scheme developed by Parsons, action is a relation between the goals of an actor, the means over which he has control, the external conditions which he cannot change, and his normative orientation (Parsons 1937).

For the actors involved, the technology may be one of his means, which he may use to pursue his goals, or one of the external conditions, confining his actions. A major point in the actor-based approach is to view this last aspect, "technology as condition", as the outcome of other actors' seeking to attain their goals (MacKenzie and Wajcman 1985).

This means that the technology is a nexus for different actors pursuing different goals, and having different criteria for success and failure. The process of technology-development then becomes a field for conflict and interplay among different interests; a place where some actors use technologies, some of them try to convince others to use the technologies, and still others try to make the use obligatory (Latour 1988).

EFTPOS IN THE DISTRIBUTION SYSTEM

EFTPOS is a technology for funds transfer. For the consumer, this represents a supplement to other funds transfer devices, as cash, cheques and credit cards. When using the EFTPOS-system, the consumer is paying by card at terminals at individual points of sale. Via the telecommunications network, these terminals are connected to the bank's data processing center which, on receiving an authorized signal from the terminal, transfers "electronic money" from the customer's account to the retailer's account. EFTPOS introduces a new relation between the consumer and the retailer, through the other actors involved (cf. fig. 1), and through the specific and different interests of each actor relating to the technological system.

There are different technical realizations of this system. Today, there are two different types of terminals, on-line and off-line solutions, and there are two different types of cards, the "Smart-cards" based on micro-chips, and the cards based on the magnetic stripe technology.

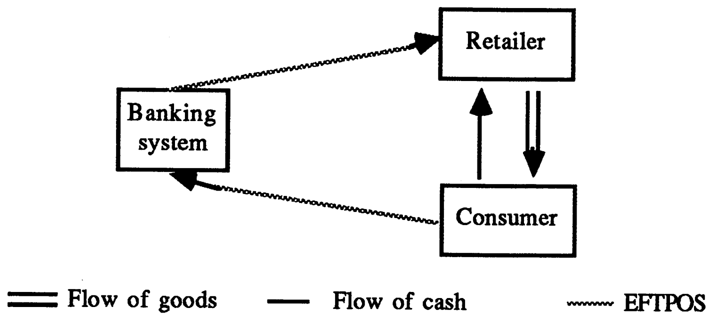
In the last few years, this method of payment has gained momentum - terminals are being installed in an increasing number of shops. During 1987, the year of breakthrough in Norway, the amount paid this way increased ninefold. The number of cards that may be used in these terminals is large. The cards are issued by the banks, either as cards meant to be used as a personal identification when using a check, or as separate cards that also can be used (and originally were issued to be used) in automated teller machines (ATMs). At the end of 1987 the approximate figures were 1.2 million cards and 2000 EFTPOS-terminals.

EFTPOS, THE CONSUMERS - AND OTHERS

So far in this presentation, the structure of the EFTPOS-system has been in focus, although some of the actors have been mentioned in the passing. To get a better understanding of the consumers' position, it is necessary to take a closer look at these actors, at how the EFTPOS-system is a part of their respective spheres of action.

FIGURE 1

EFTPOS and cash in the distribution system



As mentioned, for the consumer EFTPOS is a method of payment, or better, it is a possible element in his payment behavior. There are several properties he may want for the payment system (for EFTPOS, see Mitchell 1988). It ought to be reliable, fast and cheap, easy to use, easily available, and it should be secure against loss or theft. Of course, these different properties are not of equal importance.

For the consumer the means of payment available, and his skills in using them are the principal resources relevant for his decision concerning payment. The different means of payment have different properties. Of these, cash is the simplest. It is fast, easy, cheap and non-exclusive. However, cash is not safe against theft. The checks are safer, but also more onerous and expensive in use. The cards are less expensive than checks, and more convenient - when you know how to use them. In Norway we have a great number of automated teller machines (ATMs) which give experience in the use of cards (ATM is not a form of EFTPOS, it is a way of getting cash).

This simplified picture shows that EFTPOS is one element among many others in the consumer's payment-activity. As the case of the ATMs shows, this activity is related to a network of other technologies, activities and skills, Hence the meaning of the technology will differ among consumers. This sketch also shows that technological and non-technological features of the payment system present themselves to the consumer in much the same way. Prices, skills and (technical) compatibility are all parts of the same picture.

One may study the other actors in a similar way. The goals for the retailer is to have a payment system that is reliable, safe and simple, that reduces queuing time, and makes sure that the customers buying power is not reduced. Here again EFTPOS is one of many possibilities, along with cash, checks and credit-cards.

The banks want to transfer money in a safe and cheap way. Especially, they want to reduce the use of paper-based transactions, because these are expensive and more labor-intensive. For the banks, EFTPOS is one possibility among others for the transfer of money. Other possibilities include cash, checks and endorsements. The banks have a variety of means at their disposal, including technical means, as the establishment of the EFTPOS-system, economic means, as the pricing of their services, and institutional means, as the establishment of routines for funds transfer from one bank to another.

The EFTPOS-system is also related to other activities and other technologies. For the consumer, the payment-activity is one part of his general shopping activity. And I dare say it is not the part given most consideration. Further, the electronic funds transfer may take place in a terminal connected to his PC, which also may be used to electronic shopping. For the banks, EFTPOS is a part of a greater activity not exclusively intended for EFTPOS-services. This includes the bank-account of their customers.

For the retailer, EFTPOS and other kinds of payment systems form elements in a general strategy, among policies for pricing, assortment etc. Other technologies may be used to control this, eg. retail data systems used to control pricing and the flow of goods. The payment system may also be directly connected with the retail data system. This makes the payment more convenient (for the retailer), since the sum may be transferred automatically from the cash-register to the payment terminal. There are also more innovative forms of use. It is possible to make systems that combine shopping information (information which is not related to the identity of the customer) to information about payment (which is related to the customer). In this way the shop may acquire an overview of the consumption habits of their customers.

To conclude, EFTPOS is not an isolated technology for funds transfer, it is embedded in a greater network of other activities and other technologies. For the actors involved, EFTPOS is one element involved in rather different activities and strategies, and therefore the "meaning" and importance of the technology will differ. For an actor working with money and funds transfer, EFTPOS will probably be of greater strategic importance, than for an actor for whom this is a minor part in some other activity.

THE ESTABLISHMENT OF THE EFTPOS-SYSTEM

In the presentation so far, only those actors most directly involved have been taken into account. And the description has focussed upon the established system. This system, however, is the outcome of a development process. We have seen the working system as a field of differing interests. This is even more evident in the phase of technology development.

Neither of the actors described, have the capability to establish the EFTPOS-system. They need technical and organizational assistance, at least from technical experts and formal authorities.

The most important participants in the establishment and operation of the system are given in Figure 2.

The principal participants are the consumers and retailers. The actors on the left-hand side in the figure are directly involved in the operation of the system, while those on the right-hand side contribute to its definition and establishment.

This figure gives a static picture of the actors involved. It is possible to distinguish between different phases in the process of shaping and establishment of this system (for a more detailed description, see Jacobsen and Bakke 1988).

- *The establishment of the EFTPOS-concept*: The bank associations have been the driving forces in this phase. They were the initiators of the system, and they made their choices of technical solutions (cards and terminals). The development in this phase has to some degree been conducted in cooperation with representatives from the retailers association and the consumer authorities. They have signed an agreement of intent concerning the dèvelopment of funds transfer systems, including the principle of inter-operability, the ability to use one bank's EFTPOS-card in another's terminal, as well as a cost-sharing agreement.

- *The diffusion of the EFTPOS-concept to the banks:* Because the installment of terminals is done by the retailer's bank, the banks themselves constitute a population for diffusion. There is some degree of coordination in this phase, because of the integration among the banks.

- *The diffusion of EFTPOS-terminals to the retailers:* This phase is more decentralized. Whether or not to install the system is a choice made by each retailer. However, there is some coordination even here, because some chains of stores use this payment system as an element in their marketing. Information and promotion also take place in cooperation with the banks.

And finally

- *The diffusion to the consumers.* The diffusion of the EFTPOS-system to the consumers is a double-sided process: the diffusion of the cards and the method of payment. This first one has already taken place. As the cards also may be used in the ATMs, a large numbers of cards are already in use among the consumers. The second one is dependent upon a lot of factors, including those mentioned above, concerning the properties of the means of payment.

The different phases have their specific characteristics, while at the same time they are linked together. Of interest is that the construction of the basic design and the development of the infra-structure takes place in much the same way as a systems development process in organizations, while the diffusion of terminals to the retailers and the spread of the method of payment resembles the diffusion of goods for mass-consumption (cf. Rogers 1983). While being illustrative, this analogy is not without difficulties, since there is a great amount of competition between the actors in this "systems development", and there is some degree of coordination in the diffusion process, especially in the diffusion of terminals to the retailers.

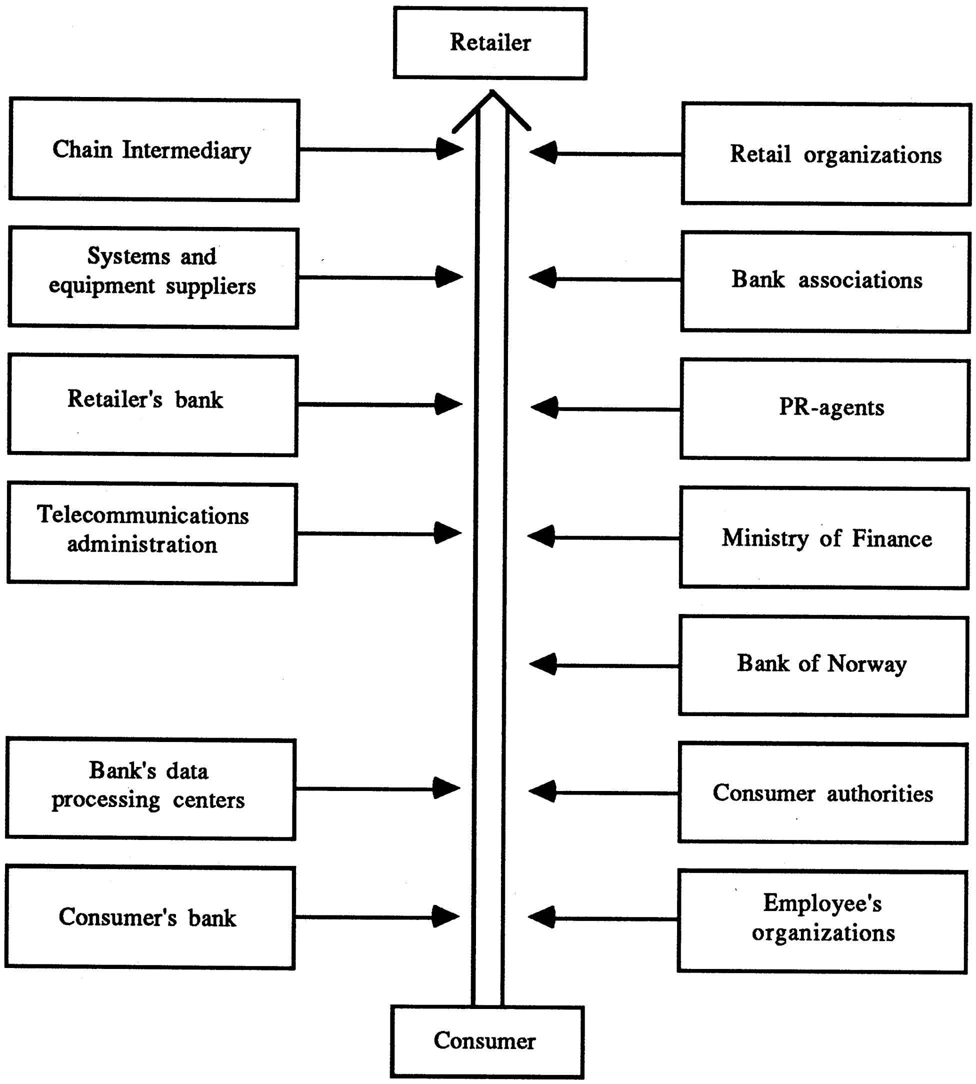
The course of this process has some important implications for the design of the system and for the consumers' position. The different groups of actors become involved in the design process at different stages of the development. This means that their potential influence on the shape of the system will differ. Those involved in the early phases of the project will set standards with regard to the technical and non-technical properties of the system. The choices made will be "frozen" in the technical and organizational system, and will therefore set boundaries for the later development. Important dimensions are the choice of EFTPOS-technology, the pricing of this service, strategies for diffusion, advertising and "image-production" etc. In particular, the consumers are involved late in the development process, and have few opportunities for direct influence. On the other hand, the success of the system is dependent upon all the different participants, as the late-comers in the development-process have the possibility not to use the system. In other words, there is a mutual dependence among the actors, while there is an asymmetry with regard to the influence over the resulting system.

CONCLUSION

In this paper a complex system is described, in which a process of technical and social change takes place. This process is described with reference to the goals and activities of the different actors. The technology is only one part of their respective strategies (although it is this part that keeps the actors (and this article) together). Having different goals, different attributes of the technology will be of importance to each actor. The establishment of the system is of importance to the consumers, because

FIGURE 2

The most important participants in the establishment and operation of the EFTPOS-system



they are the ultimate users, and the operation of the whole system depends on their (our) acceptance.

Two points have been made:

- The consumers' interests are expressed late in the process

- The payment-activity may be an object of less consideration for the consumer than for the other actors, because it is a minor part of the general shopping behavior. He therefore may not be as demanding to the payment system as the other actors

Both these points leads to the question on how the consumer interests are taken care of in the establishment and operation of the system.

The concept of consumer interest is in need of clarification and exposition, both with regard to the use of the system, and to the hidden and unintended aspects of the system. Questions of interest concern reliability versus confidentiality, and security versus ease of use. A complicating factor is that "the consumers" as a group is very heterogenous.

A further question is how to secure those interests, while the consumers are fragmented as a group, and their interests are diverse. This is even more important because they are involved late in the process of systems-development. There are several concepts for consumer influence. One is influence through the market, where the market sorts out solutions with unwanted characteristics. Another is regulation with laws or agreements through the support of official authorities, still another is to enter coalitions with some of the other actors (Mayer 1987). In this case, the consumers and the retailers (as a group) have a common interest in establishing a wide-ranging, general method of payment.

The aim of this paper has been to present an alternative way of studying technological systems. It is my hope that this approach may pose interesting questions for further theoretical and empirical research, and that this paper is only a beginning of further work along these lines.

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Consumer Behavior Theories as Heroic Quest

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ABSTRACT

The paper interprets six sequential consumer behavior theories in terms of the heroic quest narrative structure. The theories examined are: The Adoption of Innovations (Rogers 1962), Types of Consumer Problem Solving (Howard 1963), The Theory of Buyer Behavior (Howard and Sheth 1969), The Theory of Consumer Behavior (Engel, Kollat, Blackwell 1973), The Information Processing Theory of Consumer Choice (Bettmann 1979), and Experiential Consumer Behavior (Holbrook and Hirschman 1982). By examining shifts in the narrative content across these theories, we may gain insight into the development of thought regarding consumer behavior.

INTRODUCTION

In many ways, life resembles a narrative (Ricoeur 1971): people are born, grow, create and die, leaving their children to repeat the pattern; civilizations come into being, flourish, and wane, leaving varied artifacts as evidence of their existence; scientific notions arise, develop into theories, and are overthrown, absorbed, or abandoned perhaps to be resurrected in a different form at some later time. Human events, whether historic or current, also exhibit a narrative quality in the sense that an element of *storytelling* enters into any attempt to derive meaning from them (Block 1962; Culler 1975; Levi-Strauss 1978). As events occur their observer must generate a storyline linking them in order to learn *about* them and to learn *from* them (Landau 1984; Mink 1978; Scholes 1974). In a way not unlike that of the historian or journalist, the social scientist observes events and pieces them together within an interpretive narrative. Where gaps are present in the observed data, hypothetical constructs are generated to complete the storyline (Culler 1975; Marsh 1967). Propositions regarding causality, derived from the sequence of observed events, form the plot of the theory (Landau 1984; Mink 1978). Further, just as there are ideological orientations within historical and journalistic narrative traditions (e.g., Marxist, capitalist), so are there disciplinary and paradigmatic orientations within scientific theorization, which guide and frame the narrative produced (Fish 1981; Polanyi 1962; Wolff 1975, 1981). Within psychology, for example, experimental psychologists and Freudian psychologists construct differing narratives according not only to what they observe empirically, but also in keeping with the causal scenarios, or plots, that their distinctive orientations provide them (Berger and Luckmann 1966; Levine 1985). Similarly, sociologists adhering to the Marxist or Functionalist perspective, respectively, will construct different causal narratives to account for various historic and current social phenomena (cf, Block 1962; Huxley 1963; Marsh 1967).

Interpreting Theories as Texts

Within the semiotics literature and various forms of interpretive social science (cf, Barthes 1972, 1977; Eco 1973, 1976; Fish 1980; Geertz 1983; Ricouer 1971) it has been proposed that cultural documents may function as *texts*. Texts are ordered systems of meaning usually composed of one or more series of symbolic codes, which may be read or interpreted (cf, Eco 1976; Ricouer 1971). Literary documents, such as contemporary novels (Long 1985), historical treatises (Goldmann 1964, Kirk 1970; Levi-Strauss 1960) childhood story books (McClelland 1961), and comic books (Belk 1987) are obvious examples of texts. Less obvious, but equally rich multicoded meaning systems have been interpreted from the texts contained in motion pictures (Cawelti 1985; Holbrook and Grayson 1986; Hirschman 1987a, b), apparel configurations (Barthes 1972), physicians' diagnoses of illness (Foucault 1973), and television programming (Silverstone 1981).

Theorization within the social sciences attempts to create formalized meaning systems derived from empirical data, which explain human behavior. While such theories may seem to be straightforward expressions of their author's knowledge, and that knowledge, itself, to be the straightforward product of objective data gathering and analysis (cf, Calder and Tybout 1987), examples may be generated to suggest that this is not always the case. The theories of Marx, for instance, have received multiple, often contradictory interpretations by investigators (cf, Althusser 1971, 1972a, 1972b); as have those of Durkheim, Freud, and Weber (cf, Wolff 1975). More recently, Anderson (1986) has described the variations in interpretation by consumer researchers that have characterized the Fishbein model of attitude structure.

Thus, just as much social science inquiry involves interpreting observed sequences of human behavior, it is also possible to interpret social science theories, themselves. That is, social science theories constitute a form of text, which like any other may be subjected to interpretive analysis. Interpreting social science theories does not attempt to pass judgment upon their truth or falsity *per se*, rather it is an attempt at generating novel insights regarding the theories by looking at their underlying structures. Through this we may gain fresh perspectives on the intellectual milieu in which the theories are embedded.

The Heroic Quest Narrative Structure

The present paper interprets six sequential consumer behavior theories in terms of the *heroic quest structure*. Briefly, the heroic quest structure embodies a narrative containing some or all of the following elements (Campbell 1968; Kirk 1970; Lowry 1982; Propp 1968):

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1. The protagonist is in a state of equilibrium (initial condition).
2. The protagonist is selected or set apart from his fellows (designation).
3. The protagonist is confronted with a threat or challenge of some kind (transformation--disequilibrium occurs).
4. The protagonist must engage in a quest to overcome the threat or conquer the challenge (initiation of quest/task).
5. The task or quest usually requires the protagonist to journey to an unknown place where, through cleverness and courage, he must overcome obstacles (test--->triumph or test--->failure).
6. The protagonist may be aided in the quest by a magical gift or power from a supernatural donor (special assistance provided, usually in the form of intelligence).
7. The protagonist is tested again, this time with the assistance of the gift (test->retest).
8. If s/he succeeds in completing the task, the protagonist returns home with the prize to the adulation of family and community (status transition).
9. Successful protagonists continue to undertake subsequent tasks, usually of increasing difficulty and challenge.

Landau (1984) has productively applied this structure to construct an illuminating analysis of several prominent theories in paleoanthropology. Similarly, some consumer researchers have applied this same metaphor to their investigative efforts during the Consumer Behavior Odyssey (Belk 1987; Sherry 1987). As in Landau's (1984) analysis, the present research focuses upon narrative consumer behavior theories featuring a prominent protagonist, around whom the 'action' of the theory is centered. The theories interpreted by Landau described the series of events occurring during human evolution; the story of man's journey from pro-simian ancestors to the founding of human civilization. The theories subjected to scrutiny in the present analysis describe consumers' attempts to cope with that civilization--the sometimes overwhelming array of information, choices, criteria, and products that are the challenges of modern consumption. The six theories analyzed were:

1. The Adoption of Innovations (Rogers 1962).
2. Types of Consumer Problem Solving (Howard 1963).
3. The Theory of Buyer Behavior (Howard and Sheth 1969).
4. The Theory of Consumer Behavior (Engel, Kollat, Blackwell 1973).
5. The Information Processing Theory of Consumer Choice (Bettmann 1979).
6. Experiential Consumer Behavior (Holbrook and Hirschman 1982).

These were selected because they are chronologically representative of the kinds of theorization that have occurred and are occurring in consumer research, much as the theories examined by Landau (1984) were representative of scientific thought over an extended period of time in paleoanthropology. Further, each theory has aspects which, we believe, are consistent with the structural pattern of heroic quest. By examining shifts in the narrative content across these sequential consumer behavior theories, we may gain insight into the development of scientific thought regarding consumer behavior.

THE ADOPTION OF INNOVATIONS

Propositions about the process of innovation adoption constituted one of the first narrative theories in the field of consumer behavior. Spurred by the seminal work of Rogers (1962), literally scores of consumer behavior books (e.g., Robertson 1971), articles (Midgley and Dowling 1979) and papers (Jacoby 1972) have been authored on this topic and continue to be written (cf, Gatignon and Robertson 1985). One obvious reason for this outpouring of research interest is that innovative consumers may have marketing strategy utility, in that they are believed to help speed the diffusion process for new products (cf, Robertson 1971). Another less obvious reason for scientific fascination with innovators and early adopters is that they very much resemble the archetypal hero. They are portrayed, both in Roger's original theory and in subsequent extensions (Rogers and Shoemaker 1971), as restless adventurers who, like Ulysses, were always bound over the horizon searching for novel consumption experiences.

Roger's narrative also put forward a detailed description of the type of behavioral process consumers typically utilized in adopting novel products:

1. Awareness - the consumer learns of the existence of the innovation, but lacks relevant information.
2. Interest - the consumer develops an interest in the innovation, and seeks more information about it.
3. Evaluation - the consumer considers the innovation in light of current and anticipated needs, and decides whether or not to try it.
4. Trial - the consumer uses the innovation on a small scale in order to determine its utility.
5. Adoption - the consumer decides to use the innovation continuously.

Reading the innovation adoption process as a *text* exposes the following narrative structure: A consumer becomes aware of the existence of a novel product. The consumer sets off to find additional information about the innovation. The consumer mentally compares the concept of the innovation with the product currently being used. The consumer tests the performance of the innovation. The consumer decides to adopt the innovation on an ongoing basis.

Now let us reinterpret this structure in light of the typical sequence of events composing the heroic quest narrative: Within the community is an individual who is different in character, who is more adventurous and curious -- the innovator. The innovator undergoes a transformation, either through some internal change or because of the arrival of some external knowledge or stimulus. The innovator sets out on a journey or quest as a result of this transformation. S/he makes a discovery; and because of some special gift or superior power (i.e. intelligence), s/he is able to see the value/worth of the discovery. In triumph, the innovator takes the discovery back to the community.

The parallel deep structures (Kirk 1970; Levi-Strauss 1978) of these two narratives is clear. The narrative of heroic quest not only incorporates the major steps of the innovation adoption model, in some ways it tells the story more fully and more accurately: Innovators are those persons in the community who are more likely to become aware of innovations and/or to seek them out spontaneously. Upon learning of the existence of an innovation, these consumers are more likely to set out on a quest to acquire more knowledge. They come into contact with the innovation and, because of their mental gifts of intelligence, rationality, and education, are able to discern its advantages (if any) vis a vis the currently used product. They test the innovation carefully and, if it is a better alternative, they adopt it and make its utility known to the community.

The five-stage innovation adoption model was later criticized for its lack of correspondence to other forms of consumer decision making (cf, Robertson 1971; Rogers and Shoemaker 1971). One problem with the narrative account of innovative consumers who set forth on quests for novel consumption experiences was that the model of *their* behavior could not account for behaviors by consumers who were not so bold and risky. One solution observable in subsequent theories was to develop narratives of consumer behavior which concentrated upon innovative aspects common to all consumers. Consumer behavior theorists began to focus upon the exploratory powers of the mind. Consumers could *think* and they could *decide* -- as we shall show, these became the questing acts in later theories.

HOWARD'S THEORY OF CONSUMER PROBLEM SOLVING

In 1963 a marketing management text by John Howard put forward a novel perspective of consumer behavior as problem-solving. He later extended that perspective into a categorization of problem-solving activities that varied in the amount of *intellectual challenge* they offered to the consumer (1973, p. 61):

> "Buying situations can be summarized into three major types, according to how much information the buyer needs. In the first situation, the buyer needs relatively little information; this is routinized response behavior (RRB), because it is assumed that the buyer is purchasing a familiar brand. In the second, he needs considerable information; this is limited problem solving (LPS), where it is assumed that the buyer is confronted with an unfamiliar brand but one from a familiar product class. Finally, extensive problem solving (EPS) requires him to develop a new product class concept and he needs a great amount of information."

Of these three types of problems solving, the one most in keeping with the narrative of heroic quest was *extensive problem solving*. As Howard (1973, pp. 72-73) described it:

> "*[The Extensive Problem Solver] searches until he finds something that meets his needs.* He has some idea of how good it must be, how high it should come on the attitude scales if it is to be satisfactory. How high that is depends upon the buyer's aspiration level, which is not a completely fixed quantity. It too, adjusts over time. To the extent he is in a favorable environment -- has no trouble finding what he needs -- his aspiration level will tend to rise. Contrari-wise to the extent he is not in a favorable environment, it will tend to shift downward." (Emphasis added).

Howard's description of Extended Problem Solving is recognizable as a truncated version of the heroic quest narrative. The consumer is confronted with a change in the environment -- the need to solve a problem that has not been encountered before. Lacking the internal resources to solve the problem, s/he must set forth in search of a solution. The quest continues until a satisfactory product is found. The optimality of the product, according to Howard, is dependent upon how high the consumer's aspirations are (i.e., how 'heroic' s/he is). Some consumers, we infer, will satisfice with less desirable prizes, while others will continue their quest until the ideal product is acquired.

THE HOWARD-SHETH THEORY OF BUYER BEHAVIOR

Howard's insightful analysis of consumer behavior as a problem-solving process exhibiting some narrative elements of heroic quest was elaborated in greater detail and with a significant shift in theoretical emphasis with the appearance of the Howard-Sheth theory of buyer behavior (1969). The Howard-Sheth theory also followed the pattern of heroic quest in its basic elements: The consumer becomes aware of a stimulus. The more novel or challenging the stimulus, the more potential it possesses for creating a change in the consumer's internal mental state. The appearance of the stimulus causes the consumer to set off in search of information. The acquisition of information causes a change in the consumer's mental structure and may also result in behavioral change (i.e., purchase). Upon acquiring the novel product, the consumer's confidence and attitudes may be altered, depending upon the degree of satisfaction/dissatisfaction experienced. Satisfaction with the product results in repurchase.

The Howard and Sheth theory represented an important evolutionary shift in the accepted paradigm of consumer behavior. It proposed a significant change in locale for many of the questing elements of the narrative -- from the *external* physical world to the *internal* conceptual world of the mind. This was largely absent from the innovation adoption model of Rogers (1962) and hinted at only briefly in the Howard (1963) book. This shift in locale was a significant one because in many ways it foreshadowed the course of development for consumer behavior theories during the next two decades. It is in the Howard and Sheth theory that we first see emphasis upon *internal search* processes, *internal transformation* processes, and *internal evaluation* processes. Thus, the stage upon which the consumer's quest came to be enacted was not an external one of physical challenges and dangers, but rather an internal, mental realm in which the consumer must struggle with insufficient, conflicting or overwhelming information, must follow a treacherous course guided by cognitive heuristics and decision rules, and must gain the prize not through bravery and courage, but rather through the gift of logical reasoning.

THE ENGEL-KOLLAT-BLACKWELL THEORY

In 1968, concurrent with the publication of the Howard and Sheth theory, a second theory of consumer behavior was proposed. The Engel-Kollat-Blackwell (EKB) theory was aptly termed a *decision-process* model, because its focus was largely placed upon delineating those mental activities consumers pursued in arriving at a decision to purchase, repurchase, or reject a product. In focusing upon decision processes, instead of innovation adoption or problem solving, the EKB model added a new twist to the heroic quest narrative, while still adhering to its central theme.

Recall that in the innovation-adoption theory and the Howard and Sheth theory, the consumer was interpreted to act heroically if she/he searched for and acquired a novel product. This was consistent with the traditional heroic quest narrative, in that the hero was the one who went out into the unknown, struggled with difficulties, and then successfully brought home the prize. However, as Howard and Sheth (1969) had noted, much of consumer behavior consisted of limited problem solving or routinized response behavior; these kinds of behaviors were not really heroic because they presented the consumer with no great challenges or obstacles to overcome. Hence, heroic consumer behavior in the Howard and Sheth framework was restricted largely to acts of extended problem-solving, in which the consumer went on a quest to locate a novel product, encountering and overcoming difficulties in the process.

However, this provided a somewhat unattractive portrayal of consumers, because it implied that most consumption behaviors were mundane, repetitive and, thus, unchallenging. Further, it also implied, as did the innovation adoption theory, that unless consumers were constantly on the forefront of consumption, acquiring novel products and solving difficult problems, that their lives were dull and their consumption behavior was uninspired.

The EKB model neatly solved this quandary. It did so by giving consumers credit for earlier questing consumption acts (which became mentally stored in the form of information and experience) and which subsequently served to mediate later acts of consumption. Further, even the decision to *reject* a product could be construed as heroic within the EKB model, because such a decision was based upon the application of the intellectual *gift* of logical reasoning. Thus, one of the evolutionary propositions presented by the EKB model was that the importance of using logical reasoning was greater than the importance of acquiring the product. Acquisition of the product became no longer a necessary, or even necessarily desirable, aspect of the consumer's quest. What was important -- what became the mark of heroic endeavor--was that the consumer had carefully considered the alternatives and decided, after intelligent deliberation, on an *intellectually rational* course of action.

Thus, the EKB text represents a variation of the traditional heroic quest narrative. The primary--and instructive--divergence is that in the EKB text the consumer is assumed to already possess the gift that will permit him to acquire and evaluate the product--this gift is the brain, or as EKB termed it, the Central Control Unit. By using brain-stored knowledge the consumer was able to recognize when it is necessary to set off on a quest (i.e., that a routine/habitual purchase was not sufficient to solve the problem). Brain-stored knowledge also assisted the evaluation of alternative products available to the consumer and guided selection of the most optimal alternative. This same ability enabled the consumer to evaluate the product after purchase and determine if it should be retained (i.e., test --> triumph) or rejected (i.e., test --> failure). However, even a test --> failure outcome was not deemed a complete loss within the EKB narrative, because valuable knowledge and experience were obtained which improved quest performance in the future.

BETTMAN'S INFORMATION PROCESSING THEORY OF CONSUMER CHOICE

The Bettman theory extended the developing emphasis upon mental questing processes to its ultimate conclusion -- virtually all of the *action* in this text occurred in the consumer's *mind*. In sharp contrast to the earliest consumer behavior theory of the inquisitive, externally-searching innovator, the consumer in Bettman's text searches down mental pathways, assisted by logic, attempting to overcome obstacles of information indeterminance, inadequacy, or overload; struggling with conflicting decision rules, shifting criteria, and stymied, at times, by memory lapses. In this theory, the gift -- the human mind with its awesome capabilities and frustrating limitations -- had also become the field of adventure, the challenging terrain across which the quest for the product must traverse.

Bettman (1979, p. 18) characterized the consumer behavior quest in this way:

> "The choice process is depicted theoretically as a *process of moving from some initial state toward some desired state*.. The consumer must progress from this initial state to the desired state, which in most cases will be consummation of a purchase. In moving from the initial state, through intermediate states, and eventually to the desired state, the consumer uses strategies and heuristics...The choice process may be seen as the consumer's *progress through* such a set of goals. Goals thus specify *purposive behaviors whose enactment is necessary to progress toward the goal object* (Emphasis added, p. 19)."

The Bettman text followed closely the traditional narrative of heroic quest. There were however, two prominent sources of divergence in the Bettman version, which are instructive. First, as was alluded to earlier, the gift aspect of the quest is present from the outset in the Bettman narrative. The consumer's mind is present even in the initial stage of motivation and goal hierarchy, and serves in the later stages as both a boon and hindrance to the quest. The brain is a boon in the sense that it is the essential navigatory instrument, continuously guiding and directing the consumer in the quest. It is also a hindrance in that its processing limitations represent imposing hurdles which the consumer must either overcome (for example, by gathering additional data or simplifying a complex heuristic) or fall victim to (for example, through memory lapses or the use of inappropriate evaluation criteria). Thus the nature of the human brain in the Bettman theory caused it to function both as a beneficial gift and a treacherous course. To succeed in the quest, the consumer was challenged to utilize intellectual resources to overcome intellectual deficiencies; an interesting twist to an ancient theme.

A second variation in the Bettman model was present in rudimentary form in the earlier EKB model, but here has been developed into a more distinctive proposition. At the end of the Bettman narrative we have the very interesting result that *acquisition of the prize* (i.e., product purchase) serves to *increase the value of the initial gift* (i.e., the consumer's information processing ability). That is, after a choice has been made and the chosen product has been consumed, additional knowledge and experience are gained which increase information processing skills for future quests. This provides a more *optimistic* outcome than that given in the traditional narrative. In most traditional hero stories, the protagonist must begin each quest with the same skills and talents - or even with weakened ones (e.g., Ulysses). The optimism of the Bettman theory resides in its proposal that with each quest the consumer gains skills and knowledge that make future choices both easier and more optimal.

THE HOLBROOK AND HIRSCHMAN EXPERIENTIAL CONSUMER

By the late 1970's - early 1980's the depiction of the protagonist in theories of consumer behavior had become increasingly centered around acts of decision making resulting from the systematic, logical processing of information. The consumer still set out in search of novel products and carefully stored the knowledge gained from prior quests -- but some important narrative elements were missing, or perhaps lost. The consumer had become overly mechanized. The success of the quest now seemed more dependent upon excellent cognitive engineering than upon traditionally heroic traits such as imagination and the thrill of adventure.

To replace these lost elements of the storyline, a dialectical set of narrative additions was proposed (Holbrook and Hirschman 1982). This *experiential perspective* was "phenomenological in spirit and regarded consumption as primarily a subjective state of consciousness with a variety of symbolic meanings, hedonic responses, and esthetic criteria (p. 132)." The proponents of this perspective presented a model which added-on these experiential aspects to the traditional narrative structure of consumer behavior. Thus the story remained essentially the same, but the consumer was provided with emotional and sensual traits.

In some ways the additional traits given to the consumer harkened back to the earlier Rogers and Shoemaker innovator model and to even earlier mythic figures such as Ulysses, Dionysus, and Sindbad. Consumers were construed within the experiential narrative not only as planners but as dreamers; and not only as individuals capable of learning, but also of feeling joy and sorrow. Although these additions served to contribute a sense of romanticism, idealism, and hedonism to the conception of consumer behavior, the central narrative remained largely intact -- the basic pattern of heroic quest was still adhered to; it simply had been made more soulful.

As Holbrook and Hirschman (1982, pp. 137, 138) stated:

> "At the behavioral level, traditional consumer research has focused almost exclusively on the choice process that generates purchase decisions culminating in actual buying behavior. Thus, brand purchase is typically viewed as the most important behavioral outcome of the information processing model.... In the experiential view, the consequences of consumption appear in the fun that a consumer derives from the product - the enjoyment that it offers and the resulting feeling of pleasure that it evokes... The criteria for successful consumption are essentially esthetic in nature and hinge on an appreciation of the product for its own sake, apart from any utilitarian function that it may or may not perform."

The Holbrook and Hirschman text depicted the consumer as more human and less machine-like than the earlier information processing version. However, they failed to acknowledge a potentially negative consequence for the consumer: where there was a possibility of experiencing joy, there was also the possibility of experiencing anguish; and consumers who knew the exhilaration of success may also encounter the depression of defeat. The experiential consumer had to face the full consequences of his thoughts, his senses and his emotions.

DISCUSSION

The foregoing interpretation of six consecutive theories of consumer behavior in terms of the heroic quest narrative structure has brought to light several similarities and dissimilarities among the texts. However, all of the theories exhibited a structure consistent with that of the heroic quest narrative. Each depicted a *central protagonist* -- the consumer -- who searched for products, and was, in turn, altered by the process. Further, in each of the theories, the consumer began the narrative in a state of *equilibrium*, but without the product. S/he was then *transformed* to a state of disequilibrium by various means, which included--in sequential order of their appearance in the texts--venturesomeness, internal arousal, problem recognition, the arrival of novel information, and emotional-sensual imagery. In response to this state of disequilibrium, the consumer *set off on a quest* containing elements of external search, internal search, or combinations of these activities. While on the quest a number of possible outcomes were posited to occur (1) a novel product was discovered and acquired (*test--->triumph*), (2) a known product was acquired (*test-->triumph*), or (3) the search proved too costly or was ineffective, resulting in abandonment of the quest (*test-->failure*). The acquired product might or might not prove useful, satisfactory, or effective (*test-->retest*). Finally, the protagonist was altered in some way as a result of the quest (*transformation to a new status*); usually this alteration consisted of a change in mental structures, e.g. criteria or decision rules, although shifts in emotional, psychological, and physiological changes were also suggested in some of the texts. In a structural sense (cf, Levi-Strauss 1963, 1978) the theories were homologous to one another and to the heroic quest narrative.

However, within the structural framework outlined above, significant shifts in the theories' narrative *content* over time were discerned. Among the most readily apparent of these was marked movement toward *cognitization* of the consumer. Successively, the first five texts discussed, from Roger's innovative adopter to Bettman's information processor, displayed an increasing emphasis on the mental aspects of the protagonist. As theorization developed from the Rogers text to the Bettman text, not only was the initial state of disequilibrium more likely to be attributed to a mental source, but the quest and resolution portions of the narrative also were more likely to occur in cognitive locales.

The shift toward greater cognitization of the consumer in these narratives may reflect the growth in influence of cognitive psychology on the field of consumer behavior during the decade of the 1970's, which arguably culminated in the publication of Bettman's (1979) book. After that apex, an ideological dialectic began to surface, one manifestation of which was the Holbrook-Hirschman (1982) text of the feeling, sensing, emoting experiential consumer. Thus, although all six theories structurally "tell the same story," their specific contents appear to mirror changes in the ideological foundations of consumer behavior from the early 1960's to the early 1980's.

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Theory Borrowing and Reflectivity in Interdisciplinary Fields

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ABSTRACT

The theory borrowing process has been important for relatively new interdisciplinary fields which do not have a long history of theory construction and testing. This process involves removing a theory from its original context and using it in another to explain a phenomena important to the field. In order to minimize misborrowing, it is necessary that the borrowing process become explicit, purposive and conscious. This can be accomplished only if researchers understand the important philosophical issues at stake. It is proposed that appropriate borrowing results from a harmony or consonance of theory superstructure, type of science, and social context. Inconsistencies revealed among these elements may result in substantial problems for the research program.

INTRODUCTION

The youth of interdisciplinary fields has necessitated borrowing theories, methods and aims from other, more established, academic disciplines. For example, the consumer behaviorists have borrowed much of their paradigm from cognitive and behavioral psychology (Peter and Olson 1987). The marketing channels field has been constructed largely from transaction cost economics (Williamson 1973), political economy frameworks (Zald 1970), and social theories explaining power and conflict (Dahl 1957; Coser 1956). In fact, it has been suggested that marketing theory in general has borrowed much of its ontology from economics and finance, while its epistemology from sociology and psychology (Anderson 1982). At times this borrowing has been a conscious or purposive process, implying that theories found in other disciplines are evaluated and chosen for specific reasons. However, at other times, this borrowing is characterized by a random, accidental, or opportunistic process. Assuming that a discipline resulting from purposive borrowing will yield more fruitful (lasting, relevant, applicable) and programmatic paradigms, it is important to be reflective on the important issues involved.

The purpose of this paper is to articulate and discuss the philosophical issues at stake in theory borrowing. "Theory borrowing" is defined here as a social process, performed by researchers, in which: a theory constructed in a particular social context to explain a social or natural phenomena at a specific level of abstraction, is taken out of this context and used in another to explain a different social or natural phenomena at the same or a different level of abstraction.

It is argued here that "appropriate borrowing" results from a harmony or consonance of *theory superstructure*, *type of science*, and *social context*. Inconsistencies found among these elements may result in substantial problems for the research program. This is illustrated in the next section by examining a classic case of misborrowing.

AN EXAMPLE OF MISBORROWING: THE MOTIVATION RESEARCH ERA

Until 1925, consumer behaviorists relied on neoclassical economic theories. The consumer was thus understood to be perfectly rational and consistent (Horton 1984). After 1925, researchers began to emphasize both emotional (affective) and rational (cognitive) motives for consumption. Lacking adequate explanations for emotional motives, Freudian psychoanalytic theory was borrowed in 1940. During the 1940's and 1950's, Freudian psychology had a strong impact on marketing academics, practitioners, and consumer behaviorists (Horton 1984).

Eventually, the motivation research era failed to move beyond the basic observation that consumers were sometimes motivated by forces they could not report. It is suggested that the reason this research program failed to produce significant findings was due to its use of Freudian theories. These theories were inappropriate for three reasons. First, psychoanalytic theories were structured specifically for clinical settings. Here the persons observed were seriously disturbed. Consumer behaviorists, however, were interested in explaining the behavior of the "typical" person. Second, the 1950's ushered in an era of logical empiricism, emphasizing the process of operationalization and the importance of an observational language. Freudian psychology was produced within a context stressing subjective interpretation, thus many important concepts (e.g., the "unconscious") could not be adequately operationalized. Third, psychoanalysis originated in nineteenth century Vienna, a society greatly influenced by Victorian ideas surrounding issues of sexuality (Horton 1984). As a number of theorists have recognized, the sentiments of the social context from which the theory emerges become intertwined in the theory itself (Fuhrman 1980; Gouldner 1976; Martindale 1979).

Table 1 depicts the important changes that occurred as Freudian theories were borrowed to explain consumer behavior. The aim (implicit to the theory superstructure) changed from one of helping disturbed patients to explaining the behavior of typical consumers. The research approach, or type of science, changed from an interpretive or historical-hermeneutic approach to logical empiricism. The social context changed from nineteenth century Vienna to 1950's post-war America. Assuming that aims, methods and theories are inevitably intertwined in relations of mutual adjustment and justification (Laudan 1984), it is logical to suggest that the motivation research era failed due to a disharmony or inconsistency with the elements as summarized below. Neglect of how the theory changes when it is borrowed can lead to

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TABLE ONE

Changes in Freudian Psychoanalysis When Borrowed by Consumer Researchers

Freudian Theories		Motivation Research
Helping Disturbed Patients	Superstructure	Explaining Typical Behavior
Interpretive-	Type of Science	Logical Empirical
Psychoanalysis: 19th Century Vienna	Social Context	Consumer Behavior: 1950s America

inappropriate uses of theory, which in turn can lead to fundamental problems in the research program. The researchers of the motivation research era did not look for a congruence between the original theory structure and its use. Before the general issues are presented, it is important to focus on the elements comprising a "theory structure", that is, theory superstructure, and theory substructure (here theory substructure is understood to include both type of science and social context).

THEORY STRUCTURE

The structure of theory is not comprised of empirical propositions alone (Friedricks 1970; Fuhrman 1980). Theory structure can be understood in terms of a superstructure, as well as a deeper, more hidden substructure (Mannheim 1936; Gouldner 1970, 1976).

Theory superstructure consists of logical empirical and/or intuitive propositions that are put forth for argument. These propositions appear on the phenomenal level but not in the deep structure of theory (Fuhrman 1980). According to Martindale (1960), theory superstructure consists of the descriptive concepts or metaphors used as the basis for explanation. These are the statements that will be evaluated in terms of their truth or falsehood. For example, a number of Homan's (1958, 1961, 1974) propositions have been borrowed by researchers when constructing theories of marketing exchange (Bagozzi 1975; Houston and Gassenheimer 1987). Two of these propositions can serve as examples of theory superstructure.

The Success Proposition:
For all actions taken by persons, the more often a particular action of a person is rewarded, the more likely the person is to perform that action (Homans 1974, p.16).

The Value Proposition:
The more valuable to a person is the result of his action, the more likely he is to perform the action (Homans 1974, p.25).

The substructure of theory serves as a foundation for the theory superstructure. The substructure rests behind the scene, exerting a guiding influence on superstructural propositions. Unless consciously revealed by the theorist, the substructure is imperceptible or hidden. For this reason, it may go undetected. In reading Homan's propositions above it is not apparent that his view of human nature is borrowed from structural-functionalism which assumes humans are both rational (goal-directed) and determined by forces external to themselves. It is also unapparent that Homan's theoretical substructure is closely aligned with classical economics: "Indeed if he had learned to find reward in not husbanding his resources, if he values not taking any thought for the morrow, and acts accordingly, his behavior is still economic. In fact, the new economic man is plain man" (Homans 1961, p. 79). Lastly, Homans is assuming a rather narrow view of Skinnerian behavioral psychology that takes its principles from animal behavior (Ekeh 1974; Poloma 1979).

After the substructure is revealed to the reader, as in the above example, the propositions (superstructure) may be understood in a new light. The reader may now perceive that Homan's propositions are based on a unique mix of structural-functionalism, classical economics and behavioral psychology. Reading propositions "deeply" may enable researchers to make clearer judgments as to their intuitive plausibility or usefulness.

Theory substructure can be defined as a complex mix of values, interests, sentiments, and assumptions (Fuhrman 1980). Values, interests and sentiments are part of social structure and over time become internalized, to varying degrees, by the individual scientist (Berger and Luckmann 1967). They will influence the interaction between the reader and the text, as well as condition which theories will be accepted (Tiryakian 1979; Kuhn 1970).

Assumptions generally include ontological, axiological and epistemological suppositions (Hudson and Ozanne 1988). These assumptions cluster in different combinations to form different scientific approaches. For the purpose of this paper, theory substructure will be understood as *type of science* (assumptions) and *social context* (values, interests and sentiments).

Type of Science

A number of researchers have developed a classification of the sciences based on ontological, axiological and epistemological assumptions. In marketing, this classification focuses on the juxtaposition of positivist and interpretive approaches (Morgan and Smircich 1980; Peter and Olson 1983; Hudson and Murray 1986; Hirschman 1986; Hudson and Ozanne 1988). This is appropriate given the dominance of the empirical-analytic approach in marketing and the potential usefulness of the interpretive approach.

Most sociology and philosophy of science classifications add a third approach to science called critical theory or the critical-empancipatory approach (Schroyer 1970; Habermas 1971; Bernstein 1976; Fuhrman 1979). This approach has not been emphasized in marketing, although recently there have been stirrings of some activity (Rogers 1987; Special Session on Critical Theory, AMA Theory Conference 1987). Thus, a more comprehensive classification should include three types of science: empirical-analytic, historical-hermeneutic, and critical-emancipatory.

The empirical-analytical sciences are interested in the covariance of particular events. The evolution of this approach through positivism, logical empiricism, and falsification has been aptly summarized by Anderson (1983). The important issues involved in the positivist's approach to workbench research have been summarized by Hudson and Ozanne (1988). In the extreme, this approach assumes the existence in nature of an inherent order that can be discovered by the rational capacities of the researcher (Schroyer 1970). Once regularities and causal relationships of the inherent order are found through careful observation, this knowledge can be used to explain and predict (Burrell and Morgan 1979). In short, this type of science is based on the fundamental assumption that propositions are meaningful only if they can be empirically verified (Anderson 1983).

The historical-hermeneutic or interpretive sciences focus on intersubjective understanding. "Access to the facts is provided by the understanding of meaning, not observation" (Habermas 1971, p. 309; as quoted by Fuhrman 1982, p. 222). This approach, as well as its practical use in marketing, has been summarized by Hudson and Murray (1986) and Hirschman (1986). From this perspective, causal linkages are meaningless since all entities are in a state of "simultaneous shaping" (Lincoln and Guba 1985, p. 38). The emphasis of the analysis is on the subjective accounts generated by "getting inside" situations (Burrell and Morgan 1979, p. 61). All generalizations are thus time and context dependent. Symbolic interactionism, phenomenology, ethnomethodolgy, hermeneutics, and mixed forms of the above (Berger and Luckmann 1967) fit into this category.

Critical-emancipatory sciences do not stress covariance and control, nor do they focus on intersubjective meaning and understanding. This does not imply that critical theorists are unaware of determining social structures or the importance of meaning and understanding, rather, these approaches are simply not comprehensive enough. Critical science has an emancipatory interest. It focuses on the present but is also concerned with potential futures. Max Horkheimer (1972) states that critical theory is distinct from other kinds of science in three respects. First, critical theorists do not purport to be without political convictions. Assuming that all theoretical propositions are rooted in a substructure of interests, sentiments, and assumptions, all theory is ideological and therefore political. Second, critical theorists not only analyze societal contradictions but seek to become a force from within to stimulate change. The beginning of change and progress lies in the process of isolating and revealing the negative. Third, critical theory has an unmasking or revealing function. One of its foremost aims is to expose those structures or tensions which inhibit the social construction of a more humane social world.

In short, the emphasis critical theory places on social construction, human emancipation, and potentiality undermines the sense of inevitability and the natural order associated with the empirical-analytic sciences. At the same time, the emphasis placed on the constraints of social structure undermines the nominalism associated with the historical-hermeneutic sciences (Schroyer 1970). The unique feature of critical science is its tendency to reveal the possible by promulgating the constraints:

> To discover in each system its essential limit, that is, those structural features which prevent the evolution of the system toward a more valuable state...and to show the concrete possibilities, and ways of superceding such a limit...this is the so-called principle of the negation of the negation (Markovic 1974).

Social Context

As stated above, values, interests, and sentiments are important components of the social context. The socialization process produces a degree of correspondence between a social, consensual reality and an individual, subjective reality (Berger and Luckmann 1967). This process includes both primary socialization (e.g., learning language) as well as formal, academic training (e.g., Ph.D work). Over time the values, interests, and ideological sentiments of the social context become, in part, the individual's. For example, the empirical-analytic sciences dominate western marketing, thus most Ph.D candidates are well versed in the process of operationalization and statistical analysis. At the same time, the critical sciences are dominant in parts of Europe (Rogers 1987), thus doctoral study abroad emphasizes a more philosophical approach, greater attention to context, and a dialectical orientation. The socialization process links paradigms and scientific approaches to identity. It involves emotional attachments, feelings of ethnocentrism, and inevitably perceptions of in-group, out-group relationships. Thus, in some respects, this process is more influential or guiding than the underlying assumptions.

Social context also includes significant events and/or social changes. For example, the social theories of the early American sociologists reflected the impact of industrialization (Fuhrman 1980). Significant events, such as the rise of the urban masses, mass immigration, the emergence of the socialist party, the organizational revolution, and domestic political conflicts, became the social context from which these scholars lived and worked. The writings of Lester Ward, William Sumner, Albion Small, Franklin Giddings, Edward Ross and Charles Horton Cooley were, in part, a response to this period of American history (Fuhrman 1980). Clearly, the rise of post-industrial society, multinational capital, ecological concerns, micro-chip innovations, and the potential for nuclear annihilation effect scientific research today.

In summary, theories consist of a superstructure and substructure. The superstructure includes the empirical or intuitive propositions that exist on the phenomenal level. These propositions are then evaluated in terms of their usefulness, applicability, relevance, beauty, truth or falsehood (the purpose of this paper is not to discuss acceptable criteria from which theory should be judged; our point is that it is the superstructure of theory which is usually evaluated).

The substructure of theory includes the type of science (ontology, axiology and epistemology) which justifies the theory and the social context (interests, values, sentiments and significant events). It should be noted that type of science and social context are not mutually exclusive. However, for the purposes of this paper, it is important to distinguish these elements since type of science may remain unchanged when the theory is borrowed.

The above discussion of the substructure and superstructure of theory leads us to the salient issues to be considered when borrowing a theory to explain a phenomena important to marketing. Clearly, even if the superstructure is borrowed intact, changes in the substructure may alter the way a theory is used and thus the information it yields.

THEORY BORROWING AND REFLECTIVITY: SALIENT ISSUES

Theory structures cannot be borrowed intact since, by definition, theory borrowing involves a change in social context. We propose that when a theory is borrowed, an entirely new theory structure emerges (see Figure 1). This can have a variety of consequences. For example, the new context may refresh the theory, changing it in meaningful and creative ways. A theory that failed on evaluative criteria in one context may be successful in another. On the other hand, a change in substructure may render the theory barren and flat. Whether the new theory structure becomes useful or not depends on the kinds of changes that take place from Theory Structure One to Theory Structure Two (see Figure 1). Four important philosophical issues can now be considered:

1. What are the elements of Theory Structure One?

As stated earlier, the substructure of theory is often imperceptible or hidden. Yet, in order to consider the full implications of borrowing, the substructure needs to be understood. Reflecting on the underlying assumptions and social context will, by itself, make the borrowing process less opportunistic.

According to Gouldner (1974, p. 10), the role of a rational reflective theorist is to "help a society develop and maintain a consciousness of the connection between interest, desire, social being, material groundedness on the one side, and information, reports, news, and all references to social worlds, on the other." Rationality in this context means to "think about thinking" (Gouldner 1973). Reflection means to examine one's own assumptions in a thoughtful and deliberate manner (Fuhrman 1984, p. 228). Thus, the theorist needs to consciously consider the connections between theory superstructure and its history. What type of science was originally used to evaluate and justify the theory? What were the interests, values, sentiments and significant events which enveloped the social construction of the theory? For example, in looking back to the motivation research era, Theory Structure One consisted of propositions from Freudian psychoanalysis, an interpretive type of science, and was constructed within the ideological community that characterized nineteenth century Vienna.

2. Which elements changed when Theory Structure One became Theory Structure Two?

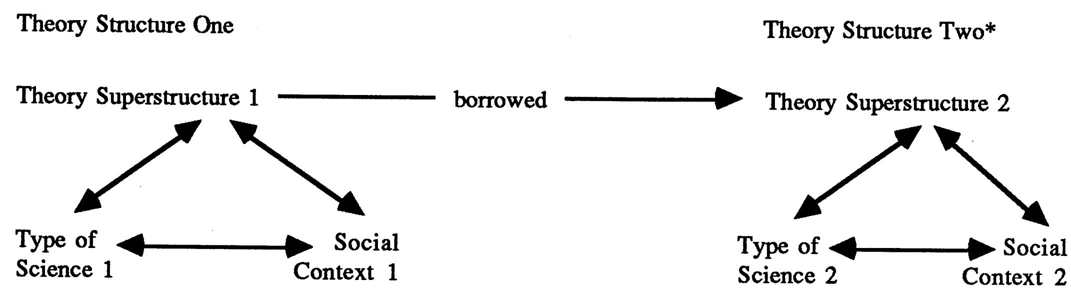
The same reflective process as described above is required for Theory Structure Two. This will help to reveal which elements changed when the theory was borrowed. Returning to the motivation research example, all three elements of the original theory structure changed. The superstructure changed in that only a small portion of the propositions comprising Freudian psychoanalysis were borrowed. Assuming that the original propositions worked together in an organic manner, the borrowing theorist lost the synergy derived from their interdependence by selecting only a few. The type of science changed from historical-hermeneutic to empirical-analytic. The social context transformed from nineteenth century Vienna to post-war 1950's America.

3. Are the combined elements from Theory Structure One and Two compatible?

Further reflection can assess whether or not the combined elements are consistent or compatible. At this point of reflection, the theorist must look for opposing, conflicting, inharmonious, or contradictory qualities or trends. This is not meant to suggest that if two or more of the elements are contradictory, then the theory should not be borrowed. Rather, we are suggesting that change will emerge from the inconsistency or contradiction. This change may be positive or negative depending on the new context, evaluative criteria, aims of the theorist, etc.

FIGURE 1

Theory Borrowing and Theory Structure



* It is assumed in this figure that the theoretical propositions (superstructure) were borrowed intact and thus were unchanged.

In general, the cognitive aim of "consistency" cuts across different types of science. Consistency is expressed in terms of *reliability* for the empiricist (Cook and Campbell 1979); *dependability* for the interpretivist (Lincoln and Guba 1985); and *contradiction* for the critical theorist (Sayers 1981). Each of these expressions captures a different aspect of consistency. Still, if the borrowed theory is rendered useless in the new context, it is because the merging of opposites had a negative effect on the theory. For example, Freudian theory was constructed in a context using a historical-hermeneutic type of science. Yet, when it was borrowed, it was made to fit an empirical-analytic type. This type of inconsistency could very well lead to problems for the research program in the future.

4. If a fraction of the combined elements are inconsistent, what are the consequences?

If two or more of these elements do not seem to fit together in a harmonious and congruent way, what are the consequences? Are the consequences such that the theory will not prove useful over time? Will the new theory structure violate consensual standards in such a way as to leave it labeled uninteresting or absurd?

Since we are focusing on inappropriate or unreflective borrowing, we are emphasizing the negative side of contradiction. Clearly, the consequences of mixing an interpretive science with an empirical one were devastating to the motivation research program. Concepts which were rich in meaning in one context (e.g., the unconscious) could not be adequately operationalized in another.

CONCLUSION

The theory borrowing process is essential for marketing as well as other interdisciplinary fields. In the past it has lead to creative and illuminating uses of theory. However, it has also lead to dead-ends, wasted time of researchers and resources of academic institutions.

The purpose of this paper was to articulate and discuss the important philosophical issues at stake in the theory borrowing process. The process of reflection discussed above is a difficult and time-consuming procedure. In fact, the issues we presented are based on assumptions that need careful consideration as well. For example, we implicitly assume that the theorist will be able to accurately assess such abstract relationships as the existential connection between theory and its social bases; that Theory Structure One was not itself borrowed from an unknown context; that the theorist has a hand in shaping the structure of his/her field; that all theories are equally legitimized; and that the theorist is interested in doing the appropriate thing. Indeed, theory borrowing is a complex process which needs to be further analyzed from philosophy of science and sociology of knowledge perspectives. The theoretical issues discussed here can be considered an additional step toward reflection on how we acquire certain kinds of knowledge and the purposes to which this knowledge is applied.

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Interpretation and Reinterpretation in Theory Construction and Application: The Views of Some Prominent Consumer Behavior Theorists

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ABSTRACT

Six prominent consumer behavior theorists -- James Bettman, James Engel, Morris Holbrook, John Howard, Everett Rogers and Jagdish Sheth -- were queried on their views concerning (1) other authors' interpretations of their model, (2) whose property a scientific theory is, (3) the importance of preserving the originator's intentions when applying a theory, and (4) whether they relied on processes of subjective interpretation or objective truth-testing in constructing their theory. Their answers shed some light on the current debate over what is science.

INTRODUCTION

Recently a debate has surfaced in consumer research over the role of interpretive inquiry in a social science (cf, Anderson 1986; Cooper 1987; Calder and Tybout 1987; Holbrook 1987; Kernan 1987). Although the present author's personal views on this debate are known (cf, Hirschman 1985, 1986), I believed it might be worthwhile to query some prominent, practicing consumer behavior theorists as to their own views on the use of interpretive processes in theory construction and application. To that end, I wrote to James Bettman, James Engel, Morris Holbrook, John Howard, Everett Rogers and Jagdish Sheth and asked them to respond to four questions:

1. In general, how do you feel about other authors' interpretations of your model? Are there instances where you believe other authors have abused the model by misinterpreting your intentions? Are there instances where you believe other authors have made constructive reinterpretations of your model (i.e., have put it to desirable uses you did not envision)?
2. Whose property is a scientific model once it has appeared in the literature? Does it belong to the creator or to the scientific community at large? Why?
3. In general, do you believe that researchers applying a model developed by someone else should take steps to insure that their interpretation is consistent with the developer's intentions? Why or why not? If so, what might those steps be?
4. In constructing your model do you believe you relied more on a process of subjective interpretation or on a process of objective truth-testing?

[1] The author gratefully acknowledges the cooperation of James Bettman, James Engel, Morris Holbrook, John Howard, Everett Rogers and Jagdish Sheth in conducting this inquiry.

Interpretation, Misinterpretation, and Reinterpretation

The first question asked the theorists to comment on the processes of interpretation, misinterpretation and reinterpretation as applied to their theories by other researchers.

Rogers reported that he was generally satisfied with other researcher's interpretations of his models of the diffusion and adoption processes for innovations (Rogers 1962; Rogers and Shoemaker 1971).

> "Other's interpretations [of the innovation diffusion and adoption models] are mainly correct."

Howard elaborated on how other colleagues at Columbia had extended his early model (Howard 1963) of consumer problem solving:

> I was immediately pleased when John Farley suggested that he would mathematically model the simplified version that had emerged. It emerged as I designed the data collection procedures for the instant breakfast study that General Foods had generously agreed to finance. I was never troubled by how others interpreted the model. I find others' criticisms helpful; there was always so much to be done to improve it that criticisms never bothered me. There were a number of instances where others have made constructive reinterpretations of the model. For example, John Farley and Donald Lehmann put it to uses, such as in developing their "meta-marketing," that I never dreamed of. So did Michel Laroche in a number of ways add to it.

He was similarly sanguine concerning others' interpretations of the later Howard and Sheth model; especially noting the constructive extensions made by Bettman:

> I am happy with others' interpretations. No one seems to have 'abused' the model. Clearly there were improvements. For example, Jim Bettman made a number of improvements between his point of view and the model. He had insights that we did not have.

Sheth, Howard's coauthor on the *Theory of Buyer Behavior* (1969), provided a detailed description of misinterpretations as well as constructive reinterpretations of their model:

> Interpretation of the Howard-Sheth theory of buyer behavior by other authors is partially

accurate. The most common misinterpretations or errors of omission are as follows:

> a. The model is based on S-R paradigm of learning whereas, it is in fact, based on cognitive learning processes.
> b. It relies on the concept of habit or routinized response behavior rather than on the more fundamental concept of simplification and complication.
> c. It is limited to frequently purchased consumer goods, and therefore, not applicable to infrequent purchases or industrial buying behavior.
> d. The model is limited to brand choice behavior and therefore, cannot explain product class choice.
> e. The brand choice is a direct outcome of consumer's attitudes and intention even though the theory clearly discusses the concept of inhibitors which intervene between intentions and choice.
> f. The major error of omission is not to recognize the theory as a contingent theory. There are several exogenous variables discussed in the theory of ceteris pariba. These include importance of purchase, time pressure, social class, culture, personality, etc. which also influence choice behavior.
>
> A number of other authors have made constructive reinterpretations and extensions of our theory. These include:
>
> a. Extending the theory from an individual to a unit such as family or organization buying behavior.
> b. Reconstructing the theory for product class choices.
> c. Extending the concept of novelty, curiosity and exploratory behavior as a major research issue in consumer behavior.
> d. Acceptance of satisfaction/dissatisfaction as a discrepancy between expectations and experience and building alternative models around consumer satisfaction/dissatisfaction.
> e. Further research into several exogeneous variables, especially importance of purchase or involvement and time pressure.

Regarding misinterpretations and constructive reinterpretations of the Engel-Kollat-Blackwell model of consumer decision making (1968), Engel wrote:

> Generally speaking I am comfortable with the way others have interpreted our model. We never tried to set that up as anything definitive or as any kind of theory in the sense that I believe Howard and Sheth first did. We viewed it always as a pedagogical tool, and that's why it's changed. Also, it has proved useful to people in the applied world as they have attempted to see which variables affect decisions. Generally speaking people have interpreted us correctly, I think. I suppose constructive reinterpretations have been many. I haven't sat down and tried to think about this too seriously, but I am sure people would juggle things around and modify the order and functional flow. I don't remember that that has been done often, but I know people do disagree with us about the specific details

Bettman was generally positive about others' interpretations of his theory of information processing and consumer choice (Bettman 1969).

> I feel that most of the interpretations I have seen have been reasonable. Perhaps the propositions in the book helped with that. I'm drawing a blank on constructive reinterpretations, but I'm sure these have been done.

Holbrook was gratified by the extensions of the experimental perspective (Holbrook and Hirschman 1982) along several novel avenues:

> I usually feel flattered when others choose to (re)interpret my work. Seeing the ways in which the experiential and hedonic [Hirschman and Holbrook 1982] papers have been cited as support for various new aspects of consumer research has helped me to reinterpret the significance and implications of what we were doing. I cannot think of anyone who has misapplied or distorted our views, but I *have* been gratified by some creative *extensions* such as those by Puto, Wells, Batra, Ahtola and several others. At the moment, the most fruitful extensions appear to have moved in the directions of (1) emotions and (2) esthetics, but I hope that others will follow

Perhaps the most striking feature of these statements is the generally positive attitude exhibited by the original authors to others' interpretations. With the partial exception of Sheth, they seem to view most modifications and extensions of their ideas by others as desirable, constructive, and even necessary activities of scientific progress. In general, the original authors do not seem to express a proprietary or possessive attitude toward their ideas. This theme was explored more directly by the next question.

To Whom Does a Scientific Model Belong?

Rogers' response advocated universality: "It belongs to everybody--for them to make of it what they will." As did that of Howard:

> A scientific model, once developed, belongs to anyone who wishes to extend it. It belongs to

> the scientific community at large to the extent that further development is contributed.

Engel further noted that one purpose of theory construction is to stimulate extensions of the theory by others:

> In my opinion the people who put it forth in a sense lose control of it. After all, we put it out for other people to evaluate. Others then should feel free to take it and move with it from there. So I would say it belongs to the scientific community at large.

This same theme was reiterated by Bettman:

> The community at large. The whole idea is to put forward ideas and hope that they lead to something of further interest. One would hope that others would see things missed by the originator or that the model would be heuristic in stimulating advances by others.

Finally, Holbrook viewed theories as belonging to humankind, in general:

> I would say that an idea, once published or otherwise communicated, belongs to humanity. Depending on how you define 'scientific', I might want to expand the view of the relevant community of scholars. Specifically, I would want to include all aspects of the humanities in the relevant community. *All* ideas deserve to be shared and considered in our efforts toward scholarship.

Thus, these original authors were unanimous in their belief that theories, once made public, belonged to the scientific community at large. In essence, research ideas were viewed as the fuel for generating new knowledge and, therefore, their open availability was deemed a powerful stimulus to the advancement of a field of inquiry.

The Significance of Authorial Intention

However, despite the view that scientific theories are universal property, it still may be viewed as appropriate scientific etiquette to seek approval from the originator of a particular model or concept before applying an interpretation. The authors were queried directly on whether other scientists should attempt to guarantee consistency of their application with the author's intention.

To which Rogers responded:
"Yes, generally. But the appliers may improve it through their applications.
However, Howard took an opposing view:
I do not feel that researchers applying a model by someone else should take steps to insure that their interpretation is consistent with the developer's intention. It is far more important that they be able to discern opportunities for improvement the developer missed. This is so, because the developer often has an implicit logic that he is not aware of until later. The applier can often smoke these out by discussion with the original builder, however.

Engel viewed the original authors' intentions as having some primacy as a starting point for interpretive applications:

> Yes, I do think that researchers attempting to apply a model developed by someone else should first be sure that their interpretation is consistent with the developer's intentions. How can they apply it, if they don't fully understand? But I have no quarrel if they choose to modify it or change it from there. But at least let's start on the same base.

To Bettman, a distinction should be made between the original model and *re*interpretations, with the burden of distinguishing between the two falling upon later researchers:

> I don't think it is *necessary* that the interpretation be consistent as long as the researcher indicates how it is and is not. I worry about operationalizing constructs differently than the originator intended; this may mean that a different construct is being used. A new interpretation may sometimes be useful in leading in directions unanticipated by the originator. A model may be useful in elucidating phenomena not envisioned originally. However, the investigator should be very clear about what is being done. I don't think one should present a reinterpretation *as if* it were the original model.

Finally, Holbrook noted that several contextual factors, in addition to authorial intention, could influence the validity of an interpretation:

> I do not believe that fidelity to the author's intentions is an adequate criterion for validity in interpretation. Rather, the pre-occupation with authorial intent, while it may help to counteract an unhealthy tendency in some quarters to ignore the author entirely, appears much too narrow in light of all the *other* factors that impinge on meaning, e.g., the historical situation, the cultural context, the reader's response. I certainly would not go as far as the view that the author's intention is irrelevant, but I would argue against the false, positivistic premise that interpretation is a project of recovering the author's meaning.

These responses are illuminating in several respects. First, (with the partial exception of Holbrook) they each suggest some notion of authorial intention, purpose, or personal logic that is intrinsic to the integrity of the theory, itself. This supports the premise (cf, Hirschman 1985) that social narratives, including scientific texts, are constructed by *people*, and that although scientific theories are in one sense the 'universal' property of all scholars, they are also in another and perhaps equally important sense, the creative product of a particular scholar or scholars. Thus, those psychoanalysts who term themselves Freudian generally take care to communicate how they adhere to the tenets of Sigmund Freud and also to point out areas in which they may diverge from these principles. Similarly, as Anderson (1986) has recently described, marketing researchers who labeled their research as *applying* the Fishbein model of attitude structure were taken to task by other marketing researchers who viewed their applications as actually *reinterpreting/altering* the Fishbein model.

This leads to a second, deeper issue. The present responses suggest that scientific theories -- even those deemed constructed on positivist premises -- are not independent of the subjective intentions, logics, and conceptions of their creators. The responses also imply that members of the scientific community, on an implicit level at least, recognize and accept the primacy of authorial intent as an inherent rule for applying the model (cf, Hirsch 1967, 1976); that is, scientific theories are not freestanding pieces of knowledge, but rather are the creative product and to some extent the intellectual property of the originating scientist. Thus, we are not free to do with them as we wish, unless we first seek some sort of approval from the author or clearly state at the outset of our inquiry that we are altering the creating scientist's theory in such-and-such a way.

The communal sharing of this implicit norm of scientific authorship becomes clear if we consider the ostracism that would surely befall a scientist who directly copied another's theory, and published it as his own with no acknowledgement of the earlier researcher's work. Thus, the narrative aspect of social science has an analog with other forms of textual construction; like the authors of plays, novels, historical treatises, and newspaper stories, scientific theorists also claim and are likely to be granted the authorial privileges of original intent and primacy of formulation.

Subjective Interpretation or Objective Truth-Testing

The extent to which these particular consumer behavior theorists perceived themselves to be creating their theories from processes of subjective interpretation or objective truth-testing was explored by the fourth question:

Rogers believed both processes played a role in his construction of the innovation diffusion model:

> Approximately equal parts of each -- the diffusion model was based rather directly upon survey research results, but interpretation was also crucial in forming the model.

Howard also acknowledged the role of both in constructing his early theory of consumer problem-solving:

> I relied on both interpretation and truth-testing. In the early years it was almost interpretation alone. There was even then, however, an intuitive sense of truth-testing, although not at all systematic. Later, as Farley, Lehmann and I worked together, truth-testing became a larger part of the enterprise. Still later, Farley and Lehmann focused upon their "meta-marketing" effort, which was heavily truth-testing.

He saw interpretation as playing a more dominant role in formulation of the later Howard and Sheth theory of buyer behavior:

> I believe that I relied much on the process of interpretation in developing the model with Jagdish. I was continually looking for scientific support, but there was not much available at that time. Discussions with Ray Bauer and reading Berlyne's material were immensely helpful, but overall these made up a small part of what was needed. Bill McGuire, then at Columbia, contributed much. Johann Arndt's dissertation was very relevant.

Engel viewed both processes as relevant to development of the EKB model:

> We tried to come up with a flow chart in 1968 and a model that represented the process as we understood it. I suppose there was the sense of objective truth testing in that [we believed] it should be a veridical model. But if you want to apply this in the formal sense of theory development and all the rigor that formal logic implies, I don't think we followed that to that degree of rigor. You might remember the book earlier on *Metatheory* by [Zaltman, Angelmar, and Pinson 1972]. I think they gave us pretty good marks in terms of theory development, if I remember right.

Bettman reported placing great emphasis on personal interpretation in constructing his theory of consumer information processing:

> A process of interpretation - I used my own intuitions and my readings of many other theories, and tried to make a coherent 'story' out of it. In doing so, I found places where I needed to add new pieces to make the story work, e.g., memory phenomena and prior knowledge. I really did a lot of introspection about what things made sense to me. I wanted to have a model that fit my phenomenological experience of consumer choice.

Holbrook stressed the interpretive nature of all scientific activity in his response:

> I do not believe that there is any such thing as 'objective truth testing.' *All* scientific effort involves interpretation. A scientific theory influences the measures and methods used to test

it in the same way that a holistic gestalt influences our reading of specific elements as part of the hermeneutic circle. Anyone claiming to purge interpretation from his work commits a giant positivistic fallacy. It follows that, of course, I have relied heavily on interpretation -- as have all other consumer researchers.

Perhaps the most surprising and striking element running through all of these theorists' descriptions is the acknowledgement of the role of personal interpretation in constructing their respective theories. Let us examine some of the reasons given for the necessity of interpretive inputs to theory construction. *Roger's* explanation suggests that interpretive processes may be useful for creating a coherent story out of pre-existing survey data. That is, the data may already exist -- in this case, concerning adoption/diffusion processes -- but a narrative must be constructed which makes sense of them; i.e., the diffusion/adoption theory. *Howard's* description of the interpretive processes involved in creating the Problem Solving and Buyer Behavior theories suggests that interpretation was required because adequate empirical data were not yet available on the phenomena of interest to him. Thus, of necessity he relied almost solely upon subjective interpretive processes in forming the early versions of the theory. These were then subjected to increasingly sophisticated empirical tests as other researchers became involved in the project. Thus, Howard's description is the reverse of Roger's account, suggesting that interpretive processes may either precede or follow formal empirical data-gathering.

Engel's description suggests that the E-K-B model resulted from a collaborative interpretive process among the three originators. After its initial formulation, the model was subjected to more formal empirical verification, although not of a strict falsificationist nature.

Finally, of particular interest was the similarity of the theory construction descriptions provided by *Bettman* and *Holbrook*. Despite the recent characterization of Bettman as an objective analytical scientist and Holbrook as a highly subjective conceptual humanist (Hirschman 1985), both described their theory development as primarily a process of personal interpretation. Bettman even goes so far as to state that he attempted to construct a model that "fit my phenomenological experience of consumer choice,"[2] while Holbrook, more generally, argues that all consumer research requires interpretive processes and that, at a minimum, the model of the experiential consumer was constructed in an interpretive fashion.

[2]This may account for the appearance of the several Consumer Jerry Baker (i.e., J.B. = Jim Bettman) examples in the Bettman (1979) book.

SOME CONCLUDING THOUGHTS ON THE CONSTRUCTIVE USES OF INTERPRETATION IN CONSUMER RESEARCH

The foregoing comments by some prominent consumer behavior theorists are instructive in several regards. They are especially enlightening in documenting the personal, constructive aspects of science -- those processes of intuitive, interpretive creativity that are the soul of research inquiry not only in the social sciences, but the natural sciences as well (cf, Cole 1987). Theories must originate somewhere, and that location inevitably and invariably is in the mind of an investigator. Whether the theory is germinated by attempting to create a coherent narrative from raw survey data (e.g., Everett Rogers and the innovation diffusion paradigm), or by formulating an initial causal framework from bits and pieces of prior theorization and phenomenological inference (e.g., James Bettman and John Howard), or by iconoclastically constructing a dialectical image of human nature (e.g., Morris Holbrook), theory will, as indeed it *must*, contain elements of interpretation. Interpretation is not anathema to science; rather it is the fulcrum by which progressive change is effected in science.

Without interpreting phenomena and interpreting the work of others, novel scientific concepts could never emerge, novel scientific perspectives could never be formulated, and new paths for scientific inquiry could never be embarked upon. Further, without *re*interpretation, existing theories could never be applied to novel contexts and novel phenomena; science would soon fold in upon itself and stagnate.

Researchers observe events in the world, read other scientists' accounts of these events, or acquire knowledge from both these sources. However, merely acquiring knowledge is not sufficient to construct a theory. A theory must tell the story of some event. That is, it must integrate knowledge about the event into a narrative format, one that usually describes a causal scenario or pattern. Thus theories are narratives in that they tell why or how something happens, as opposed to merely labeling or identifying it.

Consumer behavior theorists construct stories about the behaviors of consumers. The several theorists whose views were examined here are individually and collectively excellent storytellers. Their theories have been recognized for the depth and breadth of their impact on the field.[3] Yet, as they acknowledge, their narratives were each constructed in part or in whole from interpretive processes. Does this mean that their theories are 'just' stories -- stories on the same fictive plane as a myth or novel? Or that somehow they are the biased, distorted templates described recently by Calder and Tybout (1987)? Of

[3]The group contains three ACR Fellows (Engel, Howard, and Rogers), three ACR Presidents (Bettman, Holbrook, and Sheth), and a *JCR* Editor (Bettman).

course not! That a theory was constructed or applied using elements of interpretation means only that the scientist creating or applying it drew upon personal knowledge to make sense of the available data (Polanyi 1962). Scientists, as all humans, make sense of what they have experienced by interpreting it within pre-conceived textual structures (cf, Berger and Luckmann 1966; Ricoeur 1971).

Scientists differ from nonscientists in that they take care to document their reasoning while forming and altering their interpretations, and also to openly communicate those interpretations, in the form of theories, to other scientists for scrutiny. For doing this, they are acknowledged as the originators of the theory and, as described earlier, their interpretation of a phenomenon may serve as a template for others' interpretations and applications. Science grows and knowledge about consumer behavior expands as theoretical texts are generated, interpreted, and applied. Thus, to be a consumer *researcher*, one must be also an *interpreter* of consumer behavior.

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Measures of Relative Influence in Couples: A Typology and Predictions for Accuracy

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This paper presents a classification scheme for measures of influence and makes predictions about their accuracy when they are used to measure relative influence in couples. The measures examined vary in their perspective and their specificity. It is hypothesized that the location of a measure on these two dimensions and various characteristics of the raters and the situation will determine the accuracy of data obtained

INTRODUCTION

A large proportion of the important decisions made by a family are made jointly by two or more family members. While this has been generally recognized for some time, the problem of how to obtain accurate information on relative influence in family decision-making remains unresolved. Several studies have been done which suggest that certain properties of measures are related to their accuracy; however, no general conclusions or rules have been proposed. This paper presents a typology for measures of relative influence and suggests that the resulting classifications can be used to make some generalizations concerning the accuracy of influence measures. A model is also proposed which outlines the relationships among the accuracy of influence measures, the properties of the measures, and the characteristics of the spouses whose influence we are trying to measure.

BACKGROUND

A first indication that obtaining accurate measures of influence is a problem is that the information provided by different family members is very often incongruent or even contradictory. Further, when their perceptions are compared to more objective behavioral measures of influence agreement is, again, low (Kenkel 1963; Olson 1969; Spiro 1983). This section will review the results of studies that examined agreement among family members on relative influence and those which attempted to determine the accuracy of these data by comparing them to behavioral and outcome measures.

Much of the research on power and influence in families has investigated the congruence between spouses' estimates of their relative influence. It is clear from this work that data from a single informant on relative influence in a group will not necessarily reflect the perceptions of other group members or be an accurate indicator of influence exercised in decision-making. Results are mixed, with some studies finding reasonably good agreement among members and others findings poor agreement.

In research on families high levels of agreement have been found in data examined at the aggregate level (Granbois and Willet 1970; Filiatrault and Ritchie 1980; Wilkening and Morrison 1963). When examined on a couple by couple basis, however, substantial disagreement between spouses is revealed (Davis 1970; Scanzoni 1965). Davis (1971) observes that in reports about decision-making the percentage of agreement between husbands and wives rarely exceeds 50%.

Better agreement has tended to occur when the questions asked concerned specific aspects of a decision. For example, Davis (1971) found that spouses' responses to questions about influence on specific decision topics were correlated at .66 for automobiles and .61 for furniture. Munsinger, Weber and Hansen (1975) examined perceptions of dominance in decisions about elements of a housing decision and found that spouses agreed in 62.2% of their responses. On the other hand, the Blood and Wolfe (1960) index, which contains eight questions about influence on such specific topics as life insurance, employment, doctors and vacations, produced relatively low interspousal congruence in studies by Davis (1971) and Wilkes (1975). These correlations were .15 and .31, respectively.

Agreement tended to be low when spouses were asked for more global evaluations of who makes particular kinds of decisions or who generally has more influence. When Davis (1971) asked spouses to respond to a global measure of influence by indicating who usually makes important family decisions, he found the correlation between husband and wife responses to be .37. When Turk and Bell (1972) replicated Heer's measure of power and asked their couples to indicate who usually won when there was a disagreement, one third of them gave opposite answers and another 13% had more minor disagreements. Wilkes (1975) also found low correlations between husband and wife responses to two global measures of influence, .16 and .34. In at least two of the studies that found high levels of congruence, most of the agreement occurred when the spouses agreed that they would have equal influence (Munsinger et al. 1975) or that neither would exercise power (Olson 1969). This may be due to a tendency to give socially desirable responses reflecting egalitarian power structures (Olson and Rabunsky 1972).

Poor congruence has also been found between spouses asked to report their perceptions of each other's influence attempts. Spiro (1983) found that only six percent of the perceptions provided by couples in her study were in the same direction, indicating that spouses consistently disagreed on whether they used particular influence strategies.

[1]This work was supported in part by the Institute for Marketing Studies at Columbia University.

TABLE

MEASURES OF INFLUENCE

Level of Specificity	Perspective: Self-report — Predicted	Self-report — Reported	Observed — Outcome
LOW *Global*	Who generally has more influence?	Who generally had more influence?	Who generally had more influence?
Topic	Who will have more influence in this decision?	Who had more influence in this decision?	Who had more influence in this decision?
HIGH *Process*	What sources of influence will be effective?	What sources of influence were effective?	What sources of influence were effective?
Influence source	What power-related traits are possessed?		

Research on the sociology of the family has examined some of the relationships among predicted influence, reported influence, and objective behavioral measures. Although Olson (1969) found fair agreement between spouses on who would exercise more power, congruence with behavioral measures was poor. In only 14% of the cases did spouses accurately predict who would exercise power. In a later study Olson and Rabunsky (1972) compared measures of predicted power, process power, retrospective power and authority to an objective outcome measure of influence and found no significant relationship. Further, the only significant relationships they found among the self-report measures were between authority variable and measures of both process and retrospective power. Similarly, Turk and Bell (1972) found little correspondence among nine measures of power including predicted influence and behavioral measures.

CLASSIFYING MEASURES OF RELATIVE INFLUENCE

The typology presented here proposes that when one is concerned with the accuracy of measures, the important differences among them are due to their levels of specificity and their perspectives. Global and specific measures of influence are discussed from three different perspectives -- predicted influence, reported influence and outcome measures of influence. This section describes these measures, and the resulting typology appears in the Table.

Specificity of Measure

Questions about relative influence can be asked at different levels of specificity (Patchen 1963). At the most general level are *global* measures which ask for overall evaluations of relative influence (Davis 1971; Heer 1958, 1963; Turk and Bell 1972; Wilkes 1975). For example, a global question might ask who makes the important purchasing decisions in a family or how much influence each spouse had in making joint decisions during the last month.

There are a number of ways in which influence measures can be made more specific. In this paper attribute-related, topic-related, process-related, and influence source-related measures are discussed.

Attribute-related measures are very specific and concern the components of a larger decision on a specified topic (Burns and Granbois 1977; Davis 1970; Filiatrault and Ritchie 1980; Green and Cunningham 1975; Munsinger, Weber and Hansen 1975; Olson 1969; Olson and Rabunsky 1972; Qualls 1987). Davis (1971) refers to these as subdecisions and his seven automobile purchase questions are good examples of attribute-related measures. He asks, for example, who decided when the car would be purchased, how much money would be spent, and what color it would be.

Measures related to the *topic* ask about relative influence on well-defined decision topics (Blood and Wolfe 1960; Cunningham and Green 1974; Davis and Rigaux 1974; Wilkes 1975). Clearly, these measures may vary in their specificity. For example, a question about influence used in deciding whether to buy a microwave oven is more general than a question about influence used in deciding which brand to buy.

Process measures concern how decisions are made and try to determine what influence sources are used or are effective in joint decision-making (Nelson 1987; Qualls 1987; Seymour and Lessne 1984; Spiro

1983; Wilkes 1975). This kind of measure might ask a spouse whether coercion was used in the resolution of a disagreement or whether being believable or fair is likely to affect influence in a decision.

Measures concerning *influence sources* are not attached to specific decisions or topics, but depend upon the individuals themselves. They concern the power-related traits possessed by decision-makers that may affect influence in joint decision-making (Corfman and Lehmann 1987; Rosen and Granbois 1983; Thomas 1982). For example, one might ask how relatively self-confident spouses are or who has the greater bargaining skill.

Perspective of Measure

Four different perspectives on influence are examined here. They are predicted influence, reported or retrospective influence, interactional measures of influence and outcome measures of influence.

Predictive measures are self-report measures and are the most commonly used. They ask how much influence spouses expect themselves and each other to exercise in a specified situation (Blood and Wolfe 1960; Burns and Granbois 1977; Cunningham and Green 1974; Davis 1970; 1971; Davis and Rigaux 1974; Green and Cunningham 1975; Olson 1969; Olson and Rabunsky 1972; Rosen and Granbois 1983; Turk and Bell 1972). In order to respond, spouses must rely on data from past decisions, but the questions do not refer explicitly to the outcomes of those decisions.

Report measures are also self-reported and ask how much influence spouses had in making one or more specific past decisions (Filiatrault and Ritchie 1980; Munsinger et al. 1975; Olson and Rabunsky 1972; Qualls 1987; Spiro 1983; Wilkes 1975).

Interactional measures infer relative influence from aspects of spouses' interactions while making decisions. These should be more objective than self-reports as they are observational measures using a third, uninvolved party. Examples of interactional measures include the relative number of units of actions initiated (Kenkel 1957; Mishler and Waxler 1968; Strodtbeck 1951; Turk and Bell 1972), the relative number of instrumental acts initiated (Kenkel 1957; Turk and Bell 1972), and the relative number of interruptions initiated by each spouse (Farina 1960; Turk and Bell 1972).

Outcome measures are observations of the outcomes of decisions compared to the desires or preferences of the spouses before making them (Corfman and Lehmann 1987; Kenkel 1957; Olson 1969; Olson and Rabunsky 1972; Strodtbeck, 1951; Turk and Bell 1972). The spouse whose preferred alternative is chosen or whose preferences were weighted more heavily in the joint decision is recognized as having had the greater amount of influence. Outcome measures are the most objective measures of influence and, in that sense, the most accurate. Unfortunately they are also more difficult to obtain than simply asking spouses for predictions and reports.

CONCEPTUAL MODEL AND HYPOTHESES

The model in the Figure outlines the determinants of accuracy in measuring relative influence. For a particular measure of relative influence, the model proposes relationships among 1) characteristics of the measure, 2) characteristics of the rater (spouse or observer), 3) the actual influence exercised, 3) the influence data (predictions or reports) collected using the measure, and 4) the accuracy of the data.

Specifically, the accuracy of the data provided by a spouse or observer is the discrepancy between his or her prediction or report and the spouses' actual influence. Outcome measures of influence are assumed here to be unbiased and are, thus, simply a function of the spouses' actual influence.

A spouse's actual influence is determined by characteristics of both spouses, such as education and ability to reward, and characteristics of the situation. Aspects of the situation that may affect influence include the location in which the decision is made and who has had his or her way more in past decisions. These and other spouse and situational characteristics that affect relative influence have been investigated by a large number of researchers (e.g., Corfman and Lehmann 1987, Davis 1976, French and Raven 1959, Tedeschi, Schlenker and Bonoma 1973).

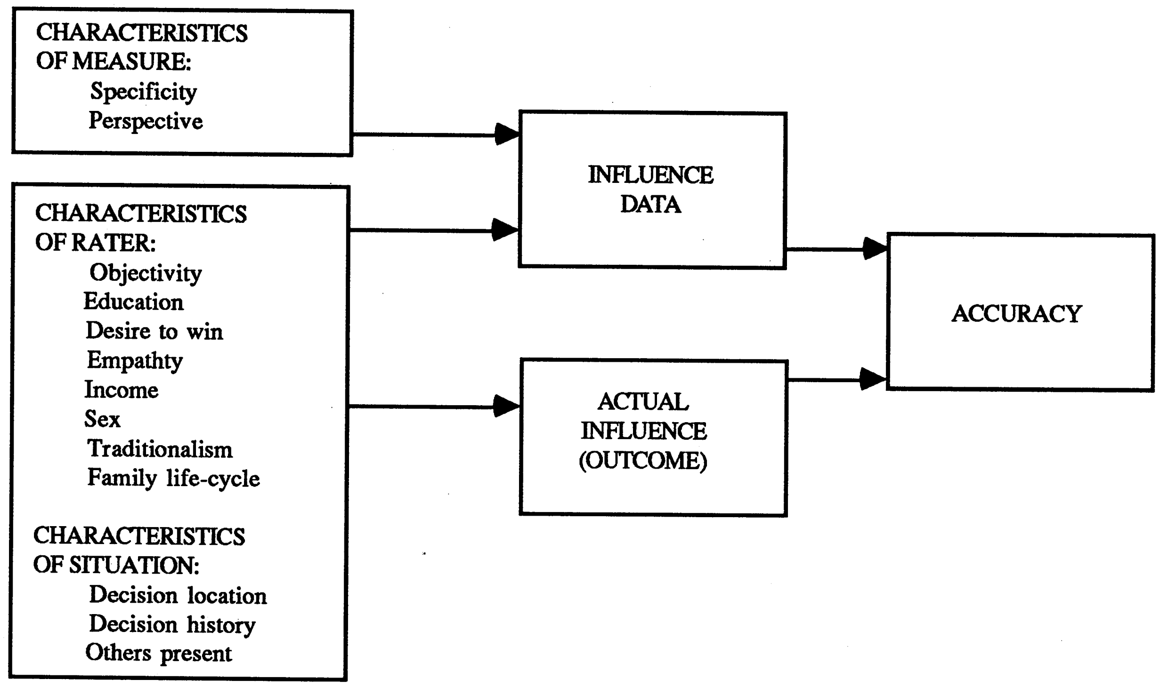
Influence data is affected by characteristics of the measure used to collect it, the person providing it, and the situation, as well as the spouses' actual relative influence (their potential in the case of predictions or their use in the case of reports). Measure characteristics concern the measure's level of specificity and perspective. Characteristics of a spouse that might affect the data he or she provides include such traits as desire to win, empathy, traditionalism and the couple's stage in the family life-cycle. The most obvious rater characteristic that would affect interactional data is objectivity. Spouse and couple characteristics may also affect the accuracy of interactional measures because the behavior exhibited and recorded may not be a valid reflection of the influence exercised in that joint decision. For example, the number of times a spouse interrupts may reveal more about his or her cultural background than the amount of influence he or she has.

The conceptual model suggests a number of testable hypotheses concerning the accuracy of data collected with different measures of influence. Those proposed here concern the effects of measure and rater characteristics on accuracy. Hypotheses 1a through 1c, treat the effects of measure specificity and perspective on a rater's ability to give accurate information. Hypotheses 2a through 2e, predict relationships between specific rater characteristics and data accuracy.

H1a: The relationships between data from outcome measures and data provided by raters (spouses and observers) using predictive and report measures are generally expected to be weak. In other words, regardless of other factors affecting the data collection, a low level of accuracy is anticipated in

FIGURE

CONCEPTUAL MODEL



data provided by spouses and observers on relative influence. This hypothesis is supported by the results of studies cited earlier (Olson 1969, Olson and Rabunsky 1972, Turk and Bell 1972).

H1b: Spouses are expected to give less accurate information in response to predictive measures than to report measures. That people should be better at reporting what actually happened than at anticipating the consequences of hypothetical occurrences has intuitive appeal. Asking for a report rather than a prediction is a way of focussing the subject on a narrower issue that requires fewer subjective judgments. Reports will still be subject to considerable error. One important reason for this was suggested by Blood (1958, p. 47): families have difficulty reporting who makes decisions because 'mutual consultation so often precedes the final decision that the relative influence of each partner tends to be masked in the process.

H1c: Raters (spouses and observers) are expected to give less accurate information in response to global measures of influence than to more specific measures. Accumulated evidence indicates that people are better at giving specific information on influence than they are at making global judgments (Davis 1971; Silk and Kalwani 1982). This makes intuitive sense because the fewer estimates or subjective judgments people are required to make to answer a question, the fewer opportunities there are for error. More global questions invite compounding of judgmental error.

H2a: Raters who are more objective should provide more accurate data on influence. This hypothesis should be true almost by definition. While the objectivity of spouses may vary widely, the objectivity of a third party observer should not. Factors that may determine the objectivity of observers include how clearly stated their task is, how much subjective judgment is required, and how closely they identify with their subjects,

H2b: Greater traditionalism should be associated with greater inaccuracy in influence data provided. Spouses who are open to the idea that influence can be contingent upon factors other than sex role, are likely to be more sensitive to the actual variations in influence from one situation to the next. Those with expectations about influence that are primarily sex-related may not be as aware of other factors that do, in fact, affect relative influence in their decisions. Lack of agreement on appropriate sex roles in decision-making may also result in misapprehension of influence sources possessed. For example, a wife with traditional views might attribute great legitimate power or wisdom to her husband on an issue, while her more progressive husband might rate himself as having less.

H2c: Greater importance of control and desire to win in a spouse should be associated with greater inaccuracy. These traits are expected to be reflected in the data provided by a spouse as exaggeration of his or her own influence.

H2d: Spouses who are more empathetic should provide more accurate influence data. This is because empathetic spouses should have greater interest in and sensitivity to the nature of the relationship and its processes. In support of this prediction, Olson (1969) found that greater empathy resulted in greater congruence between predicted and actual power.

H2e: Spouses whose families are later in the family life cycle should provide more accurate self-report measures of influence. Stage in the FAMILY LIFE CYCLE reflects experience in joint decision-making. Thus, we suggest that this experience leads to an improved ability to predict and report influence.

Other hypotheses might be proposed concerning a spouse's education, income and sex, as well as other characteristics of the individual, couple, observer and situation. Clearly the more factors that can be identified that affect the accuracy of influence data, the better use we will be able to make of it.

CONCLUSIONS

Predictions and reports on relative influence made by spouses and observers are probably not valid indicators of relative influence. They may contain other useful information, but they are not objective measures. As Davis (1967) observed, these measures are probably tapping different concepts, such as perceptions of power, characteristics of the relationship, decision-making roles and processes, and context factors. When we have some choice of measure type and our interest is in knowing about actual rather than perceived influence, outcome measures are clearly preferred. Further research on this topic may also provided stronger evidence of the preferability of report measures over predictive measures.

If inaccuracy is found to be related systematically to characteristics of the measure, the raters and the situation, these factors can be taken into account when predictions and reports must be used to measure relative influence. Awareness of these factors will make it possible use predictive and report measures more effectively to measure relative influence in families. Investigation into the sources of inaccuracy in influence data will contribute on a more general level to our understanding of influence in families and their decision-making processes, as well as suggest ways in which influence data should and should not be used in research on groups.

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An Exploratory Study of Family Decision Making Using a New Taxonomy of Family Role Structure

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ABSTRACT

This paper presents the results of an exploratory study on family decision making that uses a new extension of the existing taxonomy of family role structure. The primary objective of the study was to determine the feasibility of measuring the occurrence of the various types of group decision making structures described in the new taxonomy. A secondary objective was to compare the distribution of the observed structures in a restaurant selection decision on special and nonspecial dining occasions. The results demonstrate: 1) the feasibility of measuring group structures using a survey approach, 2) that structures differ significantly across families, and 3) that no significant difference in structures occurs across situations.

It is generally recognized that the "family" rather than the "individual" should be the basic unit of analysis in the study of consumer behavior (Grashof and Dixon 1980). Studying family decision making is difficult, however, in as much as it entails the synthesis of the goals, preferences, strategies and perceptions of all family members who are part of the decision making group. Furthermore, important differences characterize families and important changes occur within families in terms of the family's composition, structure, and tasks performed by various family members, both over time and over the stages of the decision process (Davis and Rigaux 1974; Davis 1976). In spite of these difficulties, researchers in the area of family decision making recognize the importance of "exploring different methodologies for measuring family role structure, factors predictive of family role structure, and the effects of family role structure on household buying behavior" (Szybillo and Sosanie 1977).

The purpose of this paper is to describe the results of an exploratory study designed to: 1) ascertain the types and relative frequency of occurrence of the role structures identified in a new, more detailed taxonomy of family role structure and 2) test one hypothesis concerning the impact of a situational variable on the types of roles structures that occur. We begin with a brief review of past research in the area of family decision making in order to point out the major contributions and limitations of the existing taxonomy. This will be followed by a description of the new taxonomy and a review of its major advantages for the study of family decision making. Finally, we will describe some directions for further research on family decision making and discuss some limitations of the present research.

THE (PRESENT) TAXONOMY OF FAMILY ROLE STRUCTURE

The taxonomy of role structures that has been widely adopted is the one used by Davis (1976). This taxonomy was originally developed by Herbst (1954) and has subsequently been used by many other sociologists and marketers. (We did look at other group decision making studies and models in organizational behavior, economics and psychology; however, these will not be examined or discussed in greater detail here as this paper is *not* taking a normative but a descriptive approach to family decision making.) According to Herbst's taxonomy, there are four types of family role structures: 1) husband dominant, 2) wife dominant, 3) autonomic, and 4) syncratic. Husband dominant and wife dominant families are defined as those where the husband or wife plays the dominant role in making the purchase decision. On the other hand, within any sample of families, if more than 50% make a decision jointly, the decision is classifed as "syncratic;" if less than 50% make a decision jointly, the decision is classified as "autonomic" (p. 53, Davis and Rigaux 1974).

Studies that have employed Herbst's taxonomy have largely been concerned with identifying the conditions under which the various role structures occur (see, for example, Davis 1970; Davis and Rigaux 1974; Green and Cunningham 1975; Hempel 1974; Hempel 1975; Munsinger, Weber and Hansen 1975; Sheth and Cosmas 1975; Wolgast 1958; Woodside 1972; Woodside 1975).

Past research has shown that whether a decision is "syncratic" or "autonomic" depends upon two types of variables. The first type consists of variables such as family life cycle, socioeconomic status and life styles while the second type consists of variables such as perceived risk, importance of purchase, time pressure and situational contingencies (Sheth and Cosmas 1975). In the study conducted by Sheth and Cosmas (1975), families mentioned that the greater competence of one partner, preference for dividing responsibilities in household management, greater importance of the decision to one of the spouses, being too busy to decide together and peer group norms were primarily responsible for "autonomic" decisions. They also found that decisions tended to be "autonomic" for households with either no or grown-up children, in low or middle socio-economic classes and with the wife in some blue-collar occupation. Granbois (1971) points out that social class, education, income, family size and the wife's employment status are all factors that influence whether a family makes "syncratic" or "autonomic" decisions.

When joint decision making does take place, previous research (Blood and Wolfe 1960; Davis 1970; Davis and Rigaux 1974; Green and Cunningham

1975; Kollat, Engel and Blackwell 1970; Sharp and Mott 1956; Wolgast 1958; Woodside 1975) has found that there is a difference in family role structures and member decision roles across types of products and services. In addition, within different product categories, role structures vary by the nature of the decision to be undertaken or the phase of the decision process (Burns 1977; Davis 1970; Davis and Rigaux 1974; Hempel 1974; Munsinger, Weber and Hansen 1975; Starch 1958; Szybillo and Sosanie 1977).

AN EXTENSION TO THE TAXONOMY OF FAMILY ROLE STRUCTURE

While Herbst's taxonomy has been widely used by researchers it's main drawback is that only two of the four types of role structures - autonomic and syncratic - capture group decision making (i.e., decision making in which two or more family members interact to make the decision). More importantly, however, a decision is classified as involving autonomic or syncratic role structures dependent upon *the percentage of the sample of families* making a joint decision. Thus, while the taxonomy facilitates the examination of when and under what conditions family decision making takes place, it does not facilitate a deeper understanding of the processes of family (joint) decision making or reveal the impact of group decision making structure on the outcome and process of family decision making.

This lacuna in the taxonomy was originally pointed out by Olshavsky and King (1984; 1985) and in an attempt to help overcome this important deficiency, Olshavsky and King (1985) proposed an interesting and significant extension to the existing taxonomy of family role structure. Their extension of the taxonomy is based upon the "distributed processing" concept that is central to network design (Martin 1981). It is also directly related to the much earlier work done by organizational theorists on group decision making (e.g., Bavelas 1950; Leavitt 1958).

According to the new taxonomy, to make a choice, a family can adopt any one of five basic "structures:" parallel, hierarchical, ring, and star (with two separate forms, A and B). (See Figure). An almost endless array of hybrid configurations may be formed from two or more of the basic structures. Further, within each structure adopted, a family can "assign" a particular task or a component of a task to one or more of the family members that comprise the decision making group on that occasion.

Parallel

In this arrangement, two or more members of the family unit work on the same decision simultaneously and independently. Assignment is not an issue in this arrangement. No communication occurs among family members.

Hierarchical

In this arrangement, two or more members of the family unit are ranked in terms of their decision making capabilities. The decision is assigned first to the member of lowest rank. If that member is unable to make the assigned decision, the partially made decision is passed on to the member ranked next highest. The passing of the progressively more processed decision continues until the decision is either made or the number of members in the family is exhausted. Thus, the processing of the decision as well as the allocation of the decision to members is sequential in this arrangement. Communication occurs only between adjacent members in the hierarchy.

Ring

In this arrangement, no ranking of family members occurs; the members that comprise the ring are judged to have similiar decision making capabilities. However, each member may be thought of as a "specialist". Accordingly, decisions or different aspects of the same decision are assigned to the most appropriate member in the ring (i.e., on the basis of fit between decision to be made and member specialisation). In this arrangement, the decisions or component decisions are made simultaneously and/or sequentially by different members. Communication can occur among any members of the ring.

Star

In this arrangement, one member is assigned the task of coordinating the efforts of all other members in the family unit. Decisions or components of decisions are assigned to the coordinator and/or to one or more of the other members on the basis of their decision making capabilities. In Form A, communication among family members can only occur indirectly through the coordinator. In Form B, there can be direct as well as indirect communication among members.

THE EMPIRICAL STUDY

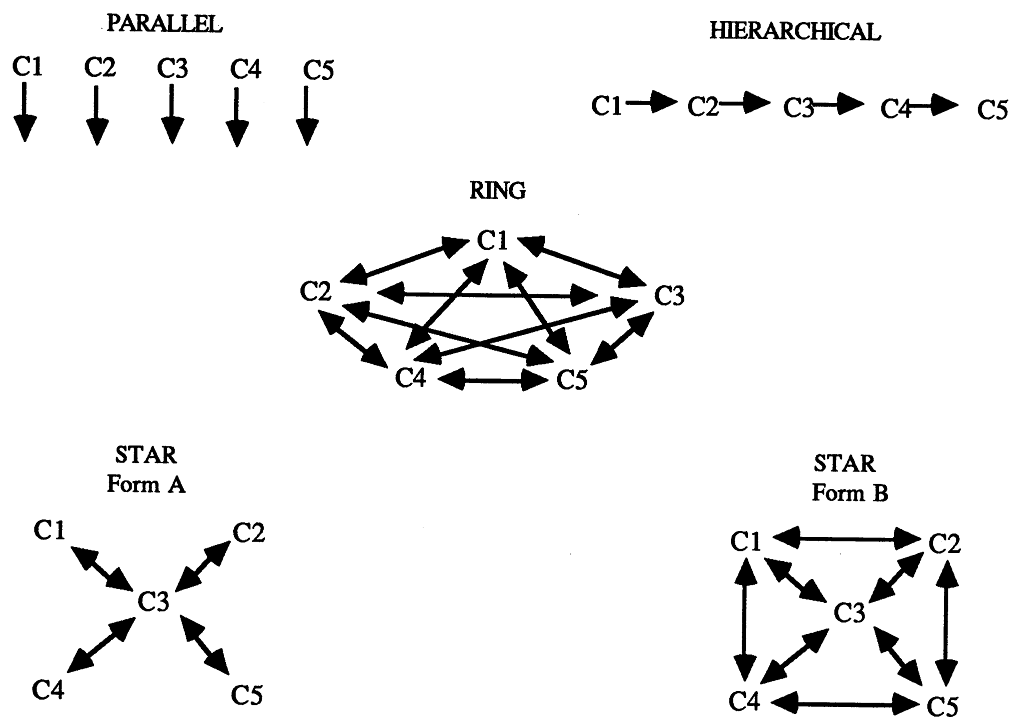
Research Objectives

The new taxonomy makes clear that there are many different ways in which families could structure themselves in the case of actual group decision making. To our knowledge, none of the many studies of family decision making has attempted to study role structure at this level of detail. Therefore, the primary purpose of this exploratory research was to determine the feasibility of measuring the specific structures adopted and, if feasible, to determine the types and relative frequency of occurrence of the role structures identified in the new, more detailed taxonomy of family role structure. Further, it is clear that the specific structure adopted may depend on the conditions under which the decision is being made. Therefore, a secondary purpose of this exploratory study was to test a hypothesis concerning the impact of a situational variable on the types of group decision making structures that occur (Belk 1984).

There has traditionally been a dichotomy in the situational influence literature with some researchers supporting psychological measurement of situations (Lutz and Kakkar 1975) and others supporting objective measurement of the same (Belk 1975a). For the purposes of this study the latter approach was chosen as "it removes the idiosyncracies of perception

FIGURE

ALTERNATIVE STRUCTURES WITHIN A MULTI-INDIVIDUAL CONSUMER UNIT



which may otherwise limit aggregation and manipulation of consumer situations" (Belk 1975b). Thus, situations were defined objectively in terms of task definition features in this study. However, it must be noted that if a study is to be of a conclusive nature or if results are to be generalized, then the research design must incorporate both types of measurement.

Restaurant choice was selected as the task of interest in this study. Past research (e.g., Miller and Ginter 1979; Szybillo and Sosanie 1977) has shown that family decision making is likely to occur for restaurant choice and that type of restaurant selected does vary across situations. Within this choice task, "special" versus "nonspecial" dining occasions were chosen as the situational variable of interest. A special occasion was defined as an occasion such as a birthday or an anniversary while a nonspecial occasion was defined as an occasion when the cook of the family was just too busy or tired to cook or the family wanted some variety in their meals.

METHOD

Respondents

A convenience sample of 75 families (a family being defined as a household unit with both parents and one or more children living at home) participated in this study. The sample consisted of families living in student housing on campus and families from several local churches who chose to participate in the study.

Questionnaire Design

The questionnaire consisted of three parts. Parts I and II described a recent special and a recent nonspecial dining occasion and elicited information from respondents as to how the family had made a restaurant selection decision on that occasion, which group decision making structure had been adopted in making that decision (if a group decision had occurred), and reasons for selecting that structure. Each of the basic structures was described in detail using a combination of text, illustrations and several examples unrelated to restaurant choice. Several versions of the questionnaire were pretested on small convenience samples to ensure the clarity of the description of each of the basic structures and to ensure that respondents were clear that the two dining situations were different and were treating them as such. After several rounds of pretesting, respondents appeared to understand and to readily select various structures for each of the various illustrative choice situations used. Part III elicted information on age, educational level, occupation and income.

The questionnaire was developed using two different formats. Part I discussed the *special* dining occasion in half the questionnaires and the *nonspecial* dining occasion in the other half. This was done to control for order effects.

Procedure

Both husband and wife were asked to fill out the questionnaire jointly. Each family that sent in a completed questionnaire received $5.00.

Hypotheses

Since some group decision making structures are more appropriate than others for families to adopt when making a restaurant selection decision, it was expected that, in general, the structures would not be equally likely to occur. Due to the large differences in degree of interaction and participation possible in each structure, it was expected that for this product decision (i.e., restaurant selection), the structures that would most often be adopted by families would be the ring (i.e., the most "group" oriented structure), star B, star A and hierarchical structures in descending order of usage. It was expected that the parallel structure would seldom, if ever, be adopted since there is, by definition, no interaction among members even though each participates (independently) if such a structure is adopted. In addition, it was expected that the five structures would not be equally likely to occur either in the special or nonspecial situations taken alone. Thus, our first hypotheses, expressed in null form, are:

H1a: The five structures are all equally likely to occur for the restaurant selection decisions (special and nonspecial).

H1b: The five structures are all equally likely to occur for a restaurant selection decision on a special occasion.

H1c: The five structures are all equally likely to occur for a restaurant selection decision on a nonspecial occasion.

It was also expected that the situational variable - type of occasion - would have an impact on the group decision making structures adopted. Specifically, it was expected that the hierarchical and star A rather than star B or ring would be adopted more frequently on the special occasion as the family would be concerned about making the dining occasion a success and these two structures could ensure that the relevant group members' desires would be taken into account. Thus, our second hypothesis, in null form, is:

H2 : There will be no difference in the structures chosen on the special versus the nonspecial occasion.

Results

The response rate was 76%; 56 questionnaires were fully completed and mailed back.

The Table presents the observed frequency of occurrence of each of the structures for special, nonspecial and combined. The "other" category refers to those instances in which a single person in the family made the restaurant selection decision for the entire family.

Given the nonmetric nature of the data, the hypotheses were tested using Kolmogorov-Smirnov one and two-sample tests (Siegel 1956). The Kolmogorov-Smirnov one-sample test showed that H1a was rejected at a significance level of .01. If the family adopted a group decision making orientation, the most commonly reported structure was the ring, the next most common was Star B, then Star A; Hierarchical and Parallel were tied for last position. These results clearly suggest that there are large differences across families in the structures adopted for restaurant choice. Similarly, using Kolmogorov-Smirnov one-sample tests, it was found that H1b and H1c were both rejected at a significance level of .01.

H2 was not rejected using a Kolmogorov-Smirnov two-sample test. A chi-square test showed that H2 could be rejected at a significance level of .01. However, this test is less powerful than the Kolmogorov-Smirnov two-sample test. Thus, the distribution of structures across the two occasions is not significantly different. H2 may not have been rejected due to our small sample size.

A chi-square analysis of the types of reasons given for selecting the ring structure showed a significant relationship between the reason "because this organization assures that everyone gets what he/she wants" and choice of the ring structure at the 0.001 significance level. A chi-square analysis examining reasons for the choice of structures on the *special* dining occasion showed that the reason "in order to train young children in the family to make such decisions" was significantly related to the choice of the ring and star B structures at the 0.003 significance level while the reason "because this organization assures that everyone gets what he/she wants" was significantly related to the choice of the ring and star A structures at the 0.05 significance level. Examination of the *nonspecial* dining occasion shows that the reasons "because this organization assures that everyone gets what he/she wants" and "because we think the best restaurant is selected this way" were significantly related to the choice of the ring and star A structures at the 0.05 significance level while the reason "because we have always done it this way" was significantly related to the choice of the ring and star B structures at the 0.05 significance level.

The "other" category (i.e., those instances in which a single person in the family made the restaurant selection decision for the entire family) was observed more often on the *special* dining occasion (16 times) than on the *nonspecial* dining occasion (5 times). In the case of the *special* dining occasion, one person made the restaurant selection decision because:

1) "the special occasion was in honor of that person" (9 out of 16 times),

2) the person was either paying for the treat or it was his/her idea to go to a particular restaurant and everyone in the family liked the choice of restaurant (5 out of 16 times), and,

TABLE

Frequency of Reported Usage of Each Type of Group Structure for Special and Nonspecial Occasions

Structure Reported	Type of Dining Occasion Special	Nonspecial	Combined
Parallel	0	2	2
Hierarchical	1	1	2
Star A	8	4	12
Star B	6	15	21
Ring	25	29	54
Other	16	5	21

3) that person was most knowledgeable about restaurants (2 out of 16 times).

In the case of the *nonspecial* dining occasion, one person made the restaurant selection decision for the entire family because that person usually made restaurant selections for the rest of the family. In fact, the survey revealed that this individual was in charge of or took charge of other types of decisions for the family as well.

A CROSSTABS chi-square analysis was also run on a series of demographic variables such as size of the family, income, education and children's ages. However, none of the demographic variables were significantly related to the particular structures chosen for family decision making.

DISCUSSION

Based upon this exploratory study, it appears that measurement problems are surmountable and that families do adopt structures such as those described in Olshavsky and King's proposed extension of Herbst's taxonomy of family role structure. Our preliminary results show that specific group decision making structures adopted vary considerably across families with the ring structure being the most popular. These results suggest that our ability to understand family decision making will remain limited until we empirically determine the types of structures actually adopted by families in different choice domains. It would certainly be interesting to examine how results will differ when husbands and wives are *each* requested to complete a questionnaire on their own instead of completing one jointly.

Given these encouraging preliminary results, we may now examine more systematically issues such as why families adopt these structures, how tasks are assigned once structures are adopted, and what the implications are for brand choice for each of the different role structures. Further, given knowledge of the structure adopted, the stage is set for an even more detailed study of family decision making at the level of the specific information processing rule (e.g., conjunctive or disjunctive or lexicographic) adopted by each member of the family participating in the decision.

Limitations of the Study

While this exploratory study generates many interesting results, some of the results have to be accepted with caution as sample size is small (n = 56). Also, for robust chi-square results the expected cell frequencies should be >= 5. Due to the small sample size and the fact that there were many categories for variables such as income and education, a number of the results, especially those examining demographic variables, turned out to be nonsignificant.

A second limitation of the study is the use of the survey method to examine the various structures that families adopt when making decisions. While this method is extremely useful for an exploratory study, self reports and retrospective reports of the structures adopted when making the restaurant selection decision may have produced results biased in favor of the ring structure. The ring structure may have been reported as the structure the family adopted most often because the ring structure, by its very nature, suggests that the family that uses this structure is a happy, harmonious family where no one person dominates the decision making process and everyone has a say in the family's choice of a product. Measurement errors of this type could be reduced by use of an observational method wherein the researcher classifies the types of structures actually used by subjects in a laboratory study involving a simulated choice task.

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Sex Role Attitudes of Spouses and Task Sharing Behavior

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ABSTRACT

This study investigated the congruence between each spouse's sex-role attitude and role behaviors in the areas of family financial management and in division of labor for domestic chores performance. Findings from the structural equation analysis showed that only the wife's sex-role attitude was significantly related to the couple's task sharing behavior. Regardless of the type of sex-role attitude held by their husbands, wives with more modern sex-role attitudes tended to share more equally with their husbands the influence over deciding/handling expenses and savings decisions as well as perform domestic chores more jointly.

INTRODUCTION

The traditional demarcation between the culturally prescribed roles of men and women is becoming increasingly obscure both at the societal and domestic levels. A common observation is that there is considerable movement in the perceptions of men and women toward more egalitarian views in determining their roles. The evolving status of women fueled by their increasing education and occupational attainment coupled with the feminist movement has been regarded as the major force underlying this change in sex-role attitudes (Ericksen, Yancy, and Ericksen 1979; Roper and Labeff 1977).

While the changes in sex-role attitudes of men and women are taking place pervasively, they do not occur simultaneously across the whole population. The varying degrees of sex-role attitudes (on the modern-traditional continuum) held by people have been hypothesized as a causal factor underlying different patterns of family role behaviors. According to Qualls (1987), sex-role attitudes reflect the societal norms and expectations by which family members determine the rewards and costs associated with their actions. Blood and Wolfe (1960) proposed long ago that the cultural norms and expectations have a direct impact on the family decision influence structure and the division of labor. Most family researchers give credence to the relationship between sex-role attitude and role behavior. A general belief is that egalitarian sex-role attitudes foster a commitment to more equal sharing of household decision influences and family responsibilities (Scanzoni 1977, 1979; Mortimer, Hall, and Hill 1978; Bird, Bird, and Scruggs 1984).

LITERATURE REVIEW: SEX ROLE ATTITUDE AND HOUSEHOLD ROLE STRUCTURE

Financial Management

In one of the earlier studies investigating the congruence between sex-role attitude and behavior in family financial management, Green and Cunningham (1975) found that women who possessed liberal views of women's roles did not differ from those with moderate or conservative views in the reported amount of influence they had vis-a-vis their husbands over family savings decisions. With regard to keeping track of money and bills, however, liberal women reported the lowest incidence of joint task-sharing. This is contrary to the common expectation that modern sex-role attitudes are associated with a greater degree of household task-sharing between the spouses. A major drawback of this study was that it analyzed women's responses only.

The findings reported by Schaninger, Buss, and Grover (1982) are, on the other hand, consistent with the hypothesized relationship. Using the responses obtained form both spouses, they found that for the financial tasks traditionally handled by wife (e.g., handling expenses for food and beverages and clothing), sex-role modern families showed less wife but more joint and husband influence. For those traditionally husband dominated tasks (e.g., handling expenses for transportation, recreation, and savings plans), less husband, but more joint and wife influence was observed among the sex-role modern families. Similarly, Qualls (1982) found that sex-role modern husbands perceived to a lesser extent than sex-role traditional husbands that savings decisions should be husband dominant. However, both traditional as well as modern sex-role wives felt that the decision pattern should be of joint influence.

The study by Rosen and Granbois (1983) investigated the relationship between sex-role attitudes and role structure for three groups of financial management activities. Sex-role attitudes of both spouses were significant determinants of role structure only regarding implementation tasks (e.g., balancing and reconciling checkbooks and paying bills). The pattern of role structure in actual financial decision making activities (e.g., deciding the method and amount of savings and the method of financing purchases) was not reflective of either spouse's sex-role attitude.

Household Chores

While only a small number of sociological studies have focused on the relationship between sex-role attitude and domestic task-sharing, the existing findings are generally supportive of this relationship. Stafford, Backman, and Dibona (1977), in their study of the determinants of household task structuring and performance found that each spouse's sex-role ideology was significantly related to how couples divided their responsibilities for various household tasks as well as time spent on household labor. The authors observed that the traditional division of labor (i.e., women taking most of the responsibilities for and performing most of the household tasks) which was prevalent among the couples investigated was largely due to the unconscious ideology developed from parental modeling that preserves traditional sex-roles. Perrucci, Potter, and Rhoads (1978) examined the determinants of the husband's participation in 12 selected household/child-care activities, and also found that traditional sex-role perception was significantly associated with the husband's participation in fewer of these tasks.

Two recent studies by Bird, Bird, and Scruggs (1984) and by Ross (1987) provide evidence for the attitude-behavior congruence only among husbands. The former found that husbands who had an egalitarian sex-role orientation accepted more responsibility for tasks associated with child care, meal preparation, and cleaning. However, sex-role orientation of wives had little effect on their reports of household task-sharing. The latter study, using a mean response to five questions on household chores (averaged over both spouses) as the dependent variable, also found that only husband's sex-role orientation was a significant predictor of the household division of labor.

Product Purchase Decisions

Studies relating sex-role attitudes of husband and wife to the influence pattern in durable purchase decisions are scanty and their findings are somewhat mixed. The study by Green and Cunningham (1975) which examined the number of subdecisions made by each spouse in five product/service purchase situations, reported that husbands of liberal wives tended to make fewer decisions than husbands of conservative and moderate sex-role wives regarding the purchase of major appliances, automobile, and vacation. However, the three sex-role groups of wives did not show a significant difference in the number of subdecisions they had influence over except for the automobile purchase. Liberal wives reported to make significantly more subdecisions relating to the automobile purchase than moderates or traditionals.

According to Qualls (1982), sex-role traditional husbands, much more so than their sex-role modern counterparts, perceived as dominating purchase decisions regarding vacations, automobiles, housing, and insurance. In contrast, sex-role orientation of wives did not show any significant relationship to the perceived influence pattern. The evidence found by Schaninger, Buss, and Grover (1982) appears more unequivocal. In their findings, sex-role modern families showed less husband's and more joint and wife's influence over three of the five aspects of the last durable purchase (who decided initially to buy, when to buy, and where to buy). Further, it was observed that wives' sex-role attitudes were more strongly related to decision making influence than husbands'.

A recent study by Qualls (1987) investigated the effect of sex-role attitudes on four family decision making variables specified in a theoretical network, among which was household decision outcome measured as husband- or wife-dominant in a hypothetical household purchase situation. Sex-role attitudes of husbands and wives were not examined separately in this study. Rather each spouse's scores on five dimensions of Scanzoni's (1977) sex-role attitude measurement were used as indicators of household sex-role orientation. The study found that household sex-role orientation affected the couple's perceived influence structure and mode of conflict resolution, but did not have a direct effect on decision outcome.

In summary, the literature review suggests that the strength of the relationship between sex-role attitude and role behaviors in family tend to vary across different family tasks as well as between husbands and wives. Overall, there is sufficient empirical ground for further examinations of the effects of sex-role attitudes on a variety of family phenomena other than the ones reviewed above. A recent study by Spiro (1983) which found a relationship between the traditional family ideology and the type of influence strategy each spouse used in a joint decision making situation adds a new dimension to the study of sex-role attitudes.

One can also notice in the existing literature that the relationship between sex-role attitude and the household division of labor or decision influence pattern has been examined largely with bivariate analyses, or at best, in a context of regression analysis incorporating other hypothesized determinants of role structure. What is conspicuously missing is an attempt to investigate simultaneously the interrelationship between sex-role attitudes of husband and wife as well as the effect of each spouse's sex-role attitude on role structuring behavior in several household tasks or decision areas.

Marriage is a comparatively stable relationship, and it involves a great deal of instrumental and emotional interdependence between the spouses. There is evidence that the spouses influence each other in shaping the preferences and beliefs of the other. For instance, Cronkite (1977) found in both cross-sectional and over-time analysis that each partner's beliefs in innate sex-roles (i.e., men are born with more drive to be ambitions and successful than women, and women by nature are happiest when making a home and caring for children) directly influence the other's.

The congruence between sex-role attitude and role behaviors in family life is the topic of investigation in this study. More specifically, departing from the traditional approach, this study simultaneously examines the structural relationship between sex-role attitudes of husband and wife and the effect of each spouse's attitude on the extent of role sharing in family financial management and household task performance.

METHODOLOGY

The data for this study came from part of a survey of home purchasers in the largely English speaking West Island region of the Greater Montreal area, conducted in 1987. From the list of home purchasers in the first 6 months of 1987 (supplied by a local real estate agency), 400 with English surnames were selected and mailed questionnaire packages. The package contained two identical questionnaires in English only with an attached cover letter instructing the recipients to have the man and woman of the household respond to the questions separately.

Of the 400 packages mailed out, 112 returned (28%). After excluding nonusable questionnaires (mostly those completed by the respondents who are single), there were 87 pairs of questionnaires completed by both spouses, 9 completed only by husbands, and 6 only by wives. Thus, in total, 96 husbands' and 93 wives' questionnaires returned were usable. There was no follow up effort because the survey promised unanimity of the respondents. The low response rate may have been due to the fairly lengthy questionnaire as well as the requirement of both spouses' responses.

Included in the questionnaire were 17 family financial management activities and household tasks for which each spouse was asked to assess his/her relative participation on five-point scales (1 = myself entirely, 2 = mostly myself, 3 = equally, 4 = mostly my spouse, 5 = my spouse entirely). Since the purpose of this research was to identify the degree of task sharing rather than to identify which spouse had the dominant role in performing each of these tasks, the responses were recoded to reflect the amount of task sharing by each spouse. The following recoding scheme was used: 1 = not shared at all (corresponding to 1 and 5 on the original scale); 2 = partly shared (2 and 4 on the original scale); and 3 = shared equally (3 on the original scale).

Measurement of each spouse's sex-role attitude used the Osmond and Martin's (1975) Sex-Role Attitude (SRA) Scale. Of the 32 items included in the original measure, three items which were deemed inappropriate in the Canadian context (e.g., The Equal Rights Amendment related to sex should be ratified as soon as possible) were deleted. The reported reliability levels for the measure in the past have been high, $\alpha = .88$ in the original study and .76 in Qualls' (1987).

ANALYSIS AND RESULTS

The study used the LISREL analysis incorporating sex-role attitudes of the spouses as independent latent variables and the extents of task sharing for several factor analyzed categories of household activities as dependent latent variables. An assessment of the independent and dependent variable measurements was conducted prior to the LISREL analysis.

Measurement of Sex-Role Attitude

While intended to tab a single theoretical dimension (traditional to modern sex-roles), the Osmond and Martin's SRA Scale was conceived on the basis of four a priori components: (1) familial roles of females and males; (2) extrafamilial roles of each sex; (3) stereotypes of male/female characteristics and behaviors; and (4) social changes as related to sex-roles. Factor analysis of the husbands' and wives' responses, however, revealed greater numbers of components (9 and 10 respectively) and quite dissimilar factor loadings patterns. In light of these results, ensuing analyses used the average of the total responses on the scale as the indicator of the spouse's sex-role attitude. Reliability analyses of the 29 items showed a Cronbach's α value of .87 for the husband's subsample and .73 for the wife's, and in both cases, no item showed too serious a negative contribution to the reliability of the overall measure to be eliminated. The average response on the 29 items for wives was 5.47 (1 = "traditional" end and 7 = "modern" end of the scale), and 5.16 for husbands. This observation that women in general held a significantly more modern sex-role attitude than men ($t = 3.69$, $p<.05$) is consistent with past results (Tomeh 1978; Brogan and Kutner 1976; Rao and Rao 1985; Scanzoni 1976).

Measurement of Task-Sharing

For the 17 household activities, the study used the average of both spouses' responses on the extent of task-sharing. The correlations between husbands' and wives' reports of task-sharing were generally high. The average of the 17 correlation coefficients was .57, all but one higher than .5. Further, the reliability of each spouse's report was high and similar to the other's. The average Cronbach's α for the 17 sets of responses was .72. For these reasons, the average response did not appear to be more heavily weighted to one or the other spouse.

These average responses of task-sharing for the 17 activities were factor analyzed to find underlying dimensions. the analysis produced 5 factors with the eigenvalue greater than 1.0, explaining 70 percent of the total variance. However, an examination of the varimax rotated factor loadings matrix showed three items with poor (lower than .35) or ambiguous loading values on more than one factor. The subsequent factor analysis excluding these three items produced four distinguishable factors (with eigenvalues greater than 1.0) accounting for 69 percent of the total variance. The four groups of activities were labeled as: (1) financial task implementation; (2) expenses decisions; (3) savings decision; and (4) domestic chore performance. A summary of the results from this 4-factor solution along with the mean and standard deviation of each variable and the Cronbach's reliability coefficient computed for each group of items are presented in Table 1.

LISREL Analysis and Results

Contained in Figure 1 is the model specifying the relationships between the latent variables and measurement items as well as the structural links among the two spouses' sex-role attitudes and the extent of task-sharing in the four factor analyzed categories of household activities. The model depicts that each spouse's sex-role attitude measured by the average score on the 29 item Osmond and Martin's SRA Scale will be correlated to the other's due to the interpersonal influence on the belief systems of the spouses. Also depicted is that each spouse's sex-role attitude in turn will affect the degree of task-sharing in each of the four areas of household activities.

When estimated using LISREL VI (Joreskog and Sorbom 198) the goodness of fit of the model to the data was unsatisfactory ($\chi^2_{99} = 148.03$, $P = .001$). An examination of modification indices revealed strong correlations among the disturbance terms ($\zeta_1, \zeta_2, \zeta_3$) in the structural equations involving the three financial task-sharing dimensions (η_1, η_2, η_3). A

TABLE 1

Results of Factor Analysis on the Selected Household Activities Using The Couple's Average Response on the Degree of Task-Sharing

Activity	Factor Loading	Mean	Standard Deviation	Cronbach's α
Factor 1: Financial Task Implementation[a]				.90
Recording deposits and withdrawals in checkbook	.81	1.69	.70	
Paying bills	.62	1.64	.65	
Reconciling bank statements	.88	1.60	.72	
Reconciling checkbooks	.91	1.62	.75	
Factor 2: Expenses Decisions[a]				.75
How much cash to withdraw for expenses	.69	2.22	.72	
Items and amounts for the monthly budget	.66	2.26	.72	
Expenses for recreation	.61	2.49	.60	
Factor 3: Savings Decisions[a]				.78
Amount to be contributed to savings	.79	2.18	.79	
Types of savings plan	.69	2.11	.76	
What to do with leftover money	.54	2.57	.59	
Factor 4: Domestic Chore Performance[b]				.72
Laundry	.58	1.46	.60	
Cooking	.55	1.71	.60	
Washing dishes	.73	1.90	.71	
House cleaning	.63	1.88	.69	

[a]Respondents were asked, "Who decides or handles the following tasks?"
[b]Respondents were asked, "Who does the following tasks?"

plausible explanation for this can be that some unmeasured causal variables were producing systematic variation in these three dependent dimensions. The subsequent testing of a revised model containing the specification of correlations among the three disturbance terms produced a substantially improved and acceptable fit (x^2_{96} = 108.62, P = .18). Figure 2 shows this revised model but displays only the structural parameters for ease of reading. Table 2 lists parameter estimates, standard errors, and t-values for both the measurement and structural portions of the model.

As shown in Figure 2, a significant relationship exists between the sex-role attitudes of the spouses ($Ø_{21}$ = .40, P < .001). This lends support for the contention that each partner's sex-role attitude to a large extent depends on the other's (Mirowsky and Ross 1987). The more sex-role modern (traditional) one partner is, the more the other also tends to be.

Structural relationships between the spouse's sex-role attitudes and task-sharing in the four household activity categories are, on the other hand, somewhat weak. Among the eight structural coefficients, two (γ_3 and γ_5) are significant at P = .05, and one (γ_7) at P = .10. However, it is interesting to note that all three significant coefficients pertain to the structural effects of the wife's sex-role attitude only. Substantively stating, couples with more sex-role modern wives are likely to take a more egalitarian approach in deciding/handling expenses, in making savings decisions, and in performing domestic chores. The husband's sex-role attitude shows no significant relationship with the extent of task-sharing in any of the activity categories. The coefficient of determination for the total structural model was .19. Thus, sex-role attitudes alone account for only a small portion of the variation in task-sharing behaviors of couples.

TABLE 2

Estimated Parameters for the Model Depicting the Effect of Sex-role on Task-sharing

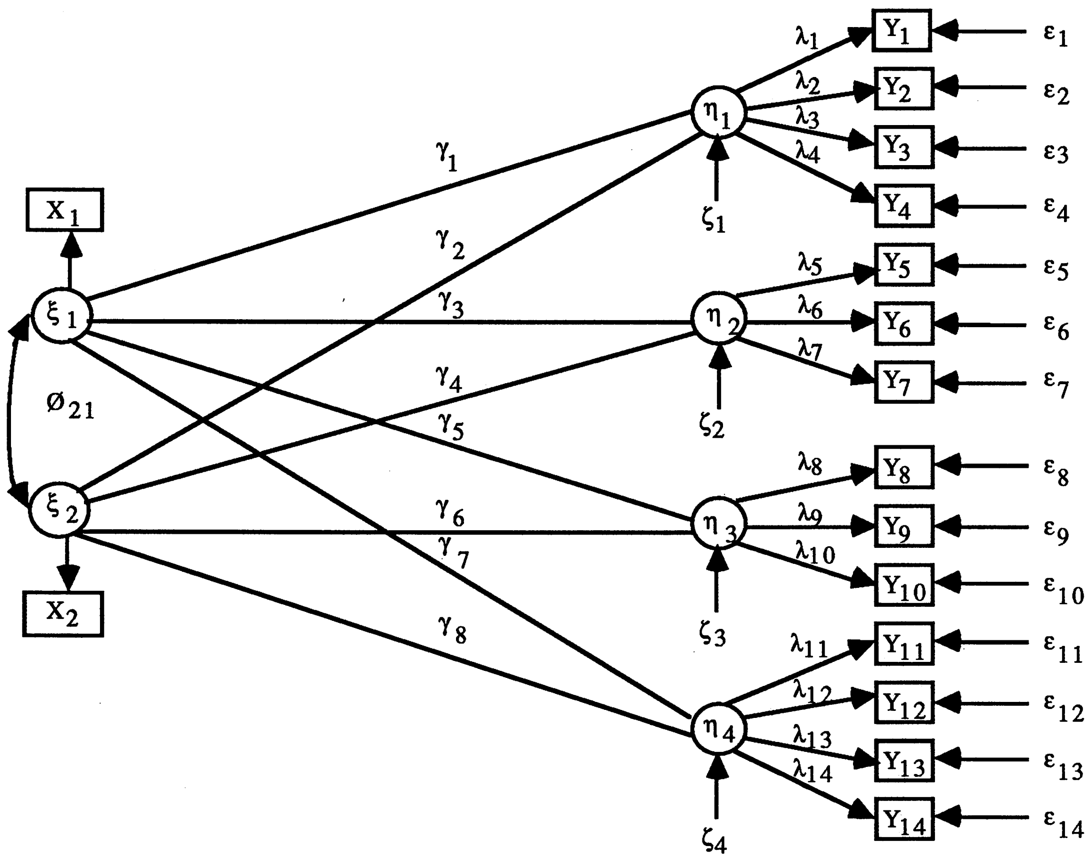
Parameter	LISREL Estimate	T Value	Parameter	LISREL Estimate	T Value
λ_1	1.00[a]	–	ϕ_{21}	.40	4.77
λ_2	.72	5.03	ψ_{11}	.53	4.00
λ_3	1.32	9.80	ψ_{22}	.34	2.89
λ_4	1.34	9.90	ψ_{33}	.33	2.70
λ_5	1.00[a]	–	ψ_{44}	.26	2.29
λ_6	1.20	5.27	ψ_{21}	.18	2.86
λ_7	1.49	5.54	ψ_{31}	.17	2.66
λ_8	1.00[a]	–	ψ_{32}	.19	2.92
λ_9	1.10	4.56	$\theta_{\varepsilon 1}$	.45	6.44
λ_{10}	1.49	4.89	$\theta_{\varepsilon 2}$	.72	6.53
λ_{11}	1.00[a]	–	$\theta_{\varepsilon 3}$	.05	2.42
λ_{12}	1.12	3.73	$\theta_{\varepsilon 4}$	.02	.71
λ_{13}	1.46	3.96	$\theta_{\varepsilon 5}$	.63	5.88
λ_{14}	1.04	3.57	$\theta_{\varepsilon 6}$	.47	5.04
γ_1	.02	.20	$\theta_{\varepsilon 7}$	.19	2.02
γ_2	.11	1.26	$\theta_{\varepsilon 8}$	.65	5.73
γ_3	.15	1.95	$\theta_{\varepsilon 9}$	.59	5.37
γ_4	.04	.53	$\theta_{\varepsilon 10}$	.23	2.08
γ_5	.14	1.77	$\theta_{\varepsilon 11}$	.71	5.64
γ_6	-.03	-.44	$\theta_{\varepsilon 12}$	.64	5.21
γ_7	.10	1.38	$\theta_{\varepsilon 13}$	.39	3.03
γ_8	.09	1.18	$\theta_{\varepsilon 14}$	.69	5.51

$x^2_{96} = 1.0862$, $P = .18$

[a]Constrained

FIGURE 1

Model Depicting the Effect of Sex-Role Attitude on Task-Sharing



ξ_1 = Wife's sex role attitude

ξ_2 = Husband's sex role attitude

η_1 = financial task implementation
η_2 = Expenses decisions
η_3 = Savings decisions
η_4 = Domestic chore performance

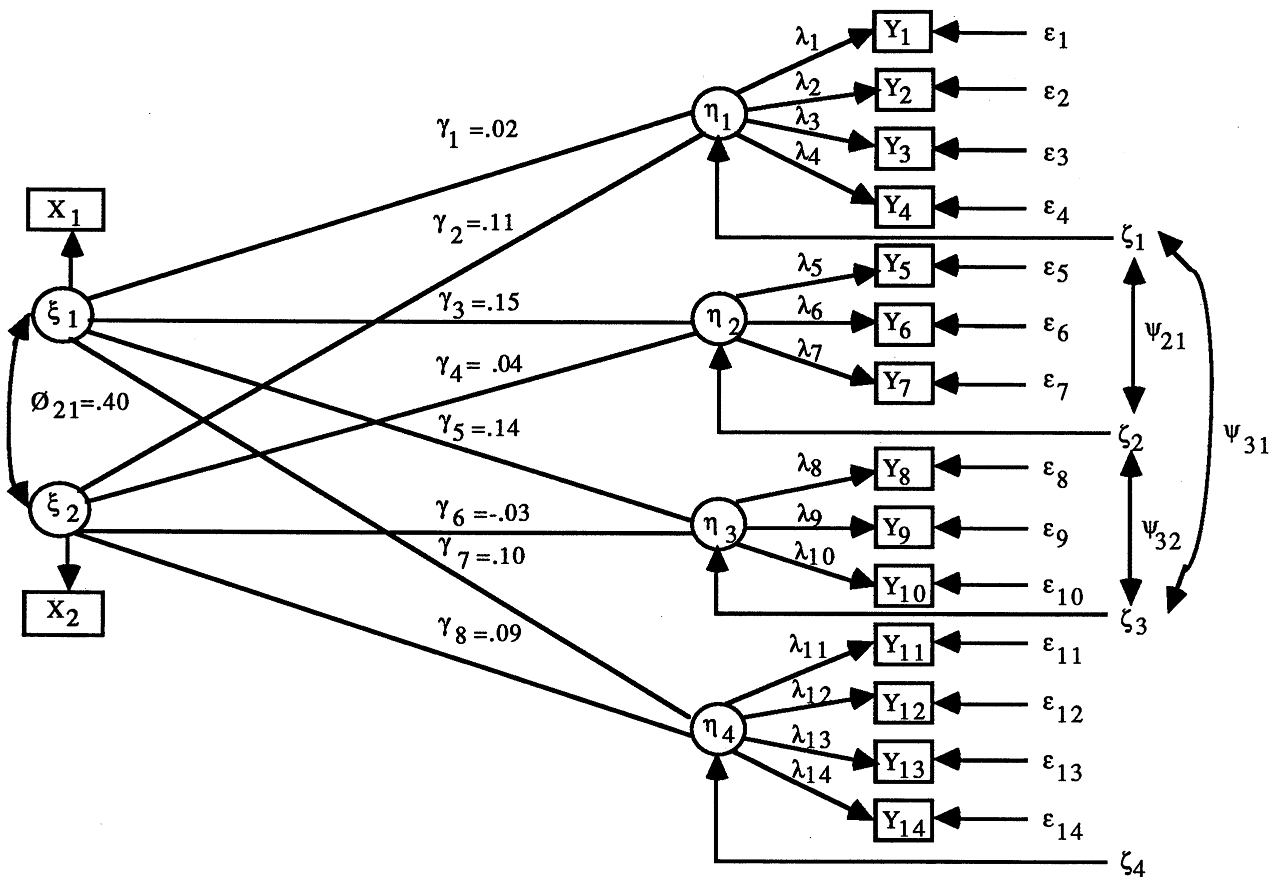
X_1 = Wife's average score on the 29 sex-role attitude items

X_2 = Husband's average score on the 29 sex-role attitude items

Y_1 = Recording deposits and withdrawals in checkbook
Y_2 = Paying bills
Y_3 = Reconciling bank statements
Y_4 = Reconciling checkbooks
Y_5 = How much cash to withdraw for expenses
Y_6 = Items and amounts for the monthly budget
Y_7 = Expenses for recreation
Y_8 = Amount to be contributed to savings
Y_9 = Types of savings plan
Y_{10} = What to do with leftover money
Y_{11} = Laundry
Y_{12} = Cooking
Y_{13} = Washing dishes
Y_{14} = House cleaning

FIGURE 2

Maximum Likelihood Parameter Estimates for the Model Depicting the Effect of Sex-Role Attitude on Task-Sharing



DISCUSSION

A look at the average values of the husbands' and wives' responses on the original five point scales (1 = wife entirely and 5 = husband entirely)[1] for the three items in the category of expenses decision, three items in the category of savings decisions, and four items in the category of domestic chore performance shows a slightly more dominant husband influence over the decisions regarding expenses (mean values of 3.03, 3.06, and 3.01 respectively for the three activities in this category), a stronger husband dominance over savings decisions (mean values of 3.34, 3.46, and 3.05 respectively), but the four domestic chores were largely taken care of by wives (mean values of 1.63, 1.89, 2.19, and 2.00 respectively). These results coupled with the overriding finding of this study that the congruence between sex-role attitude and behavior is limited to the part of wives lead to the following suggestions: Irrespective of the type of sex-role attitude held by their husbands, women who possess more modern sex-role attitudes are transforming what appear to be more husband dominated financial decision making activities into a more egalitarian process. Further, more evident is that in the division of labor for performing domestic chores which traditionally fall under women's responsibility, wives with more modern sex-role attitudes obtain a greater extent of involvement from their husbands. One explanation for the lack of congruence between the husband's sex-role attitude and task-sharing behavior may be that men benefit more than women form the traditional system of sex-roles and inequalities, and that the motivational force to translate their attitudes into congruent behaviors may be weak.

Another result of this study showing that the average wife is significantly more sex-role modern than her husband is interesting because it implies a potential conflict of interest between them due to discrepant beliefs regarding their role prescriptions. On the other hand, it was also seen that one spouse's sex-role attitude tends to covary positively with the

[1]The husband's scales were reversed so that the scale descriptions could match the wife's.

other's. Considering that marriage is a long term and comparatively stable relationship, it appears that the mutual influence on the belief systems of each other may act as an agent which reduces the levels of contrast in their positions. The emotional and instrumental dependence between the spouses are likely causes for their susceptibileness to each other's influence.

The primary reason for studying attitude is the expectation that an understanding of individuals' attitudes increases the understanding of individuals' behavior (Calder and Ross 1976). According to cognitive theorists (Festinger 1957; Abelson 1959; Rosenberg and Abelson 1960), individuals strive to make their attitudes and behaviors congruent because the imbalance is an unpleasant cognitive state. This study which investigated congruence between sex-role attitude and household task-sharing behavior provided partial evidence for the relationship. More research effort should be called for in understanding the link between sex-role attitudes of the spouses in many other aspects of joint decision making, particularly those of the decision making process.

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The Dimensionality of Involvement: An Empirical Test

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ABSTRACT

This study was an additional attempt at providing further empirical evidence of the dimensionality of involvement. This research extended previous investigations of this issue by examining involvement dimensionality across multiple products using exploratory and confirmatory factor analyses. Lastovicka and Gardner's (1979) involvement scale served as the involvement measure due to its use in previous research and since it was developed using multiple products. A four dimensional solution provided the best representation of involvement as tapped by this scale. Results suggest the first factor may represent involvement across products while other factors appear to be product specific.

During the past decade a number of scales have been developed purporting to measure involvement and the dimensions underlying the construct (i.e., Bloch 1981; Lastovicka & Gardner 1979; Laurent & Kapferer 1985; Slama & Tashchian 1985; Traylor & Joseph 1984; Zaichkowsky 1985). With the exception of Shimp and Sharma's (1983) test of Bloch's (1981) automobile involvement scale, no independent attempts at replication of the involvement scales nor the dimensionality have been undertaken. Furthermore, although Shimp and Sharma extended the automobile scale via the utilization of a fairly large nonstudent sample and refinement of the scale via item and factor (dimension) reductions using confirmatory factor analyses, they investigated only a single product: automobiles. As suggested by Shimp and Sharma, additional studies are clearly warranted that independently ascertain the dimensionality of involvement scales across multiple products.

The present study attempts to partially remedy the above situation by testing the dimensionality of an involvement scale across products using procedures similar to those utilized by Shimp and Sharma (1983). Specifically, the present study addresses the replication and dimensionality issues via the utilization of confirmatory factor analysis procedures for three products using Lastovicka and Gardner's (1979) involvement scale. In addition to providing evidence for the number of dimensions in Lastovicka and Gardner's scale, this study also addresses whether involvement is unidimensional, multidimensional, or multidimensional with only a single consistent dimension across product categories. Finally, the relations between involvement dimensions are examined.

EMPIRICAL DIMENSIONS OF INVOLVEMENT

In explicating the empirical dimensions of involvement it is important to emphasize the fact that this study is not concerned with the conceptual definitions and dimensions, nor types of involvement. Rather, this study focuses on the empirically determined dimensions of existing involvement scales.

Six basic and widely disseminated involvement scales have been developed (i.e., Bloch 1981; Lastovicka & Gardner 1979; Laurent & Kapferer 1985; Slama & Tashchian 1985; Traylor & Joseph 1984; Zaichkowsky 1985). With one exception, all of these scales have utilized Likert-type response formats using from 6 (Traylor & Joseph 1984) to 33 items (Slama & Tashchian 1985). Zaichkowsky (1985), on the other hand, argued that Likert scale items were problematic "because items that seemed to be appropriate for frequently purchased goods did not seem to apply to durable goods and vice versa" (p. 342). Hence, Zaichkowsky developed a 20 item semantic differential scale to measure involvement.

The number of empirically derived involvement dimensions using these scales has ranged from one (e.g., Zaichkowsky 1985; Traylor & Joseph 1984) to six dimensions (Bloch 1981). In the latter case, as noted previously, Shimp and Sharma (1983) found that Bloch's 17 item, six-dimension scale could be reliably reduced to eight items with two dimensions representative of emotional/personal (enduring) and social status (situational) involvement. Bloch had implied a similar configuration in stating that three of his original dimensions tapped centrality while the other three dimensions seemed to tap product interest.

Given the single product, automobiles, tested by Bloch (1981) and, subsequently, Shimp and Sharma (1983), it is important to contrast their findings with those of Zaichkowsky (1985) and Traylor and Joseph (1984) using multiple products. These authors reported that a second reliable dimension could not be ascertained when testing their scales across products. Although these authors allowed for involvement to be multidimensional (see especially Traylor & Joseph 1985), in both scales the lack of a second reliable dimension suggests that (a) involvement may be unidimensional or (b) multidimensional with subsequent dimensions beyond unity being product specific: a notion similar to Bloch's (1981) rationale in originally developing the automobile involvement scale.

Lastovicka and Gardner (1979), on the other hand, reported three dimensions in their 22 item scale: familiarity, commitment, and normative importance. The latter two dimensions appear to be consistent with Shimp and Sharma's (1983) emotional/personal and social status involvement, respectively. Lastovicka and Gardner (1979) suggested that "familiarity is independent of the components of involvement" (p. 68). Unfortunately, Lastovicka and Gardner did not compare the factor loadings of their items across the 14 products they investigated as did Zaichkowsky (1985) and Traylor and Joseph (1984).

Hence, the notion of unidimensional, multidimensional, or multidimensional with only a single common dimension across products could not be ascertained.

The remaining two involvement scales represent unique attempts at measuring involvement. Slama and Tashchian's (1985) scale was designed to tap general purchasing involvement as opposed to product involvement. These authors did not attempt to directly ascertain the empirical dimensions in their scale. Rather, they highlighted the attitudinal and behavioral components that might determine involvement. Laurent and Kapferer (1985) attempted to identify and measure the antecedents of involvement. Their factor analysis suggested four antecedent dimensions: the importance of the product and consequences of making a wrong purchase (imporisk), the probability of making a wrong purchase (risk probability), the symbolic value of the product (sign value), and the emotional value of the product (hedonic value). Although not necessarily directly comparable given their purposes, Laurent and Kapferer's sign value corresponds with Shimp and Sharma's (1983) social status dimensions while hedonic value parallels emotional/situational involvement. Imporisk and risk probability seem to be either correlated dimensions or encompassed within the two dimensions suggested by Shimp and Sharma. However, as with other studies, Laurent and Kapferer (1985) did not compare the factor loadings across the 14 products studied.

A final point on the empirical dimensions of existing involvement scales is the rotational methods employed in the exploratory factor analyses used to determine the dimensions. Only Laurent and Kapferer (1985) and Shimp and Sharma (1983) utilized oblique rotations, i.e., allowing dimensions to be intercorrelated. Laurent and Kapferer found interdimensional correlations ranging from .15 to .47 while Shimp and Sharma reported a correlation of .64 between the two dimensions advocated in their study. Furthermore, Shimp and Sharma found the oblique to be superior to the orthogonal rotation in identifying the dimensions in their confirmatory factor analysis. All other scales purporting to measure dimensions of involvement have utilized orthogonal rotations. Although it is plausible that uncorrelated dimensions could be tapping a single underlying construct, it seems more likely that the dimensions would exhibit some degree of intercorrelation, a notion suggestive of oblique factor rotations.

Lastovicka and Gardner's Scale

Lastovicka and Gardner's (1979) involvement scale was selected for examination in the present study for a variety of reasons. First, as suggested by Shimp and Sharma (1983), independent studies are warranted which examine the dimensionality issue across multiple products. The scale tested by Shimp and Sharma was product specific (Bloch's automobile scale). Rather than converting that scale to encompass multiple products, it was deemed appropriate to utilize a scale originally developed to not be product specific. Second, Lastovicka and Gardner's (1979) was one of the earliest multi-item scales developed and has been utilized either conceptually or directly (item usage) in subsequent involvement scales. Third, Lastovicka and Gardner's scale was conceptually based on the foundations of involvement (e.g., Sherif & Cantril 1947). Fourth, the small sample size (n = 40) in Lastovicka and Gardner's study lends itself to criticism given three involvement dimensions based upon 22 items (note, however, that each respondent in their study rated 14 different products resulting in 560 observations). Finally, several of the items in the scale appear to be negligibly related to any of the dimensions (see Table 1), suggesting a more parsimonious solution might be possible via item deletions, oblique factor rotations, or different number of dimensions.

To summarize, using Lastovicka and Gardner's (1979) involvement scale, the present study utilized a large sample in which each participant responded to only a single product out of three potential products. Analysis procedures similar to Shimp and Sharma's (1983) were used. Specifically, exploratory factor results were initially compared to Lastovicka and Gardner's. Using confirmatory factor analysis allowing for both orthogonal and oblique rotations the number of dimensions across products was determined. In addition, correlations between the factor loadings for different products were ascertained. The confirmatory factor analysis results and factor loading correlations were utilized in examining whether involvement was unidimensional, multidimensional, or multidimensional with only a single dimension being consistent across products (e.g., Zaichkowsky 1985; Traylor & Joseph 1984). Given the inconsistent findings in past studies, no specific hypotheses about the empirical dimensions of involvement were made. However, it was predicted the oblique factor rotations would result in a more reliable factor structure than orthogonal rotations (Shimp & Sharma 1983).

METHOD

Sample and Questionnaire. Five hundred sixteen undergraduate students enrolled in arts and sciences, and business classes at a major southern university served as the subjects for this study. As part of a larger investigation, each subject completed a questionnaire containing Lastovicka and Gardner's (1979) involvement scale. Each subject responded to the 22 involvement items for only a single product using a 7-point Likert scale. Three products (shampoo, blue jeans, & athletic/sport shoes) were selected after a thorough review of previous involvement studies and appropriateness for the sample. These products were chosen based on the extent of use in previous involvement research as well as for evidence of consumer involvement variation (cf. Gill & Grossbart 1985). Furthermore, two of the products, athletic shoes and blue jeans, were examined by Lastovicka and Gardner (1979) and were classified as exhibiting different levels of involvement. Two different orders of items were developed. Hence, using a blocked schedule in passing out the questionnaires, subjects responded to one of six different

TABLE 1

Lastovicka and Gardner Indicators and Loadings with Our Exploratory Factor Results*

Item	Lastovicka & Gardner Findings			Our Exploratory Factor Results				
	Familiarity	Commitment	Normative Importance	1	2	3	4	5
1. This is a product I could talk about for a long time	307	-008	085	370	543	-137	088	095
2. I understand the features well enough to evaluate the brands	499	-010	-062	176	508	364	-052	-111
3. This is a product that interests me	252	-076	176	436	519	300	155	-020
4. I have a preference for one or more brands in this product class	375	129	042	053	258	567	123	118
5. This is a product for which I have no need whatsoever	-267	000	-049	-035	145	-679	-267	051
6. I am not at all familiar with this product	-401	016	123	-164	-042	-706	127	048
7. I usually purchase the same brand within this product class	291	194	-068	-054	252	249	288	-554
8. If I had made a brand choice in this product class before actually making the purchase, I might easily change my intended choice upon receiving discrepant information	012	-562	140	-101	028	100	098	733
9. If I received information that was contrary to my choice in this product class I would-at all costs-keep my choice	035	435	000	157	-037	059	042	-648
10. I can protect myself from acknowledging some basic truths about myself by using this product	-222	-307	213	662	-140	-124	-088	-075
11. If my preferred brand in this product class is not available at the store, it makes little difference to me if I choose another brand	-092	-414	-073	-003	-518	-208	-018	539
12. My use of this product allows others to see me as I would ideally like them to see me	005	-005	267	685	081	193	236	176
13. This product helps me attain the type of life I strive for	-003	-049	327	632	151	142	419	005

TABLE 1 (CONTINUED)

Lastovicka and Gardner Indicators and Loadings with Our Exploratory Factor Results*

Item	Lastovicka & Gardner Findings			Our Exploratory Factor Results				
	Familiarity	Commitment	Normative Importance	1	2	3	4	5
14. I can make many connections or associations between experiences in my life and this product	061	-166	311	537	260	128	140	002
15. I definitely have a "wanting" for this product	175	-066	246	372	306	321	353	-019
16. If evaluating brands in this class, I would examine a very long list of features	060	-216	299	147	667	-169	059	073
17. I use this product to help define and express the "I" and "me" within myself	-050	-047	326	704	281	108	176	-204
18. I rate this product as being of the highest importance to me personally	026	161	250	542	101	044	370	015
19. Because of my personal values, I feel that this is a product that ought to be important to me	011	074	271	222	089	181	754	060
20. Use of this product helps me behave in the manner that I would like to behave	002	002	282	748	261	120	071	-030
21. Because of what others think, I feel that this is a product that should be important to me	-174	147	261	220	-024	-052	734	-117
22. Most of the brands in this product class are all alike	047	-174	-214	-029	-614	-239	-020	268
		Variance explained		26.5	8.6	7.2	6.4	4.6

* All decimals implied; Highest item loading across factors for each analysis has been underlined

questionnaire forms (3 products, 2 item orders). Incomplete questionnaires, those exhibiting an obvious response set bias, or exceeding a predetermined "floor" score on an embedded lie scale were removed prior to analyses. The final sample consisted of 421 respondents.

Analysis. Shimp and Sharma's (1983) procedure for testing Block's (1981) automobile involvement scale was, in general, followed here. Similar to Shimp and Sharma (1983), confirmatory factor analysis via LISREL VI was used to provide further evidence of multidimensionality or lack thereof of the Lastovicka and Gardner scale. In brief, Shimp and Sharma's procedure included comparing hypothesized factor models to each other and to the "null" model where complete independence is assumed between all indicators. Fit indices provided by LISREL VI and a calculated index using the null model as a reference (Bentler & Bonett 1980) were used to compare models. Exploratory factor results (i.e., eigenvalues greater than one and scree plots) provided the rationale for comparing additional models beyond the null and the three factor model suggested by Lastovicka and Gardner (see Table 1). Advantages of using Shimp and Sharma's procedure include obtaining an overall fit index of the hypothesized model to the data and determining the extent of interrelations (correlation) between factors.

RESULTS

Exploratory Factor Analysis. Unlike the number of dimensions cited by Lastovicka and Gardner, our exploratory findings suggested a five dimensional solution (see Table 1). These dimensions accounted for 53% of the variation with the first factor accounting for half of the total variance (26.5%). This suggests that involvement, while not unidimensional, may be dominated by one dimension with other dimensions being more peripheral (cf. Shimp & Sharma 1983).

The *pattern* of loadings is somewhat different from that suggested by Lastovicka and Gardner as well (see Table 1). Factor 1 contains most but not all of the items comprising Lastovicka and Gardner's Normative Importance factor while their first factor was Familiarity. Their Familiarity factor appears to have split into factors 2 and 3. Factor 2 contains items 1, 2, and 3 from Lastovicka and Gardner's Familiarity factor, as well as items 16 and 22 (see Table 1). Factor 3 is composed of three items (4, 5, & 6) reported by Lastovicka and Gardner as also loading on their Familiarity factor but which now forms a separate, unrelated construct (exploratory results were varimax rotated as per Lastovicka & Gardner). Our exploratory results suggest that Familiarity may be multidimensional: being familiar enough with brand/product features to make comparisons (factor 2) and familiarity as it pertains or leads to preferences (factor 3).

Similarly, factor 4 is composed of two items which formerly loaded on Lastovicka and Gardner's Normative Importance factor. Factor 4 now seems to be an indicator of product importance imparted by external and internal influences. With the exception of items 7 and 10, factor five is composed of items which formerly defined Lastovicka and Gardner's Commitment factor. The pattern of loadings suggests a willingness to switch brands particularly if the consumer receives information which may make them rethink their choice.

In sum, since the exploratory results did not exactly replicate Lastovicka and Gardner's findings, additional, more sophisticated, analyses were warranted to ascertain the dimensionality and item composition of involvement as tapped by the Lastovicka and Gardner scale. Scree plot analysis, for example, suggested that fewer factors might be appropriate. Therefore, confirmatory factor analysis was used as a further test of involvement dimensionality.

Confirmatory Factor Analyses. The analyses and results from confirmatory factoring are presented in Table 2. A null model was derived postulating no underlying structure and/or a more parsimonious explanation for the data (Bentler & Bonett 1980). In essence, under the assumptions of the null model, each of the 22 indicators from Lastovicka and Gardner's scale become unitary constructs. The null model represents the "worse case scenario" and served as a subsequent comparison for other hypothesized models.

Other confirmatory analyses compared three, four, and five factor models to each other as well as to the null model for overall fit. Results from exploratory factor models constrained to three, four, and five dimensions provided the rationale for which parameters would be estimated in the confirmatory models. That is, indicator/construct estimation was initially limited to those suggested by the exploratory results (i.e., the lambda *y* parameter corresponding to the *largest* absolute loading for each indicator from the exploratory findings was estimated; all other lambda *y* parameters for that indicator were constrained to zero across constructs). These analyses were performed as an initial step to determine which model(s) seemed appropriate for further investigation. This procedure also enabled a comparison of the more parsimonious (i.e., three factor) solution proposed by Lastovicka and Gardner via constraining parameter estimates to the highest loading for each item according to Lastovicka and Gardner's factor structure (see Table 1). As Table 2 suggests, this factor structure resulted in one of the poorer overall fits and was excluded from further analyses.

Based on initial confirmatory results (see Table 2; models 4 & 5) the three and four factor solutions (again with the lambda *y* parameters constrained as before) were then reexamined, this time allowing for intercorrelation (oblique rotation) between the dimensions. Finally, using the previously derived fit indices as guides, the three and four factor oblique solutions were then examined allowing all parameters to be estimated to obtain a final best fit between the data and the hypothesized model.

As depicted in Table 2, regardless of constrained versus unconstrained parameters, all models were substantial improvements over the null model. In each case, the LISREL Adjusted Goodness of Fit Index as well as a fit index ratio suggested by

TABLE 2

Chi-Square and Goodness of Fit Values for Alternative Involvement Models

Model[a]	df	X^2	AGFI[b]	Fit Index[c]
1. Null	231	2572.83	.39	-----
2. One factor	209	775.10	.79	.70
3. Three factor, (Lastovicka & & Gardner)	209	977.14	.79	.62
4. Three factor[d]	209	725.78	.82	.72
5. Four factor[d]	209	845.27	.80	.67
6. Five factor[d]	209	926.02	.78	.64
7. Three factor oblique[d]	206	579.43	.85	.77
8. Four factor oblique[d]	203	524.65	.87	.80
9. Three factor oblique, all parameters estimated	162	362.27	.88	.86
10. Four factor oblique, all parameters estimated	137	232.25	.91	.91

a selection of models for comparison was based on exploratory factor results

b adjusted goodness of fit index

c ratio of null model X^2 - comparison model X^2 divided by null model X^2, see Bentler & Bonett (1980); Shimp & Sharma (1983)

d as an initial step for model comparison, indicator/construct relation estimation was limited to those suggested by the exploratory results, i.e., the lambda $\underline{y}$ parameter corresponding to the highest absolute loading for each variable from the exploratory findings was estimated; all other lambda $\underline{y}$ parameters for that indicator across constructs were constrained to zero

Bentler and Bonett (1980) and Shimp and Sharma (1983) indicated considerable improvement when compared to the null model. The five factor solution (Table 2: Model 6, suggested by the exploratory findings) was dropped from further analyses since it did not prove to be an improvement over the three and four factor solutions.

Allowing for factor intercorrelations also substantially improved the fit (Table 2: Models 7, 8, 9, & 10) with the best overall fit being the four factor oblique solution. Thus, there appears to be additional evidence that involvement, as measured by this scale, is multidimensional. However, further interpretation of the four factor confirmatory results is warranted. The four factor oblique solution and factor score intercorrelations are presented in Table 3.

With the exception of items 10, 16, & 22 the first factor mimics Lastovicka and Gardner's Normative Importance factor; subsequently labeled "Importance." This factor also appears to be similar to the first factor as per the exploratory results (see Table 1). With two exceptions (item 10 no longer loads, while item 7 now loads on this factor) the fourth factor appears to be similar to Lastovicka and Gardner's Commitment factor and their label was retained. With the addition of item 7, "I usually purchase the same brand within this product class," this factor appears to be tapping brand commitment.

However, as initially suggested by the exploratory findings, Lastovicka and Gardner's Familiarity factor appears to have split (see Table 3; factors 2 & 3). Three of their Familiarity items (1, 2, & 3) have combined with two of Normative Importance indicators (16, 22) to form factor 2, a factor which appears to be familiarity with product/brand features or "Knowledge." Three of their

TABLE 3

Four Factor Oblique Solution Loadings and Factor Score Intercorrelations

Item Number (from Table 1)	Factor 1 Importance	Factor 2 Knowledge	Factor 3 Brand Preference	Factor 4 Commitment
13	707	084	093	-071
17	649	270	-171	200
12	641	100	-042	147
20	637	383	-179	-008
18	565	042	064	-036
19	484	-225	480	-126
10	482	061	-300	055
21	482	-277	198	085
14	437	286	012	-058
15	355	204	328	-057
3	300	466	236	-068
1	262	433	-038	-116
16	100	428	-019	-068
2	017	394	199	058
22	092	-393	-237	-186
5	-099	148	-460	020
4	012	201	416	-124
6	004	-125	-351	030
8	-012	088	170	-566
11	136	-273	-157	-524
7	003	-105	268	504
9	076	-138	-059	473
Factor Score Intercorrelations				
Factor 2	311			
Factor 3	366	407		
Factor 4	267	419	364	

All decimals implied

remaining Familiarity items (4, 5, & 6) formed the third factor which has been termed "Brand Preference".

Although it might be tempting to simply recombine factors 2 and 3 to retain Lastovicka and Gardner's Familiarity factor, the factor intercorrelations (see Table 3) suggest that these constructs, while related (.407), do not contain enough shared variation to be considered essentially similar. Moreover, Table 2 suggests that a four factor solution provides a superior overall fit when contrasted with the three factor solution.

As a final check on the multidimensionality of involvement, exploratory oblique factor analyses restricted to four factors were conducted for each of the three products. Correlation coefficients were then calculated across factors, between the three product categories as well as with the oblique four factor analyses collapsing across products. These correlations were between factor loadings (n = 22 items), not factor scores and therefore, may be indicative of underlying factor structure similarity. These correlations are reported in Table 4.

Factors 2, 3, and 4 for blue jeans and athletic shoes did not appear in the same order as in the collapsed and shampoo factor analyses. These factors were "reordered" for Table 4 to maximize the correlations with the collapsed and shampoo factor loadings. As can be seen in Table 4, factor 1 revealed high factor loading intercorrelations, indicating a reliable factor structure across different products. Furthermore, in all cases, factor 1 accounted for over half of the variance for the four factor solutions.

TABLE 4

Correlation Coefficients between Oblique Four Factor Loadings: Collapsed across Products and Independently for Blue Jeans, Shampoo, and Athletic Shoes

	Blue Jeans	Shampoo	Athletic Shoes
FACTOR 1: Importance			
Collapsed	0.98087	0.98188	0.91293
Blue Jeans	1.00000	0.94363	0.86602
Shampoo		1.00000	0.90213
Athletic Shoes			1.00000
FACTOR 2: Knowledge			
Collapsed	0.71500	0.90838	-0.29756
Blue Jeans	1.00000	0.70970	-0.41817
Shampoo		1.00000	-0.23143
Athletic Shoes			1.00000
FACTOR 3: Brand Preference			
Collapsed	-0.19968	0.97291	0.29153
Blue Jeans	1.00000	-0.18300	0.20449
Shampoo		1.00000	0.34855
Athletic Shoes			1.00000
FACTOR 4: Commitment			
Collapsed	0.93294	0.70270	0.71509
Blue Jeans	1.00000	0.45626	0.80495
Shampoo		1.00000	0.18942
Athletic Shoes			1.00000

* Correlation coefficients of .42 are significant at p = .05.

Factor 4 showed acceptable correlations for the three products with the collapsed product factor loadings but, however, not consistently between the three products. Factor 2 showed reasonable correlations between the collapsed, blue jeans, and shampoo but not athletic shoes. Poor correlations were evidenced between the different factor loadings for factor 3 with the exception of shampoo and the collapsed loadings. Only for shampoo and the collapsed factor loadings were consistently high correlations found for all four factors.

CONCLUSIONS

Given the constraints imposed by the scale and products used, confirmatory factor analyses revealed that involvement may be multidimensional when collapsing across products. Interproduct factor loading correlation coefficients suggest that dimensions beyond unity are product specific or, more precisely, potentially product specific. These findings, using a different scale and different methods, lend credence to Zaichkowsky's (1985) and Traylor and Joseph's (1984) use of one reliable dimension across products. The present findings also support and extend Bloch's (1981) and Shimp and Sharma's (1983) position on product specific scales in that dimensions beyond unity *may* be unreliable across *some* products. In summary, our results suggest that involvement may be multidimensional both between products and when collapsing across products. However, in utilizing involvement dimensions for a specific products, those dimensions beyond unity should be considered unreliable for subsequent products unless demonstrated otherwise.

Similar to Shimp and Sharma, we found some correspondence between our dimensions and those suggested by Houston and Rothschild (1978), i.e., factors 2, 3, and 4 with the "person specific" aspect and factor 1 with the "social psychological" aspect. However, our dimensions appear to be related to and nested within each other, potentially suggesting the two dimensions delineated by Shimp and Sharma may be multidimensional when multiple products are considered (i.e., items adapted for different products). Obviously this suggests a need for further research and replication which focuses on the dimensionality issue across additional products. Also, although our dimensions closely approximate those found by Lastovicka and Gardner (1979) enough of a difference is noted in our correlated dimensions as opposed to their uncorrelated dimensions to warrant caution in expressing similarity between the dimensions. Finally, our results and Shimp and Sharma's (1983) suggest that the dimensions of involvement are correlated. Future research efforts examining the dimensionality of other involvement scales (e.g., Zaichowsky 1985) are justified.

It would be tempting to postulate that involvement (as a basic construct) entails multiple dimensions that are to some extent product specific. This proposition is unsettling because it would necessitate independent scale development in order to tap involvement with different products. Even though a common dimension(s) might be uncovered, such as importance in the present study, other dimensions may not be congruent and therefore not allow for meaningful comparisons between products or situations. Perhaps, even though between product, situation, or individual differences may exist on factor *scores*, the underlying factor structure as revealed in factor *loadings* should be consistent between products and situations for some involvement dimensions. In this study only a single dimension had reliable factor loadings across products. Additional conceptual and empirical involvement research examining dimensionality issues is warranted.

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Enduring Involvement: Conceptual and Measurement Issues

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ABSTRACT

Enduring involvement has been a focus of consumer research in recent years. Based on that research, we define enduring involvement as an individual difference variable representing the arousal potential of a product or activity that causes personal relevance. Specifically, with enduring involvement, personal relevance occurs because the individual relates the product to his self-image and attributes some hedonic qualities to the product. This research examines the appropriateness of using existing operationalizations of involvement to measure enduring involvement, and concludes there are some basic weaknesses in existing scales. Thus, based on the conceptual work of Bloch and Richins (1986)and the measurement work of Zaichkowsky (1985) and McQuarrie and Munson (1987), we have developed a valid and reliable measure of enduring involvement.

INTRODUCTION

Conceptualizing and measuring involvement has been a consuming endeavor of consumer behavior researchers and social psychologists for more than twenty years. Although many conceptualizations of involvement have been offered, an examination of the definitions indicates that the crux of involvement is personal relevance (Krugman 1965; Park and Young 1986; Petty and Cacioppo 1979; Sherif and Hovland 1961). Researchers, however, have distinguished types of involvement based on the motivations driving the involvement.

The focus of this research is on enduring involvement, product relevance motivated because a product or activity is related to self-image and is fun (Bloch 1981; Richins and Bloch 1986). Although there has been acceptance of the enduring involvement construct, an examination of existing operationalizations of the general construct of involvement suggests that using them to measure enduring involvement is inappropriate. The purpose of this paper is to reemphasize the importance of enduring involvement and its distinguishing components, and to develop a valid and reliable measure of enduring involvement.

CONCEPTUALIZING ENDURING INVOLVEMENT

The concept of enduring involvement has evolved over the past decade. In 1978, Houston and Rothschild coined the term enduring involvement, suggesting that is a function of an individual's past experience with the product and the product's relevance to the individual's values. More recently, Bloch (1981, 1982) and Bloch and Richins (1983; Richins and Bloch 1986) have extended Houston and Rothschild's conceptualization proposing that enduring involvement is a stable trait that represents an individual's degree of interest or arousal for a product on a day-to-day basis; that is, an ongoing, long-term interest. Richins and Bloch (1986) suggest that an individual's level of enduring involvement is motivated by the degree to which the product relates to the self and/or the pleasure received from the product.

Based on past research, we define enduring involvement as an individual difference variable representing an arousal potential of a product or activity that causes personal relevance. Enduring involvement is intrinsically motivated by the degree to which the product or activity is related to the individual's self-image or the pleasure received from thoughts about or the use of product or engaging in an activity.

Several researchers have studied enduring involvement in product categories, including cars (Bloch 1981, 1982; Richins and Bloch 1986) and clothing fashions (Tigert, Ring and King 1976). Others have reported on their own extreme enduring involvement (fanaticism) with activities, including jazz music (Holbrook 1987), weight lifting (Lehmann 1987) and horseback riding (Scammon 1987). An analysis of this research reemphasizes the existence of both the self-expression and hedonic components of enduring involvement. Specifically, Holbrook (1987) cites Csikszentmihalyi and Rochberg-Halton (1981) to make the point that some people use objects to help develop and project self-image. In addition, Lehmann discusses the "image enhancement" and "global liking" of weight lifting when discussing his involvement, and Scammon (1987) relates horse back riding to self-identity and fun.

OUTCOMES ASSOCIATED WITH ENDURING INVOLVEMENT

Because of their ongoing interest and concern for the product or activity, people with enduring involvement engage in ongoing product-related information search and transmission (Bloch 1981; Tigert, Ring and King 1976). Richins and Bloch (1986) demonstrate that consumers with enduring involvement attend to product-related ads and magazines, and consult with and provide others with information about automobiles on an ongoing basis. A study conducted by Bloch, Sherrell and Ridgway (1986) extends the automobile results (Richins and Bloch 1986) to personal computer and clothing product categories. Holbrook (1987) and Lehmann (1987) discuss readership of hi-fi magazines and *Muscle and Fitness*, respectively. Moreover, because of the increased information search and provision, it is likely that these individuals are knowledgeable of the product category/activity and influential in others' opinions and purchases in the product category or related to the activity. Hence, individuals with an enduring involvement are likely to be opinion leaders in the product category or activity.

MEASURING ENDURING INVOLVEMENT

Although conceptualizations of involvement have been based on motivating factors, operationalizations have taken multiple forms. In particular, involvement scales have included measures of product importance, behavioral outcomes (for example, information search or thoughts about the product), motivating factors, or some combination thereof. Given that there are numerous existing measures of involvement, an examination of their adequacy in measuring the enduring involvement construct is warranted.

Several researchers have developed scales to measure the general construct of involvement. Laurent and Kapferer (1985), Zaichkowsky (1985) and McQuarrie and Munson (1987) have developed measures of involvement with products. Their focus, however, is not on enduring involvement per se, and their measures include a product importance component. Products are important, however, for varying reasons. For example, an individual may report a furnace and lawn mower as being important because they are necessary for daily living. Alternatively, an individual may also indicate that a product is important if it is related to his self-image and is a source of fun and enjoyment. Therefore, product importance cannot be used in a measure of enduring involvement since it confounds importance based on functional necessity with enduring involvement. Evidence of this confound is provided in Zaichkowsky (1985), in which laundry detergent (presumably only functionally important) is rated very high on Zaichkowsky's scale.

In addition to product importance, Laurent and Kapferer (1985) identify three other components of involvement: pleasure, sign-value (self-expression) and risk. It seems reasonable that one might use their pleasure and sign-value items to measure enduring involvement. However, not all of their measures, originally written in French, are translatable into English. This factor limits the usefulness of the scale in U.S. research.

Zaichkowsky generated the Personal Involvement Inventory (PII), composed of 20 semantic differential items. The PII taps attitude toward the product, importance, and a hedonic component (See McQuarrie and Munson 1987 for a factor analysis of PII items substantiating three factors.) The inclusion of the former two factors and the exclusion of a self-expression factor suggest that the PII should not be used to measure enduring involvement. The hedonic items in PII, however, are useful in measuring one component of enduring involvement.

McQuarrie and Munson (1987) revised Zaichkowsky's PII using Laurent and Kapferer's four dimensional conceptualization of involvement. Based on the conceptual argument that seven of the PII items measure attitude, not involvement, and the fact that four of PII items contain complex wording, McQuarrie and Munson (1987) deleted eleven of the original twenty PII items. To the remaining nine PII items, they added four self-expression and three risk items. The inter-item correlation analysis, however, indicated that two of the self-expression items had low inter-item correlations, and therefore, were eliminated from further analysis. McQuarrie and Munson's (1987) Revised Personal Involvement Inventory (RPII) includes five importance, four pleasure, two self-expression and three risk items. The factor analysis reported by McQuarrie and Munson, however, resulted in a three factor solution -- the pleasure and self-expression items loaded on one factor. This finding re-emphasizes the importance of teasing out the enduring involvement construct that is distinct from the product importance and risk factors.

The pleasure/self-expression factor reported by McQuarrie and Munson (1987) included four hedonic and two self-expression items. Although the authors report that this sub-scale is "consistent," they do not report a measure of consistency. Moreover, because the test-retest correlation results (across all RPII items), which range from .20 to .75, are not related to specific items, one is not able to discern the problematic items. Thus, although their work has extended the measurement work on involvement, and has identified several self-expression and hedonic items, more work is needed to develop and refine a reliable scale to measure enduring involvement.

Several other researchers have tailored enduring involvement measures for a particular product category (Bloch 1981; 1982; Tigert, Ring and King 1976). For example, Bloch (1981) examined enduring involvement with cars by using statements such as: "Sometimes I get too wrapped up in my car" and "I generally feel a sentimental attachment to the cars I own." Self-expression and pleasure, respectively, were evaluated by items such as: "It is worth the extra cost to drive an attractive and attention-getting car," and "Driving my car is one of the most satisfying and enjoyable things I do." Although these items do tap the enduring involvement construct, they are not generalizable to other product categories.

Bloch, Sherrell and Ridgway (1986) measured enduring involvement with personal computers and clothing using "product interest," "time spent thinking about product" and "average importance of the product to the performance of social and career roles." Product interest is related to the hedonic component of enduring involvement, and importance of the product to performance in social and career role is somewhat related to the self-image component of enduring involvement. Time spent thinking about the product, however, is a behavioral outcome, and the appropriateness of using behavioral outcomes to measure enduring involvement is questionable. Behaviors, such as time spent thinking or searching for information, can occur for reasons other than enduring involvement, for example, concern with a pending or previous purchase. Additionally, using a single item to measure each of the dimensions of enduring involvement seems inappropriate.

In sum, existing operationalizations of the general construct of involvement and the more specific enduring involvement construct fall short of adequately measuring the motivating factors, the self-expression and hedonic components. Nonetheless, past studies and existing scales provide useful background work for the development of the reliable and valid enduring involvement scale.

METHOD

Data used to develop and refine the Enduring Involvement Scale were collected in two studies.

Study 1

Procedure, Subjects and Instrument Development. To begin Study 1, we first used four hedonic and two self-expression items from the RPII (McQuarrie and Munson 1987). In addition, we generated three semantic differential items with face validity to measure the self-expression component of enduring involvement. We also included one hedonic item from PII (Zaichkowsky 1985) to the four used by McQuarrie and Munson (1987). Thus, our list included ten items -- five hedonic and five self-expression items (See Exhibit.).

A convenience sample of 255 undergraduate and MBA students at the University of Pittsburgh responded to the ten seven-point semantic differential items measuring their enduring involvement with personal computers.

Results. The inter-item correlations on the hedonic sub-scale range from .51 to .68, and Cronbach's alpha for the five item sub-scale is .88. In addition, the inter-item correlations on the self-expression sub-scale range from .22 to .43, with a Cronbach's alpha of .71. The Cronbach's alpha for the ten item scales is .83. One item on the self-expression sub-scale (creates a certain image/doesn't create a certain image) had extremely low inter-item correlations, ranging from .22 to .31. Deleting that item from the self-expression sub-scale results in an inter-item correlation range of .31 to .43, and an unchanged sub-scale Cronbach's alpha, and increases Cronbach's alpha for the nine item enduring involvement scale to .84. This result would suggest the deletion of the item from further analysis. The results from Study 1 indicate that the hedonic sub-scale is internally consistent, but that the self-expression sub-scale used in Study 1 should be developed further.

Study 2

Procedure, Subjects and Instrument Development. In Study 2, the authors conducted personal interviews with three Ph.D. candidates who the authors perceived as having an enduring involvement in various categories (personal computers, golf and needlework). From these discussions, we generated three additional self-expression items to add to the four self-expression items retained from Study 1 (See Exhibit.). All five hedonic items from Study 1 were retained because of their internal consistency.

A new convenience sample of 120 MBA students responded to the twelve seven-point semantic differential items measuring enduring involvement with both personal computers and lawn mowers.

Criterion Measures. Prior conceptual and empirical results suggest that individuals who have an enduring involvement undertake behaviors related to their involvement (Bloch, Sherrell and Ridgway 1986; Richins and Bloch 1986). To examine the predictive validity of the EIS, three criterion measures, information search, information provision and opinion leadership, were also included on the questionnaire (Feick and Price 1987, Richins and Bloch 1986). Each of the measures is comprised of three seven point Likert scale items. Specifically, information search is measured using: "I spend a lot of time reading about (product)," "I often pay attention to information about (product)," and "Within the past two weeks, I have obtained a great deal of information about (product) from other people." Information provision is measured by: "I often talk about (product) with others," "My friends come to me to find out about (product) more often than they go to someone else," and "Within the past two weeks, I have provided a great deal of information about (product) to other people." And, opinion leadership is measured by: "I am influential in my friends' choices of (product)," "My friends would describe me as a (product) expert," and "I know a great deal about (product)."

Personal Computer Results. Study 2 replicates the hedonic sub-scale results established in Study 1. The inter-item correlations on the hedonic sub-scale range from .61 to .80, and Cronbach's alpha is .93. The inter-item correlations on the seven self-expression items indicate that two items (says something about me and a form of self-expression) have lower inter-item correlations, ranging from .31 to .57 and .31 to .69, respectively. Thus, these two items were eliminated from subsequent analyses on both the personal computer and lawn mower data. The inter-item correlations for the remaining five self-expression items range from .51 to .79, and Cronbach's alpha is .91. Cronbach's alpha for the ten items, the Enduring Involvement Scale (EIS), is .89.

An unconstrained principal components analysis was performed on the ten items. Consistent with the conceptualization, the results indicate hedonic and self-expression factors exist, explaining 75.6% of the variance. Only two eigenvalues are greater than 1.0. The hedonic factor explains 51.1% of the variance, and the self-expression factor explains 24.5% of the variance (See Table 1.).

We examined the discriminant and predictive validity of EIS and its components using the criterion measures of information search, information provision and opinion leadership. The Cronbach's alphas for the criterion measures are .83, .85 and .90, respectively. A principal components analysis including the EIS items and the items from the criterion measures supports the discriminant validity of the EIS. The hedonic and self-expression factors emerge, along with a criterion measure factor. None of the items from the criterion measure cross load on the EIS factors, nor do the EIS items cross load on the criterion factor. To examine predictive validity, Table 2 reports the correlation results of the EIS and its sub-scales with the criterion variables. All correlations are positive as expected, and significant.

TABLE 1

Factor Analysis of Enduring Involvement Scale[a]

	PERSONAL COMPUTERS		LAWN MOWERS	
Item	Factor 1 Hedonic	Factor 2 Self Expression	Factor 1 Hedonic	Factor 2 Self Expression
Interesting	.90		.88	
Fun	.89		.81	
Fascinating	.88		.84	.31
Exciting	.88		.88	
Appealing	.77		.80	.36
Portrays an image of me to others		.89	.29	.84
Part of my self-image		.87	.37	.84
Tells others about me		.83		.90
Others use to judge me		.81		.85
Tells me about a person		.79		.84
Percent of variance explained	51.5	24.5	18.6	59.7

[a]Sample size = 120; only factor loadings of ≥.25 are reported.

TABLE 2

Correlation Analysis for EIS and Sub-scales With Criterion Measures

	Personal Computers			Lawn Mowers		
	EIS	Hedon	Self	EIS	Hedon	Self
Information Search	.46[a]	.41[a]	.35[a]	.28[a]	.31[a]	.18[b]
Information Provision	.43[a]	.34[a]	.37[a]	.34[a]	.38[a]	.21[b]
Opinion Leadership	.40[a]	.33[a]	.34[a]	.33[a]	.35[a]	.21[b]

[a] $p \le .001$.
[b] $.001 < p \le .05$.

of the EIS and criterion measures supports the discriminant validity of the EIS.

The EIS and the sub-scales appear to have predictive validity. For both product categories, the EIS is positively correlated with information search and transmission. Moreover, there is a positive relationship between enduring involvement and opinion leadership. The relationships are stronger, however, regarding personal computers than lawn mowers.

SUMMARY AND CONCLUSIONS

This research integrates the conceptual work on enduring involvement with the measurement work on enduring involvement and on the more general construct of involvement. The paper notes the limitations using existing measures to tap the enduring involvement construct. In particular, this research reemphasizes the need to measure the motivating factors, the self-expression and hedonic components, underlying enduring involvement, rather than measuring product importance and/or behavioral outcomes. Enduring involvement makes sense as a predictor of behaviors such as opinion leadership and information search. It is inappropriate, however, to measure enduring involvement with such behaviors because these behaviors can result from other motivations, for example, daily product usage. In addition, as noted, importance and involvement are conceptually distinct, and scales including product importance confound the constructs. Thus, using importance to measure enduring involvement is also inappropriate.

This research develops the EIS, a reliable scale with construct and predictive validity. The EIS provides a useful measure of enduring involvement that should facilitate the use of the enduring involvement construct in consumer behavior research.

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A Theoretical Analysis of Two Recent Measures of Involvement

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ABSTRACT

Two scales of involvement have appeared recently in major marketing/ consumer behavior journals. Of these, Laurent and Kapferer's (1985) scales assume multi-dimensionality in involvement; and Zaichkowsky's (1985) scale, while driven by a unidimensional view of involvement, is not unified. The sources of departure from unidimensionality are reviewed for each scale. Consistent with major, recent definitions, a unidimensional conception of involvement is utilized to develop a general model of involvement. The two scales are reconciled with this model, and subscales are identified in each which would measure involvement as a unified construct.

In 1985, *Journal of Consumer Research* published a scale of involvement (Zaichkowsky 1985). The same year, *Journal of Marketing Research* also published an article on the measurement of involvement (Laurent and Kapferer 1985). The two measurement approaches differ sharply on a key issue. Zaichkowsky (1985a) has conceptualized involvement to be unidimensional, and correspondingly has developed a measurement scale *assumed* to be unidimensional. Actually, however, the scale contains at least three dimensions as will be argued below. Laurent and Kapferer (1985) on the other hand adopt a multidimensional view and develop a 4-dimensional profile of involvement. This divergence in the assumed dimensionality goes far back to some early literature (e.g., Lastovicka and Gardner 1978). The issue of dimensionality in involvement, as indeed in any construct, is a fundamental one and must be resolved if the construct has to be employed in any theoretical network whatsoever. Because the above referred two scales are the only ones published in major journals in the field, it is important to resolve the dimensionality issue before they be employed uncritically. To employ them in future research (whereever involvement needs to be measured) is their raison d'etre, so by theoretical explication to cleanse them of their extant dimensional confounding is a service to their originators (at least that is how we see it) from the merit of whose work our essay does not in the least detract. Indeed, we later sort out the subscales from each which would measure involvement quite nicely, that is, more parsimoniously, and in a dimensionally unified manner.

Because several excellent reviews of the literature on involvement already exist (e.g., Zaichkowsky 1986a, Cohen 1983, Greenwald and Leavitt 1984, Antil 1984), this paper will not attempt a comprehensive review, but will instead be limited to delineating the dimensionality issue. Consistent with major, recent literature, the argument in this paper favors the unidimensional view. This view does not call for a per-se rejection of Laurent and Kapferer's empirical results, not does it imply an unqualified acceptance of Zaichkowsky's scale. Rather, the two works are reviewed here both from conceptual and empirical standpoints. Specifically, we dwell upon the sources of dimensionality in the two scales to exemplify as to why the dimensionality issue may have escaped resolution in prior *empirical* literature. Following the review of the two scales, a model of involvement is presented which reconciles the multidimensional scales with the conceptually more elegant, unidimensional view of involvement.

Laurent and Kapferer's Involvement Profile

Laurent and Kapferer (1985) develop a consumer involvement profile comprising of four dimensions: importance/risk, risk probability, sign value, and pleasure value. Their work has several merits, including (a) organization of prior literature, (b) attention to diverse usage of the concept, (c) managerial focus, and (d) sifting of the various "sources" (i.e., antecedents) of involvement. It is the dimensionality issue, however, that seems to have been made murkier by their treatment.

Laurent and Kapferer (hereafter L & K) call their dimensions as "antecedents *or* facets of involvement" (p. 43) (emphasis added). This interchangeable usage of the two terms, *antecedents* and *facets*, obscures the issue of dimensionality. If we assume those four factors to be antecedents, then we have measured only antecedents and not involvement itself. On the other hand, if we are to consider the 4 factors as facets, then a multi-faceted view of involvement is implied. To be valid, this view must sit well with extant views of the concept in the literature, and departures be convincingly argued. The conceptual grounding of either "facet" or "antecedent" status would require that the first order of business be to define and conceptually explicate the construct.

Reading through the developmental portion of L&K's article, it is clear that in defining and delineating the concept, L&K encountered a difficulty that would confront us all: in prior literature, the concept has been used *variously*. Perhaps because L & K's work is driven by concern with aiding managerial decision making, they employ "current research and practice" (p. 43) as sources of their various antecedents, or facets, of involvement. Because "current market research and practice" is a pot-pourri of diverse and sometimes incompatible conceptions of involvement, L & K's selection strategy could not have addressed the question of dimensionality in involvement, much less separate involvement proper from other seemingly related variables.

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[1]The theme of this paper emerged from my formative discussions with Brian Ratchford. Also, my subsequent discussions with him on an earlier draft benefitted the manuscript greatly. Kenneth Lord was also helpful with his suggestions. However, the author alone bears responsibility for the views expressed herein.

Tigert, Douglas J., Lawrence J. Ring, and Charles W. King (1976), "Fashion Involvement and Buying Behavior," in *Advances in Consumer Research*, Vol. 3, ed. B. Anderson, Chicago, IL: Association for Consumer Research.

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Turning to empirical analysis next, L & K present two sets of analyses: factor-analysis of items purported to measure involvement, and regressions of some behaviors on the emerging factors supposed to represent involvement. Consider the factor analysis first. In building their scales, L&K assumed four facets. Their factor analysis confirmed a four factor structure in their data. This at best demonstrated only that their item selection was well done (in that each facet's indicators showed convergent and discriminant validity). This demonstration does not imply that the involvement construct *is* four dimensional.

Next consider the regression analyses performed to show "predictive validity." Consumers' decision processes and communication receptivity are regressed on the four factors taken to represent involvement. Also included as independent variables are "perceived differentiation" and price. All six predictors have significant regression coefficients in one or the other regression. This result does not make price or perceived differentiation a component of involvement (and L & K have not implied so). Analogously, the regression results cannot settle the question as to whether the four factors *are* involvement per se, or some or all of them are antecedents of involvement.

We will have been misunderstood if the present reader thinks that we consider L&K's analyses wrong. As we see it, L&K employed the right analytical methods (and with successful outcome) to show that (a) the scale items they assembled had a four factorial structure, and (b) these four factors influenced certain consumer behaviors (e.g., looking at advertising) non-uniformly. At the same time, we are concerned that an unsuspecting reader of L&K's work might conclude that L&K showed that the four factors emerging in their factor analyses are all dimensions of involvement (i.e., that it is involvement that they are dimensions of). Our point is that their empirical analyses were not designed to resolve the issue of dimensionality, and that their eclectic content selection strategy made it highly likely that involvement per se as well as involvement-related concepts could both have been included in their scales, and they actually were. This is an issue which may appropriately be resolved only through *a priori* concept explication, to which we shall return shortly. First, however, we need to examine the dimensionality question in Zaichkowsky's (1985a) scale of involvement.

Zaichkowsky's PII Scale

Zaichkowsky (1985a) presented a 20-item *Personal-Involvement-Inventory* (*PII*) to measure consumer involvement. Some particularly appealing aspects of her work are: (a) a dissertation-level effort to design a scale of involvement when none existed before; (b) the refreshing simplicity of the proposed scale and its applicability across products, brand-decisions, and advertisements as stimuli; and (c) attention to detail at the item screening stage and subsequent validation procedures. The objective of the present paper required, however, that our discussion be directed at a deficiency in PII. This deficiency concerns the dimensionality question.

Zaichkowsky (1985a) adopted a unidimensional conception of involvement defining it as "a person's perceived relevance of the object based on inherent needs, values and interests." However, the 20 items in her scale did *not* constitute a unidimensional construct, her rigorous item inclusion and screening procedures notwithstanding. This alleged absence of unidimensionality is apparent both on conceptual and empirical grounds.

Conceptually, content analysis of the PII items shows that it (the PII scale) contains at least 3 distinct constructs: (1) involvement proper, reflected in such items as unimportant/important, significant/insignificant, etc., (2) a hedonic factor, reflected in four items, namely, boring/interesting, mundane/fascinating, appealing/unappealing, and unexciting/exciting; and (3) an attitude-like construct, reflected in such items as valuable/worthless, beneficial/not beneficial. One may argue: "Wouldn't hedonic products, or purchases, be more involving?" Yes, but that establishes only that the hedonic factor is related to involvement, and not that it is involvement itself. (We shall later argue that it an antecedent of involvement.) To us the acid test of whether the two constructs are merely related or they are one and the same thing is whether or not it is possible to obtain one without the other. Because all involving purchases need not be hedonic (i.e., the high involvement purchase of, say, lawn mower, where the perceived risk rather than any hedonic factor would likely drive involvement), this implies that involvement is a separate construct from the hedonic factor.

What of the "attitude-like" construct? Zaichkowsky recognizes the need for keeping attitude items out, and for this purpose she reports avoiding *bipolar* semantic differentials. This we believe is an inadequate strategy because making the items unipolar (e.g., "not beneficial" in place of "harmful") merely truncates the range of the attitude construct rather than eliminate it. (That is why our term for these items is "attitude-like.") Because attitude and involvement are distinct constructs -- involvement mediates attitude formation and change (e.g., Petty and Cacioppo 1979), the inclusion of attitude-like items in a scale of involvement confounds the latter (Bagozzi 1981).

Lending credence to these theoretical arguments are subsequent analyses by Zaichkowsky (1986). She analyzed the PII data for two products, namely, bubble bath and headache remedy. In each case, two factors emerged, but the item configuration also differed between the two products. For bubble bath, the first factor received high loadings from the items which we identified in the foregoing as reflecting the hedonic factor as well as the items reflecting the attitude-like construct. The second factor received high loadings from the rest of the items which can be construed to reflect involvement. For headache remedy, the first factor received high loadings from the involvement and attitude-like items, while the second factor received high loadings only from the items reflecting the hedonic factor. Thus, although only two factors were extracted in each solution, the item-factor loadings pattern reflected a three factor structure in the PII. Note that two conceptually distinct factors may in some empirical data come out as one if the two concepts happen to co-vary in the stimulus being rated. (Parenthetically, we might note that L&K hypothesized perceived importance and risk consequences as two separate factors, but in their data the two factors merged as one. They construed the emergent dimension as a new hybrid construct, termed "imporisk" and used it as such in their *JMR* analysis. They seem to have recognized the anti-theoretical nature of such use, since they keep these two constructs separate in their *Journal of Advertising*, 1986 article.)

Since Zaichkowsky (1986b) has herself noted the necessity of re-examining the original list of items, a general discussion of what may have contaminated her item-screening procedures is useful. Several factors may have caused the inclusion of items that were not unified. First, although Zaichkowsky adopted a definition that implicates a unidimensional conception of involvement, she did not fully explicate what "relevance" meant in her definition. (For example, a pencil, a paper-clip, a briefcase, and a suit are all very relevant to a business executives, but they are not equally involving.) Secondly, her decision to generate a list of as many as 168 word pairs must have necessitated her outstepping the confines of involvement. She does not explain, in her *JCR* paper, the item generation step, but her earlier working paper (1985b) gives a clue that the included items had to be "either directly or *tangentially* related to the concept of involvement as it is defined *throughout* the marketing literature" (emphasis added). The use of the diverse marketing literature on involvement as source of item pool represents an eclectic strategy that can detract from the goal of measuring a unified construct. (Parenthetically note that such an eclectic strategy which L & K claim to have used, was precisely the reason for the emergence of multi-dimensionality in L & K's measures.) Furthermore, the decision to allow "tangentially related" items must have also added to the problem. Third, while the use of "expert" judges is a proper procedure, judges can not transcend the definitional framework supplied by the researcher. Unless the construct is carefully separated from its antecedents and consequences at the construct definition and explication stage, one runs the risk of burdening the construct with undesirable "excess baggage" (Cohen 1983). Zaichkowsky's scale appears to have been so burdened.

Summary. It is important to maintain clarity about how factor- analysis results in L & K's paper are cited here for *not* confirming the multi-dimensional view of involvement, but cited for disconfirming unidimensionality in Zaichkowsky's scale. Zaichkowsky's scale is argued to contain three conceptually distinct entities, and her subsequent empirical analyses tends to support this argument. So her empirical scale is being questioned, not her conceptual view of the construct. L & K's scales also yield multiple dimensions, but they adopt the multidimensional view right from the outset without, and this is important, carefully first defining involvement. That L & K's scale is multidimensional is not being questioned. Rather, the question being asked is, Is it involvement that their multidimensional scales are measuring? And, for Zaichkowsky's scale, the question is, Which items in her scale truly represent the unidimensional construct of involvement that she had set out to operationalize? To guide our decisions on this question, a conceptual model of involvement is presented next.

The Concept of Involvement: Establishing a Common Ground

Indeed, L & K are right in pointing out the diverse, vague, and confusing usage of the term *involvement* in the literature. Nevertheless, the field seems to have finally made considerable progress at converging toward a reasonably unified definition of involvement in the past five years or so. Some of these recent definitions are:

* Involvement is said to reflect the extent of personal relevance of the decision to the individual in terms of her basic values, goals, and self-concept (Engel and Blackwell 1982, p. 273; also adopted by Zaichkowsky 1985).

* Similarly, Greenwald and Leavitt (1984) conclude their literature review by stating that "there is a consensus that high involvement means (approximately) personal relevance or importance." (However, these authors appear to operationalize involvement in terms of attention.)

* Involvement is an internal state variable that indicates the amount of arousal, interest, or drive evoked by a particular stimulus or situation (Mitchell 1979, 1981); also adopted by Bloch (1982).

* It may be preferable to conceive of involvement as a person's activation level at a particular moment of time (Cohen 1983).

* Involvement is defined as a person's motivational state directed toward a goal object for accomplishing a specific goal. The goal object can be a product class, a purchase decision, a specific brand, or an advertisement. ... Also, involvement may be defined as a goal-directed arousal capacity (Park and Mittal 1985).

Despite differences in nuances, there does seem to be a common thread. This common thread may be construed as a "motivational state that has been activated" by a stimulus, situation, or a decision task. Engel and Blackwell's "personal relevance" implies that the decision bears on a person's goals, i.e., motivations. And, Mitchell's "internal states indicating the amount of arousal," and Cohen's momentary "activation level" may readily be paraphrased as "activated motivational state."

This concept of "activated motivational state" is unitary and *unidimensional*. The unidimensional view is clearly implied also in research by Petty and Cacioppo (1983). The diverse usage of the term in the literature with various prefixes (e.g., situational, enduring, and response involvement; ego involvement, personal involvement, solution involvement, task involvement, and emotional involvement) need not imply that those prefixes signify dimensions or aspects of involvement. Some of these are loose labels (e.g., emotional involvement), others differ in the corresponding goal-object (e.g., task vs solution involvement), and still others are either antecedents or consequences (e.g., the enduring/situational/response triology).

A General Model of Involvement

It is important that the construct of involvement be kept separate from its antecedents and consequences, otherwise, as Cohen (1982) has argued, an overly broad construct would result which would make any investigation of relationships (among involvement and other consumer behavior variables) necessarily imprecise. When involvement is construed as a unidimensional construct (defined, for example, as an "activated motivational state"), one may categorize all of its antecedents in two categories of goals: utilitarian and psycho-social. A stimulus becomes involving when it meets some important utilitarian or psychosocial goals, and were the person to not interact with this stimulus, he would incur the opportunity loss (or risk) of not satisfying those goals or not satisfying them as well. These relationships are shown in Figure 1. Ahtola (1985) uses a similar structure to model an "overall attitude construct." And the proposed model is also compatible with Bloch and Richins (1983) framework, although the focus of their work is not identical to ours.

Reconciling the Multidimensional Scales with the Unidimensional Conception of Involvement

In L & K's work, we suggest that only the "Importance" factor be deemed to represent involvement. This was a facet by itself at the outset, but was merged with risk consequences based on factor analytic results. On conceptual grounds, it should be kept distinct. Laurent and Kepferer's pleasure and sign facets should be modeled as antecedents and placed in the "psycho-social goals" box in Figure 1. The to-be-untangled risk-consequences and already separate risk probability should be two subfacets of risk; together, they should be placed in Figure 1 in the "Utilitarian goals" box. It must be noted that L&K's current importance facet taps product involvement; if purchase involvement is to be measured, then the importance facet would have to be modified suitably. For example, the current item "For me, __ does not matter," may be rephrased as "For me, it does not matter as to how well I make my selection of _____."

(Like Zaichkowsky's scale, our model in Figure 1 is a general one. As such it can apply to product involvement or to purchase involvement. Involvement and its two categories of antecedents in Figure 1 should each be operationalized with the same target-stimulus (product or purchase).)

In Zaichkowsky's scale, involvement proper can be measured by 6 items: relevant, important, of concern, matters, means a lot, and significant. (The first five of these items were also identified by McQuarrie and Munson, 1986.) Many items in Zaichkowsky's scale (e.g., beneficial, useful, valuable, etc.) tap attitude and may not belong in a scale of involvement. Yet other items (e.g., the four items representing hedonic aspects) tap an antecedent of involvement rather than involvement itself. The six items suggested above appear to be conceptually unified, and prior factor analytic solutions (Zaichkowsky 1985a, 1986) have shown these items to always load on the same single factor.

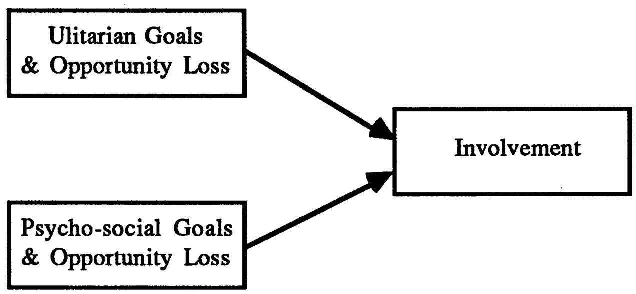
Since McQuarrie and Munson (1986) present a revised PII, brief comments on it are in order. According to the arguments advanced above, they are right in discarding the attitude-like items in PII. But they borrow L&K's multi-dimensional view, and therefore all the arguments made here in respect of L&K also apply to their work. Only the "Importance" factor in their revised PII must be deemed to represent involvement. The other factors, Risk and Pleasure, must be deemed to be antecedents of involvement.

Empirical Validation.

The unidimensionality of a collection of items can be empirically tested. Zaichkowsky's subsequent work (1986) has shown lack of unidimensionality in her scale, so there was no need here for us to duplicate that demonstration. What about our assertion about L&K's scales? We argue that risk, hedonic, and sign facets must be treated as antecedents of involvement proper. Can this be demonstrated empirically? The answer is "No." LISREL analyses of L&K's four facets, treating them as four factors in a confirmatory factor analytic model, and then, alternatively, as a structural model with "importance" as an endogeneous construct and the three other facets as exogenous constructs -- both these model formulations will yield identical solutions both from overall model fit and parameter estimate standpoints. Nor would the incorporation of the aforementioned two alternative models in a more extended network of antecedents and consequences help resolve the issue. The causal influence on other variables (thought to be consequences of involvement) attributed to risk, hedonic, and sign facets would no doubt be different when these facets are modeled as antecedents of involvement than when they are modeled as facets of involvement itself. But these differences in parameter estimates are the outcome of the model relationships being specified differently on theoretical grounds. These differences can not serve as empirical proofs for the validity of one over the other model. Indeed, that the obtained estimates will be different is precisely why it is important to specify the models correctly so that the real-world interpretations of between-variable relationships are not misfounded. Some take Rothschild's (1984) admonition against the sometimes prevalent excessive flow-charting exercises in the

FIGURE 1

A Limited Causal Model for Involvement



literature to imply an abandonment of all a priori reasoning. We believe that such misreading will have the unintended effect of producing blind empiricism, an error this paper is purported to help avoid.

Summary and Conclusion

Two scales of involvement have been published in recent literature, namely, Laurent and Kapferer (1985), and Zaichkowsky (1985a). In fact, these are the only scales that have been published in major marketing and/or consumer behavior journals. These scales differ in the assumed dimensionality of involvement, an issue that must be resolved before the proposed scales may be employed in any theoretical (or, for that matter, managerial) investigations of the effects of involvement. From this standpoint, both the scales were examined. The major, recent literature on involvement is shown to espouse a unidimensional view of involvement. The multidimensionality in L & K's scale is shown to stem from their eclectic content-sampling strategy. Zaichkowsky's scale, on the other hand, is driven by the unidimensional conception of involvement, but the item inclusion procedures failed to ensure a unified construct. Both scales do contain within them the measures of involvement, and are therefore useful; both (especially L & K's) however also contain other related variables which our analysis has shown to be antecedents of involvement (rather than involvement itself). Once the antecedents and involvement-proper are separately identified, the two scales assume added utility, in that they furnish measures of involvement per-se as well as of its most proximate antecedents.

Our discussion of the two scales has led us to suggest a model which reconciles the multidimensional view with the theoretically more elegant unidimensional view of involvement. Our argument has been that the delineation of involvement-proper from its antecedents (or from other involvement-like constructs) is a theoretical task, not an empirical one. However the gains from such a theoretical exercise are both theoretical and pragmatic. On the theory side, contaminated constructs or scales introduce imprecision in theoretical relationships. On the pragmatic side, unified and conceptually valid scales enable proper estimation of magnitudes of causal influence of control variables.

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Self-Monitoring and Reactions To Image Appeals and Claims About Product Quality

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ABSTRACT

Low versus high self-monitors have been shown recently to differ markedly in their reactions to image versus quality-based advertising appeals. In a series of three studies, Synder and DeBono (1985) reported results which showed low (high) self-monitors as favoring quality (image) ads, willing to pay more for products promoted via quality (image) messages, and more willing to try products marketed by quality (image) claims. The present paper describes the results of a series of several studies conducted at three separate times designed to replicate and extend that research. The results suggest that it is premature to conclude that self-monitoring is a strong moderator of reactions to different advertising strategies.

The relative influence of dispositional versus situational determinants of individual behavior has been of interest to consumer researchers for some time (e.g., Belk 1974; Kassarjian 1971). This has resulted in efforts to identify enduring personality traits and/or to investigate the strength and consistency of attitude-behavior relationships. Recognizing that individuals vary in their sensitivity to social cues and the ability to adapt their behavior to the requirements of the situation, Snyder and his colleagues developed the concept of self-monitoring along with a scale to measure the construct (e.g., Snyder 1974; Snyder and Swann 1976). Self-monitoring is offered as a means of identifying those individuals for whom situational or dispositional variables have primary influence (Becherer and Richard 1978).

High self-monitoring individuals are particularly sensitive to the expression and self-presentation of others in social situations and use these cues as guidelines for managing their own behavior (Snyder and Monson 1975, p. 637). Consequently, high self-monitors exhibit situation-to-situation variability in behavior. In contrast, low self-monitors guide their behavior from personal dispositions, demonstrate more consistent behavior across situations, and display substantial correspondence between attitudes (internal predispositions) and behavior (Ajzen, Timko, and White 1982; Snyder and Swann 1976; Zanna, Olson, and Fazio 1980).

Recent research by Snyder and DeBono (1985) indicated that low and high self-monitors vary in their reactions to different types of advertisements. The strength and consistency of the relationship between self-monitoring, a personality construct, and various measures of response to advertisements make these results of particular interest to consumer research. The studies reported in this article were primarily designed to replicate Snyder and DeBono (1985) and to provide additional evidence of the relationship between one aspect of personality, self-monitoring, and consumer behavior.

SELF-MONITORING AND CONSUMER BEHAVIOR

The self-monitoring concept has been applied to a number of consumer behavior and marketing research issues. Becherer and Richard (1978) found that the relationship between individual personality characteristics and private brand proneness was strongest (as predicted) for low self-monitors. In a field study of sales representatives, Caldwell and O'Reilly (1982) reported self-monitoring to be positively correlated with both job performance and tenure. McCann and Hancock (1983) report findings that suggest high self-monitors are likely to vary their messages in communication with other individuals in a manner that is consistent with their perceptions of the listener's position or attitude. Nantel and Strahle (1986) indicate that low self-monitors demonstrate greater consistency between stated intentions and behavior. Brinberg and Plimpton (1986) demonstrated that high self-monitors are more susceptible to reference group influence when considering luxury products.

The strongest results using self-monitoring in a consumer research context were described recently by Snyder and DeBono (1985). In a series of three studies, high (low) self-monitors were shown to consistently react more favorably to image (quality) appeals. Image messages were constructed to convey information about the role of the advertised products in affecting one's looks or social position; quality messages stressed product performance and/or intrinsic product attributes. A number of implications were provided for the development of advertising and marketing strategies. These conclusions were based solely upon the findings of the study with only limited consideration given to prior research regarding the effects of advertising and other persuasive communications.

The original development of the Snyder (1974) scale attempted to address five domains of self-monitoring: (1) concern for the social appropriateness of one's self-presentation; (2) attention to social comparison information as cues to appropriate self-expression (3) the ability to control and modify one's self-presentation and expressive behavior; (4) the use of this ability in particular situations; and (5) the extent to which the respondent's expressive behavior and self-presentation is consistent or variable across situations (Snyder 1974, p. 529). Lennox and Wolfe (1984) later developed a revised version of Snyder's self-monitoring scale. The need for this re-examination of the self-monitoring construct and revision of the

Snyder (1974) scale resulted from conflicting findings in tests of the cross-situational hypothesis and failure of factor analytic studies to reproduce the five components of self-monitoring (e.g., Briggs, Cheek, and Buss 1980). The principal conceptual criticism has been that a number of the construct's original components are related to social anxiety which is inconsistent with social give-and-take -- a critical aspect of self-monitoring. The revised scale of Lennox and Wolfe (1984) represents an attempt to more narrowly define self-monitoring by considering only two factors: (1) the ability to modify self-presentation and (2) sensitivity to the expressive behavior of others.

OVERVIEW

The present research involved a series of systematic replications of the Snyder and DeBono (1985) study in that alternative methods and operationalizations of variables were employed. In the original research of Snyder and DeBono (1985), low and high self-monitors were exposed to either quality or image appeals for three branded products (i.e., Canadian Club whiskey, Barclay cigarettes, and Irish Mocha Mint coffee). In three separate studies, their results revealed that low self-monitors reacted more favorably to quality-based ads. In contrast, the high self-monitors reacted more favorably to the image-based appeals.

In the present study and, as in most uses of the Self-Monitoring Scale (Snyder 1974), respondents were initially split into low and high self-monitors using a median split of respondent Self-Monitoring (SM) Scale scores (i.e., the summed scores formed by adding each subjects' responses to the 25 true-false items comprising the scale.)[1] The results of this traditional partitioning are described along with other median sample splits formed by subject responses to: the 13-item Revised Self-Monitoring Scale (Lennox and Wolfe 1984); the seven-item Ability-to-Modify-Self-Presentation subscale within the Revised SM scale; and both the Snyder SM scale and the Lennox and Wolfe Revised SM scale. In this latter analysis, only those subjects falling above (below) the median for both scales were included as high (low) self-monitors.

The results that are presented in the subsequent sections of this paper are based upon a series of studies conducted at three separate intervals or phases. These systematic replications (Phases I-III) involved jeans and shoes as product stimuli -- the two products most frequently mentioned in a pretest elicitation of 30 student subjects. For all studies, junior and senior business administration students were used as subjects. As in the research of Snyder and DeBono (1985), subjects were told that their help was needed in evaluating the relative merits of advertisements currently being studied by researchers at the university. In the first phase, the three studies of Snyder and DeBono (1985) were replicated with different products. In these studies, subjects first responded to the self-monitoring measures which were followed by exposure to the advertisements and assessment of the dependent measure. In the second phase, one of the first three studies was again conducted. However, in this instance, self-monitoring scores were assessed two days prior to exposure to the advertisements and assessment of the dependent variable. The third phase involved a fifth study in which actual brand names were employed.[2,3]

PHASE I

Three hundred twenty-three undergraduates participated in this phase of the research. Subjects were randomly assigned to one of three studies. Sample sizes for studies 1-3 were 107, 108, and 108, respectively. On the basis of a median split, participants were categorized as either high or low self-monitors. The methods used to partition the subjects into high and low categories will be referred to hereafter as: (1) original, Snyder's (1974) original Self-Monitoring Scale; (2) revised, Lennox and Wolfe's (1984) Revised SM Scale; (3) the self-presentation factor, the ability-to-modify-self-presentation factor within the revised scale; and (4) combined, the overlapping groups formed by median splits using both the original and revised scales. The average internal consistency reliability estimates (either coefficient alpha or KR-20) were .57, .81, and

[1]In view of the possibility that measurement error in the self-monitoring measures may have resulted in enough misclassification of cases near the median to prevent self-monitoring from moderating as expected, the analyses were repeated using only subjects from the top and bottom thirds of the scale distributions (cf. Wolfe, Lennox, and Hudiburg 1983, p. 1073). The resulting pattern of means and the statistical significance of the findings were not affected in any of these extreme split comparisons.

[2]Two fictitious brand names were used in the first two phases to represent neutral stimuli in an attempt to avoid positive or negative affective feelings associated with the brand names confounding the effects of message claims. In a pretest involving 50 subjects, each brand name was evaluated on three 7-placed bipolar adjective semantic differential scales (e.g., pleasant-unpleasant, like very much-dislike very much). Coefficient alpha estimates for these scales were .91 and .94 for the shoe and jean analyses, respectively. Two-tailed test comparisons of the mean responses to these scales with the corresponding midpoint did not reveal any significant differences.

[3]Two direct replications (in an unreported fourth phase) using the same advertisement, product, brand names, and operational measures, as the Snyder and DeBono research, were also conducted. The results of these final two studies also failed to support the predictions of Snyder and DeBono (1985).

.80 for the original, revised, and self-presentation factor scales, respectively.

Three covariate scaled measures -- self-esteem (Rosenberg 1965), gender and measures of product involvement (Zaichlowsky 1985) -- were also assessed. These measures were used as covariates in a series of parallel analyses to those conducted to replicate the findings of Snyder and DeBono (1985). Self-esteem and gender have been argued to be related to persuasibility. Likewise, product involvement has been shown to affect information processing and reactions to marketing appeals (e.g., Petty, Cacioppo, and Schumann 1983). Examination of the covariate mean scores reveals high levels of self-esteem across studies and greater product involvement for jeans in comparison to the running shoes. The average reliability estimates across the three studies were .85, .95, and .97 for the measures of self-esteem, jean involvement, and shoe involvement.

As part of a criticism of the self-monitoring theory, the revised SM scale of Lennox and Wolfe (1984) was developed to more closely reflect Snyder's (1974) original theoretical structure. The new measure was designed to assess only sensitivity to the expressive behavior of others and the ability to modify self-presentation. Consequently, it was anticipated that the original and revised measures would be only moderately correlated and that median splits formed by use of the scores from the two variables would result in somewhat different groups of subjects. An analysis of the overlap in subjects between the different median splits reveals just those anticipated results. For example, the average correlations across the three studies between the original SM scale and the revised scale was .30. The low/high sample sizes for studies 1-3 formed by selecting only those subjects below/above the median on both the original and revised SM scales were 35/50, 27/30, and 21/30.

Experimental Advertisements and Manipulation Check Results

The four advertisements to be evaluated by the subjects were professionally constructed. The two jean and two shoe ads differed only in the single verbal claim associated with each advertisement. For both products, the layout depicted wear appropriate for both males and females. The "quality" and "image" statements were developed from a series of pretest elicitations. The image claims stressed social approval and expressiveness; the quality claims centered on intrinsic product attributes (e.g., durability, comfort). For example, for the quality version, the following statement was used: "Navello (jeans), a comfortable fitting, five-pocket jean with extra stitching for durability." As a part of each study, manipulation checks were included after the experimental treatments and dependent variable measures (cf. Perdue and Summers 1986) to verify subject perceptions of the advertisements. In these tests, the definitions of image and quality claims used by Snyder and DeBono were provided. Subjects were required to rate each of the ads on 9-place bipolar scales labeled an image/quality appeal. Both the direction of the mean scores and the t-test estimates reflecting the significance of the differences ($p < .01$) between scores suggest that the ad claims were interpreted as intended. For example, the average t-value was 10.07 for the jean comparisons. The corresponding mean scores for the image claim (1) and the quality claim (9) were 2.08 and 6.67, respectively. Similar results were found for the shoe analysis. That is, the average, t-value was 9.95. The corresponding average mean scores were 2.79 and 7.31 for the image and quality treatments, respectively.

Study One

Method. Subjects were presented with two advertisements (i.e., a quality and an image claim) for a single product with the order of presentation randomly varied across subjects. (In the Snyder and DeBono study, each subject received a pair of advertisements for all three products.) The sample sizes for the jean and shoe exposures were 50 and 54, respectively. After each set, subjects responded to a 12-item survey similar to that employed by Snyder and DeBono that required evaluative comparisons between the two advertisements in each set. (The exact 12-item measure of Snyder and DeBono is used later in Phase IV.) Example items include: "Which ad appeals to you most?" "Which ad generates more interest?" An index of favorability was constructed by assigning 0 each time the quality version was preferred and 1 each time the image version was favored. The resulting KR-20 internal consistency estimates for the favorability measures were .83 and .89 for the jean and shoe responses.

Results. In the original Snyder and DeBono (1985) study, an ANOVA design was employed in which SM was a between subject factor and product represented a within-subject factor. In our study, the design was a simple one-factor (low versus high self-monitoring)design analyzed for each product. These results are depicted in Table 1 along with those of Studies 2 and 3 for each of the four median splits. None of the anticipated self-monitoring main effects were observed. This finding also held when gender, self-esteem, and product involvement were included as covariates. One interesting finding involving the covariates, however, was found in the shoe results. That is, product involvement and the favorability index were negatively correlated (-.38). This suggests that, at least for one product, higher involvement is associated with preferences for the quality advertisement (e.g., those messages stressing product attributes).

Study Two

Method. This study involved a test of the hypothesis that low (high) self-monitors would be willing to pay more for products promoted via quality (image) appeals. Each subject was presented with either two image or two quality appeals; the order of presentation was counterbalanced as in the previous study. Following exposure to the advertisement, respondents were requested to indicate "How much would you be willing to pay for this ________?" As in the Snyder and DeBono (1985, p.590) study, two

TABLE 1

PHASE 1 RESULTS

Self-Monitoring Comparisons	Study 1: Favorability[a]		Study 2: Price Willing to Pay[b]			
			Jeans		Shoes	
	Jeans	Shoes	Image	Quality	Image	Quality
Original						
High	5.48	4.36	27.63	26.83	41.58	44.33
Low	6.44	4.27	29.22	28.86	42.15	46.13
Revised						
High	6.43	3.81	27.19	27.19	40.73	46.26
Low	5.33	4.63	29.92	27.84	42.11	44.04
Self-Presentation Factor						
High	5.84	3.92	28.37	26.89	41.42	45.74
Low	5.84	4.50	28.76	28.16	41.44	44.60
Combined						
High	6.58	3.59	27.13	27.07	40.33	43.93
Low	6.27	4.05	30.41	29.20	41.41	44.00

Self-Monitoring Comparisons	Study 3: Willingness to Use[c]			
	Jeans		Shoes	
	Image	Quality	Image	Quality
Original				
High	.09	.12	-.08	-.62
Low	.44	-.22	-.45	.84
Revised				
High	-.18	-.30	-.11	.83
Low	.59	-.02	-.28	-.07
Self-Presentation Factor				
High	-.20	.02	-.08	.52
Low	.62	-.39	-.31	.15
Combined				
High	-.40	-.20	.29	-.06
Low	.77	-.38	-.16	.55

[a]Higher scores (0-12) represent more favorable attitudes toward image appeal while lower scores reflect more favorable attitudes toward quality ad. Subjects viewed both types of ads for each product.

[b]Scores reflect average prices willing to pay.

[c]Scores represent sum of standardized scores for two willingness-to-use measures. Higher scores represent greater willingness-to-use.

price ranges were given to avoid extreme responses. The price ranges were selected to reflect the range of prices typical of most brands in the two product categories.

Results. In these analyses, self-monitoring and type of advertisement were both treated as between-subject factors. The results of separate product 2x2 ANOVA analyses with and without the covariates did not reveal the anticipated significant self-monitoring by advertisement type interaction. While the predicted interaction failed to develop, a significant main effect for the type of advertisement was found in the shoe analyses. In both the original ($F = 3.80$, $p < .05$) and the revised ($F = 4.51$, $p < .05$) SM scale split analyses, the quality-based appeals resulted in higher estimates regarding the amount willing to pay. A similar significant main effect ($F = 4.44$, $p < .05$) was found for the self-presentation factor analysis. However, the results again do not support the conclusion that low versus high self-monitors vary in their reaction to image versus quality claims.

Study Three

Method. In the third study, subjects reacted to the same appeal/product configuration as the prior two studies. Each of 108 subjects received a quality message for one product and an image message for the other product. Again, the order of presentation was varied. The dependent variable (as in the Snyder and DeBono study) was an index of willingness to use the product. The index was constructed as the sum of standardized scores for two separate items. For both the shoe and jean results, the simple correlation between the two items was .78. The items were:

> Which of the following verbal descriptions best describes your willingness to use the product advertised? (1) Definitely Not, (2) Probably Not, (3) Unsure, (4) Probably Yes, and (5) Definitely Yes.
>
> With 0% indicating *not at all* and 100% indicating *definitely willing*, what percentage do you think best describes your willingness to try this new product?

Results. A significant 2x2 interaction was anticipated with high scores for the willingness index predicted for the low SM/quality and high SM/image combinations. The results of these analyses for both jeans and shoes across the various median split partitionings are summarized in Table 1. A significant predicted interaction was found for the original SM measure analysis for shoes ($F = 6.6$, $p < .01$). In this case, the high self-monitoring individuals did appear more willing to try the product following evaluation of the image claim while the low self-monitors reacted more favorably to the quality-based appeal. Similar findings were also found when the analyses were repeated including the covariates. The parallel interactions for jeans and for the remaining self-monitoring split interactions were not significant.

PHASE II

Given our inability to reproduce, with one exception, the consistent findings of Snyder and DeBono (1985), we reexamined our research methods. One major difference between the original study and this replication was the identification of subjects (in the studies reported here) as low and high self-monitors from questionnaire results obtained immediately prior to administration of the image and quality claims and assessment of the dependent measures. Consequently, the "price willing to pay" study was again conducted in an attempt to account for this difference in methods.

Method

Fifty-six male and female undergraduate business students were each presented with either two image or two quality ads for jeans and shoes. As in the prior experiments, the order of the product presentations was varied. Similar introductory wording and price ranges were employed. Two changes were made to the methods employed in this replication of Snyder and DeBono's Study 2. First, it was found in Phase I that the distribution of the price estimation scores was affected by the tendency of individuals to choose prices involving some multiple of five. Consequently, a unit listing of the possible prices within the "realistic" range was provided as a response scale. Second, data were collected regarding the self-monitoring measure two days prior to the evaluation of the advertisements.

Results

The internal consistency reliability estimates for the original 25-item SM scale, the revised 15-item scale, and the self-presentation factor were .69, .77, and .75, respectively. The correlations between the Snyder (1974) scale and the revised measure of Lennox and Wolfe (1984) was .37. The manipulation check results again suggested that the image and quality appeals were perceived as intended. The results of separate 2x2 ANOVA analyses (presented in Table 2) did not produce the significant interaction predicted by Snyder and DeBono (1985). Further, no main effects for either product were revealed.

PHASE III

The earlier studies by Snyder and DeBono (1985) considered three products along with the use of existing brand names. It was our intent to avoid any confounding of results via associations with existing brand names. Consequently, neutral and fictitious brands were selected for use in our efforts to examine the moderating effects of self-monitoring on reactions to quality versus image claims. This aspect of our methods differed from those of the Snyder and DeBono studies. In a further attempt to replicate their findings, a fifth study was conducted in which actual brand names (e.g., Reebok, Calvin Klein) were included in the advertisements. The study is similar to Study 1 (i.e., the favorability index study) of Phase I.

TABLE 2

PHASE II AND PHASE III RESULTS

Self-Monitoring Comparisons	Phase II: Price Willing to Pay[a] Jeans Image	Jeans Quality	Shoes Image	Shoes Quality	Phase III: Favorability[b] Jeans	Shoes
Original						
High	27.70	24.54	43.00	46.08	4.46	2.55
Low	28.69	26.06	44.81	43.71	4.71	4.04
Revised						
High	28.92	24.50	43.67	46.71	4.46	2.60
Low	27.79	26.19	44.50	43.00	4.43	3.83
Self-Presentation Factor						
High	30.15	24.44	44.15	45.69	4.00	2.56
Low	26.46	26.50	44.08	43.64	4.96	3.74
Combined						
High	28.14	24.50	42.86	47.17	4.76	2.91
Low	28.90	27.44	44.82	41.33	5.33	4.63

[a]Scores reflect average prices willing-to-pay.

[b]Higher scores reflect more favorable attitudes toward image appeal; lower scores reflect more favorable attitudes toward quality appeal. Subjects viewed both types of ads for each product.

Method

Subjects were presented with both a quality and an image claim for a single product with the order or presentation again varied across subjects. The sample sizes for the jean and shoe treatments were 51 and 56 subjects, respectively. The KR-20 reliability estimates for the favorability measures were .90 and .92 for the jean and shoe responses. The paired t-test comparisons for the manipulation check measures resulted in t-values of 11.39 ($p < .05$) and 18.90 ($p < .05$). These significant values and the direction of mean scores support earlier interpretations of the message content. The reliability estimates for the SM, revised and self-presentation factor scales were .59, .77, and .78. The pairwise correlation between the original and revised scales was .43.

Results

As in Study 1, the design was a simple one-factor (low versus high self-monitors) design analyzed for each product. The results are presented in Table 2. None of the predicted self-monitoring main effects were observed for any of the four comparisons. This finding also held when the three covariates were included. Though product involvement was significantly related to the favorability measure in Study 1, none of the covariates were found significant in this study.

DISCUSSION

Self-monitoring has provided a useful paradigm for evaluating the tendency of individuals to vary in their concern for the appropriateness of social behavior, their sensitivity to important cues, and their self-regulation of behavior. The concept has generated a number of studies and has been found to moderate the strength of attitude-behavioral relationships in both social psychology and consumer behavior research. Consequently, the construct does indeed offer promise for investigating the relative roles of situational and dispositional influences in consumer behavior. Yet, in spite of the recent study by Snyder and DeBono, very strong conclusions regarding the role of self-monitoring in predicting advertising effects (i.e., that high (low) self-monitors react more favorably to image (quality) appeals) seem premature. As with any effort to support or refute a theory or hypothesis, alternative explanations for unexpected results can arise. Possibly, some undetected differences existed between the original and replication research (e.g., student subjects, the presentation of stimulus materials). However, in this research, alternative explanations tied to research methods seem unlikely. Given the product familiarity pretest data used to select the stimuli for the first five studies and the frequent use of students as the subject population for test of self-monitoring theory, questions regarding the products and subjects would not seem to cast doubt on the present findings regarding self-monitorings' failure to explain advertising effects in the tests reported in this article.

A more plausible explanation involves a theoretical interpretation of high and low self-monitors' evaluation of image and quality appeals. That is, low self-monitors, being relatively insensitive to their social surroundings, may place some value on social interpretation offered directly by ads. In contrast, high self-monitors value social approval, but can assess it from their own social environment and so do not place much value on social appeals within ads. Thus, low *and* high self-monitors may respond in about the same manner (as found in our studies).

Limitations and Future Research

Self-monitoring has been treated here as a characteristic of the individual and was not manipulated experimentally. This is the most frequently reported use of the self-monitoring construct (i.e., differences between nonexperimentally formed groups are focused upon) and such designs are often used in studies of personality in consumer behavior (Kassarjian 1971). However, in spite of common practice, this procedure involves a correlational approach, even though it may be conducted in the laboratory with a high degree of control. Further, nonexperimentally manipulated variables may be correlated with demand proneness via confidence, suspiciousness, or other individual traits (Sawyer 1975).

Several issues warrant additional research. First, it appears that reactions to quality and image claims can vary, although not as predicted by self-monitoring theory. Some evidence was found that product involvement and preference for quality-based advertisements are related. This rather straight-forward result may warrant additional research and certainly has implications for the design of advertising strategy across consumer segments. And, some resolution is needed regarding the conceptualization of self-monitoring, its measurement, or both. Given the modest degree of overlap between groups identified by the original and revised scales, unresolved issues remain concerning construct definition and the identification of low and high self-monitors.

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Refining a Multidimensional Profile for Television Commercials: An Application of Target Analysis

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ABSTRACT

A survey was conducted to determine the dimensions which underlie consumer responses to television advertising. Fifteen groups of 46 subjects were each exposed to a different target commercial for a total of 690 ad exposures. One group of subjects rated ads using Leavitt's multidimensional profile, and a second group used Schlinger's Viewer Response Profile. The results indicated that the Leavitt profile performed somewhat better than the Viewer Response Profile, but there is still room for improvement in the former rating scales. Specifically, the fourth dimension of the Leavitt profile (Familiar) proves to be somewhat unstable and is a candidate for deletion.

INTRODUCTION

Advertising researchers have shown considerable interest in identifying the dimensions which underlie viewers' reactions to television commercials (Leavitt 1970; Schlinger 1979; Wells, et al. 1971). Such profiles can be used to gauge viewers' immediate, initial reactions to ads and to select for airing commercials which viewers find enjoyable and entertaining. This is important since it has been shown that advertisers can gain a long-term competitive advantage by showing commercials that are enjoyable (Bartos 1981). Mitchell and Olson (1981) have found that immediate advertising response is an important mediator variable between ad exposure and attitude formation toward the advertised product. Through an attitude transfer mechanism, favorable feelings about the commercial can be translated into favorable feelings about the advertised product. This link between liking an ad and forming a good opinion of the advertised product is so strong that likable ads are becoming a major strategic tool in building "brand personality." That is, the advertiser that offends a viewer could face a serious negative bias in the marketplace.

Up until now, most of these commercial response profiles have been built up in an exploratory fashion, making use of a data reduction technique such as principal components analysis. Researchers have started out with as many as 525 items and gradually reduced this list to a smaller, more manageable set. When factor analysis is used in such an exploratory fashion, attempts to build or test measurement scales can amount to no more than tautological juggling of the input variables (Mulaik 1972). However, factor analysis need not be used only as an exploratory technique. Here, target analysis with Procrustes rotation -- a type of confirmatory factor analysis -- is used to test hypotheses about television response scales. An attempt is made to find out what basic dimensions underlie viewers' responses to commercials; and an attempt is made to determine if these responses can predict advertising effectiveness.

Leavitt's (1970) multidimensional profile, further refined at ACR (1975), is the most comprehensive method so far developed for capturing viewers' reactions to television commercials and is chosen for further study here. Since this profile was developed using exploratory analysis and since such analysis does not control for the impact of chance or sampling error, neither reliability nor validity has been demonstrated (Zinkhan and Fornell 1985). This is the first goal of the present study. Specifically, the 32-item profile originally proposed (Leavitt 1970) and then updated by Leavitt (1975) is investigated, and an attempt is made to determine if this multi-item profile can be accounted for by the same dimensions as originally hypothesized and to determine to what extent this profile is useful as a predictor of advertising effectiveness.

Schlinger (1979) has proposed an alternative to the Leavitt profile which she terms the Viewer Response Profile (VRP). The VRP consists of 18 items and at least four stable dimensions (namely: Entertainment, Confusion, Relevant News, and Brand Reinforcement). The procedures for implementing the Leavitt and Schlinger profiles are very similar, but the items employed and the resulting dimensions extracted are quite different and sometimes conflicting. Thus, the second major goal of this study is to compare and contrast the two competing profiles, especially in terms of the consistency of their internal structure and in terms of their respective ability to predict consumer choice behavior.

There have been a few previous attempts to examine the convergent and discriminant validity of television commercial rating scales. For example, Lastovicka (1983) compared three Likert-type scales of three copy testing concepts (Relevance, Confusion, and Entertainment) with measures obtained from viewer verbatim comments. He found evidence for the measurement validity of two out of the three scales. Specifically, the relevance and entertainment structured questioning scales achieved satisfactory levels of reliability and convergent and discriminant validity. Lastovicka reported some problems with the Confusion dimension. Zinkhan and Fornell (1985) found that the Leavitt profile did not perform as well as one proposed by Wells (1964).

METHOD

The Profile

The items and dimensions which make up Leavitt's (updated in 1975) and Schlinger's (1979) profiles are shown in Tables 1 and 2. The four dimensions hypothesized to underlie the 32 Leavitt items include: Stimulating, Relevant, Gratifying, and Familiar. In the 1970 analysis performed by Leavitt, there were additional items used to operationalize the first two dimensions, but these are discarded in a later

TABLE 1

Target Matrix: Leavitt Profile

		Stimulating	Relevant	Gratifying	Familiar
X 1	Amusing	1.0	0	0	0
X 2	Clever	1.0	0	0	0
X 3	Merry	1.0	0	0	0
X 4	Playful	1.0	0	0	0
X 5	Exciting	1.0	0	0	0
X 6	Fast moving	1.0	0	0	0
X 7	Lively	1.0	0	0	0
X 8	Vigorous	1.0	0	0	0
X 9	Creative	1.0	0	0	0
X 10	Imaginative	1.0	0	0	0
X 11	Novel	1.0	0	0	0
X 12	Unique	1.0	0	0	0
X 13	Convincing	0	1.0	0	0
X 14	Helpful	0	1.0	0	0
X 15	Important for me	0	1.0	0	0
X 16	Meaningful for me	0	1.0	0	0
X 17	Dependable	0	1.0	0	0
X 18	Frank	0	1.0	0	0
X 19	Wise	0	1.0	0	0
X 20	Worth Remembering	0	1.0	0	0
X 21	A good world	0	0	1.0	0
X 22	Agreeable	0	0	1.0	0
X 23	Attractive	0	0	1.0	0
X 24	Dreamy	0	0	1.0	0
X 25	Sensitive	0	0	1.0	0
X 26	Soothing	0	0	1.0	0
X 27	Tender	0	0	1.0	0
X 28	Warm	0	0	1.0	0
X 29	Familiar	0	0	0	-1.0
X 30	Saw Before	0	0	0	-1.0
X 31	Well-known	0	0	0	-1.0
X 32	New	0	0	0	1.0

(1975) study, since they accounted for so little variance.

A few of the dimensions in Schlinger's VRP have definite counterparts in the Leavitt scales. For example, both profiles include a dimension labeled Relevant (or Relevant News). However, the specific items used to operationalize this dimension are sometimes quite different when looking across the two profiles. Other dimensions appear unique to each respective profile. For example, there is no counterpart in Leavitt's profile for the Brand Reinforcement dimension hypothesized by Schlinger. Likewise, there is no obvious counterpart in the VRP for Leavitt's Familiar dimension.

The basic hypothesis underlying this study is that the 32 items shown in Table 1 and the 18 items from Table 2 will load as expected on the underlying dimensions. In addition, these two profiles will be compared and contrasted in terms of their ability to predict consumer choice behavior and other commonly used measures of advertising effectiveness.

Data

In order to test the two profiles, fifteen television commercials were selected. For each individual commercial, forty-six subjects were exposed to the commercial and proceeded to rate that ad using either the Schlinger or the Leavitt profile. Of the 46 subjects rating each commercial, 20 used the Leavitt profile (as shown in Table 1) and 26 used the Schlinger profile (as shown in Table 2). As in the original Leavitt (1970) study, unipolar scales were used to measure each item, and the items were randomly rotated so as to minimize any ordering effect. A 7-point scale was used for each item.

After completing the profile, respondents were given two additional measures of advertising effectiveness: attitude toward the brand (A(b)) and choice behavior (CB). A(b) was operationalized using three 7-point semantic differential scales (bad-good, unsatisfactory-satisfactory, and unfavorable-favorable). Choice behavior was operationalized by giving subjects the opportunity to select the advertised brand (or one of two competing brands) at the conclusion of

TABLE 2

Target Matrix: Schlinger Profile

	Entertainment	Confusion	Relevant news	Brand Reinforcement
The commercial was lots of fun to watch and listen to.	1.0	0	0	0
I thought it was clever and quite entertaining.	1.0	0	0	0
The enthusiasm of the commercial is catching--it picks you up.	1.0	0	0	0
The ad was not just selling the product--it was entertaining me. I appreciated that.	1.0	0	0	0
The characters (or persons) in the commercial attract your attention.	1.0	0	0	0
It's the kind of commercial that keeps running through your mind after you have seen it.	1.0	0	0	0
I just laughed at it--I thought it was very funny and good.	1.0	0	0	0
It was distracting--trying to watch the screen and listen to the words at the same time.	0	1.0	0	0
It required a lot of effort to follow the commercial.	0	1.0	0	0
It was too complex. I wasn't sure what was going on.	0	1.0	0	0
I was so busy watching the screen, I didn't listen to the talk.	0	1.0	0	0
The commercial gave me a new idea.	0	0	1.0	0
The commercial reminded me that I'm dissatisfied with what I'm using now and I'm looking for something better.	0	0	1.0	0
I learned something from the commercial that I didn't know before.	0	0	1.0	0
The commercial told about a new product I think I'd like to try.	0	0	1.0	0
During the commercial I thought how that product might be useful to me.	0	0	1.0	0
That's a good brand, and I wouldn't hesitate recommending it to others.	0	0	0	1.0
I know that the advertised brand is a dependable, reliable one.	0	0	0	1.0

the experiment. For example, if the target commercial was for a soft drink, subjects were offered a soft drink at the conclusion of the exercise and were given three options (one of which was the advertised brand).

Each subject was exposed to only one of the fifteen target ads and used either the Leavitt or the Schlinger profile. This procedure resulted in a sample size of 390 ad exposures for the Schlinger profile and 300 ad exposures for the Leavitt profile.

Analysis Procedure

Target analysis, a type of confirmatory factor analysis, is a promising technique for synthesizing and validating profiles that have been built up in an exploratory fashion. By using target analysis, it is possible to test hypotheses about the number of factors and to test hypotheses about the loading of each variable on each factor. The hypothesized factor pattern can be represented by a target matrix which specifies the direction and magnitude of each expected loading. Such a target matrix is represented in Table 1 for the Leavitt profile and in Table 2 for the Schlinger profile. Further details concerning target analysis, using an orthogonal Procrustes rotation, are given in the Appendix.

RESULTS

Convergent and Discriminant Validity

Tables 3 and 4 present the target analysis results. In general, the hypothesized factor structure is confirmed for the Leavitt profile. Reflecting the overall pattern and magnitude of loadings coefficients, the congruence (CC) is fairly satisfactory (.804). This indicates a strong similarity between the hypothesized target matrix and the obtained empirical results. While oblique Procrustes methods often show extremely high congruence, it should be kept in mind that the orthogonal rotation used here does not capitalize on "free" intra-set factor correlations. These correlations are not allowed to "improve" the fit, and therefore are set to zero (Fornell, et al. 1981).

The first dimension, Stimulating, emerges as expected. However, two items, novel and unique, fail to load as strongly as hypothesized. The remaining 10 items show high positive loadings, as expected, with 8 of these loadings over .70.

The second and third dimensions also emerge as anticipated. For Relevant six of the eight items load above .60, and for Gratifying six of the eight items are above .75. In instances where a group of items does not load on a hypothesized factor, this may represent a failure in convergent validity. An example of this occurs in the second dimension where "dependable" and "worth remembering" load at only .27 and .30 respectively. A similar breakdown occurs in the third dimension for "a good world" and "warm." Thus these four items are candidates for deletion.

Conversely, in instances where high or moderate loadings appear when zero correlations were expected, there is a problem with discriminant validity. An example of this appears in the fourth factor where "warm," "worth remembering" and "a good world" all load about .60. In addition to this discriminant validity breakdown in the fourth dimension, there is also a problem with convergent validity as none of the four familiar items loads very strongly. Thus, the entire fourth dimension is a candidate for deletion, and this represents the major failure in the analysis.

Beyond this breakdown in the fourth dimension, the results for the remaining items show rather strong evidence of convergent and discriminant validity. For the most part, the loadings which were hypothesized to be zero turned out to be insubstantial. Those loadings expected to be large turned out to be large, and the majority of loadings were signed in the hypothesized direction.

The results for the Schlinger profile are not quite so successful. As shown in Table 4, the coefficient of congruence is lower (CC = .710), and there are some problems with at least three of the four dimensions. For example, three out of seven items load below .50 on the Entertainment dimension, and none of the items on the Brand Reinforcement dimension work out as expected. In addition to these problems with convergent validity there are also some discriminant validity breakdowns (as revealed by the strong loadings of "I'm dissatisfied" on the Entertainment dimension and the strong loadings of "new product" and "not just selling" on the Brand Reinforcement dimension). Despite these inconsistencies, the Schlinger profile is somewhat successful in that the first three dimensions (Entertainment, Confusion, and Relevant News) emerge to some extent, with the Confusion dimension being the most successful of all (with all four loadings above .60). In general, however, the Schlinger solution does not seem quite as stable as the Leavitt solution. For both profiles, there are areas for improvement, which involve either the deletion of items or the deletion of entire profile dimensions.

Predictive Validity

Relationships between these two commercial profiles and other measures of advertising effectiveness were investigated. Specifically, it is expected that positive ratings on the profile dimensions should translate into positive attitudes toward the advertised brand and an increased likelihood of choice behavior (Shimp 1981; Bartos 1981). The Familiar dimension of the Leavitt profile is excluded from this analysis since it failed the previous tests of convergent and discriminant validity.

The Brand Reinforcement dimension of the Schlinger profile shared similar problems, but it is retained. Schlinger specifically noted the potential instability of Brand Reinforcement but argued for its retention since she found that Brand Reinforcement provided useful diagnostic information concerning other measures of advertising effectiveness. In both the Schlinger and Leavitt data sets, the three A(b) measures were collapsed into a single construct since the intercorrelations among these measures were high (average $\underline{r}$ = 0.81).

The original sample was split into two groups, so that 60% of the data were used for estimation and the remaining 40 percent were used as a validation sample. This procedure resulted in 180 Leavitt ad exposures and 234 Schlinger ad exposures being used for estimation and the remaining 120 Leavitt and 156 Schlinger ad exposures being used for prediction.

Estimation results for both profiles are shown in Table 5. Again, the Leavitt profile seems to slightly outperform the Schlinger profile. The three Leavitt dimensions account for almost 22% of the variance in brand attitude scores, while the four Schlinger dimensions account for over 20 percent of the variance in A(b). All the coefficients for the profile dimensions appear with a positive sign except for that associated with Confusion. This makes sense in that more confusing commercials are rated as less successful and result in lowered brand attitude scores. As revealed by the standardized beta weights, Entertainment is the most important Schlinger predictor and Stimulating is the most important Leavitt predictor.

In general, the profile dimensions are not as successful in accounting for choice behavior. Only one Schlinger dimension (Entertainment) proves to be a significant ($p < .05$) predictor of choice. However, when combined with brand attitude, the Leavitt dimensions explain over 32 percent and the Schlinger dimensions explain 24 percent of the variance in choice behavior scores.

In order to investigate the predictive validity of the proposed model, predictions were made to the hold-out sample of 120 Leavitt and 156 Schlinger subjects. The models estimated in Table 5 were used to make these predictions. For the Leavitt profile, the correlation between predicted and actual values of A(b) and choice behavior are .36 ($p < .01$) and .34 ($p < .01$)

TABLE 3

Target Analysis Results: Leavitt Profile

	Stimulating	Relevant	Gratifying	Familiar	Communality
Amusing	.74	.26	-.02	.16	.64
Clever	.74	.32	-.08	.21	.70
Merry	.71	.37	-.08	.23	.68
Playful	.76	.08	.16	.01	.61
Exciting	.81	.08	.11	.07	.67
Fast moving	.79	.11	.21	.06	.68
Lively	.85	.08	.17	-.01	.76
Vigorous	.87	.05	.13	-.02	.77
Creative	.67	.31	-.15	.28	.65
Imaginative	.66	.09	.22	-.03	.49
Novel	.28	.00	-.07	.14	.11
Unique	.40	.27	.06	.28	.32
Convincing	.25	.78	.29	-.21	.80
Helpful	.31	.75	.25	-.20	.75
Important for me	.29	.79	.27	-.14	.81
Meaningful for me	.34	.79	.26	-.16	.83
Dependable	.17	.27	.06	.43	.29
Frank	.32	.71	.20	-.12	.20
Wise	.29	.61	.28	-.17	.54
Worth remembering	.16	.30	-.01	.77	.71
A good world	.13	.18	.02	.64	.46
Agreeable	.20	.19	.86	.07	.82
Attractive	.11	.17	.86	.01	.79
Dreamy	.09	.23	.79	.04	.69
Sensitive	.23	.22	.79	.02	.73
Soothing	.04	.15	.77	.04	.62
Tender	.05	.18	.77	.05	.64
Warm	.09	.22	.06	.64	.47
Familiar	-.09	-.03	-.40	-.48	.40
Saw Before	-.25	-.12	-.16	-.39	.25
Well-known	-.23	-.11	-.25	-.42	.30
New	.09	.03	.36	.30	.23
Sums of squares	6.91	4.29	4.95	2.74	
Cumulative percent of variance explained	21.6	35.00	50.5	59.00	

Coefficient of Congruence (CC) = .804

TABLE 4

Target Analysis Results: Schlinger Profile

	Entertainment	Confusion	Relevant News	Brand Reinforcement	Communality
The commercial was lots of fun to watch and listen to.	.61	.24	.20	-.14	.49
I thought it was clever and quite entertaining.	.76	.30	.30	-.40	.92
The enthusiasm of the commercial is catching--it picks you up.	.78	.35	.05	-.21	.78
The ad was not just selling the product--it was entertaining me. I appreciated that.	.30	.04	.22	.60	.50
The characters (or persons) in the commercial attract your attention.	.29	-.11	.31	.51	.45
It's the kind of commercial that keeps running through your mind after you have seen it.	.48	.20	.25	.49	.57
I just laughed at it--I thought it was very funny and good.	.54	.15	.04	.20	.36
It was distracting--trying to watch the screen and listen to the words at the same time.	.13	.76	.20	.13	.65
It required a lot of effort to follow the commercial.	.17	.68	.33	.19	.64
It was too complex. I wasn't sure what was going on.	.23	.72	.29	.05	.66
I was so busy watching the screen, I didn't listen to the talk.	.16	.85	.18	.14	.80
The commercial gave me a new idea.	.01	.20	.78	-.55	.95
The commercial reminded me that I'm dissatisfied with what I'm using now and I'm looking for something better.	.50	-.09	.22	.29	.39
I learned something from the commercial that I didn't know before.	.04	.30	.88	-.10	.88
The commercial told about a new product I think I'd like to try.	-.31	-.31	.20	.78	.84
During the commercial I thought how that product might be useful to me.	.07	.25	.78	-.41	.84
That's a good brand, and I wouldn't hesitate recommending it to others.	-.33	-.30	.22	.30	.34
I know that the advertised brand is a dependable, reliable one.	.44	.05	.18	.21	.27
Sum of squares	3.05	3.02	2.77	2.51	
Cumulative percent of variance explained	16.9	33.7	49.1	63.1	

Coefficient of Congruence = .710

TABLE 5

Relationship of Profile Dimensions to Other Measures of Advertising Effectiveness

Leavitt Profile:	Criterion: A (b)				Criterion: Choice Behavior			
	$R^2 = .219$		$p < .001$		$R^2 = .325$		$p < .001$	
Predictors	Beta Weight	Standard error	t-stat	p<	Beta Weight	Standard error	t-stat	p<
Stimulating	.313	.045	6.96	.001	.314	.045	6.98	.001
Relevant	.222	.046	4.83	.001	.238	.044	5.41	.001
Gratifying	.124	.044	2.82	.01	.169	.043	3.93	.001
A(b)	---	---	---	---	.338	.048	7.04	.001
Schlinger Profile:								
	$R^2 = .205$		$p < .001$		$R^2 = .240$		$p < .001$	
Entertainment	.264	.077	3.43	.001	.168	.048	3.50	.001
Confusion	-.210	.079	-2.66	.001	-.011	.048	-0.23	NS
Relevant News	.181	.080	2.26	.001	.048	.047	1.02	NS
Brand Reinforcement	.154	.077	2.00	.05	.034	.046	0.74	NS
A(b)	---	---	---	---	.432	.049	8.82	.001

respectively. For the Schlinger profiles, the values are .32 (p< .01) and .28 (p< .01).

As is to be expected, there is some shrinkage in explained variance when moving from the original sample to the validation sample; but, in general, the prediction results are encouraging. There is some evidence of predictive validity.

DISCUSSION

These findings indicate that viewers' responses to advertising are multidimensional in nature. In most respects, the Leavitt commercial profile seems satisfactory in terms of convergent, discriminant, and predictive validity. However, the findings suggest some areas for improvement. Specifically, the Familiar dimension can be deleted due to instability. This result may arise partly from the fact that four items were suggested for operationalizing this factor. In future investigations, researchers may wish to add more items for tapping this dimension rather than deleting it altogether. Also, it seems as if the novel and unique items can be dropped from the first dimension, which proves to be the most important in terms of predicting other consumer responses to television commercials. The second and third dimensions are moderately important in terms of predictive power and also may be improved by the deletion of unnecessary items ("dependable" and "worth remembering" for the second dimension; "a good world" and "warm" for the third).

The Schlinger profile appears to require more adjustments than the Leavitt. In the former profile, only the Confusion dimension appears completely as expected. The Brand Reinforcement dimension is a candidate for deletion entirely, while Entertainment and Relevant News appear with as few as half their items loading as expected. The Schlinger items were selected originally because they represented verbatim playbacks supplied by actual viewers. Today, some of the items seem overly complicated (especially when compared to the single-word Leavitt items). It is some of those convoluted items (e.g., "the ad wasn't just selling the product -- it was entertaining me. I appreciated that") which provide some of the least satisfactory results. In fact, Schlinger did find some evidence that her profile dimensions were more or less stable, depending upon the particular sample of commercials selected. Perhaps the single-word approach used by Leavitt is a more preferable method of administration. Overall, the Leavitt profile appears more stable than Schlinger's VRP, and it does provide marginally better prediction of brand attitude and choice behavior.

Advertising researchers may want to take a closer look at print ad profiles, which also have been built up using exploratory analysis methods (see for example, Wells 1964). These profiles are widely used by advertising agencies, and yet their reliability and validity has not been demonstrated to any satisfactory extent (Zinkhan and Fornell 1985).

Target analysis, as employed here, proves to be a useful tool for investigating the immediate, short-term effects of advertising. Similar applications could be made in other areas where researchers have some a priori notions about the expected structure of a factor loadings matrix. Here the a priori notions were derived from previous empirical investigations; in other instances theory may be sufficiently developed to guide the formulation of a target matrix. In either case, target analysis is a simple yet powerful data reduction technique; such confirmatory analysis deserves to be considered whenever scientific knowledge begins to advance beyond the exploratory stage.

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APPENDIX: PROCRUSTES TARGET ROTATION

Following the work of Green (1952) and Cliff (1966) in rigid factor rotation, Schonemann's (1966) confirmatory Procrustes rotation is applied to the factor matrix which emerges. Thus, a matrix Z is formed from the target matrix T and the empirical (factor loadings) matrix L.

(1) $Z = L'T$

We then extract the eigenvectors of $Z'Z$, ZZ' and V and P, from the equations:

(2) $ZZ' = P\,Y\,P'$

where Y is the diagonal matrix of eigenvalues. The transformation matrix is

(3) $Q = P\,V'$

The confirmatory Procrustes solution is given by

(4) $T^* = Q\,L$

Since Q is chosen such that the matrix of errors ($E = T - T^*$) is minimized in a least squares fashion, the solution is unique and may be tested for convergence (Fornell et al., 1981). To assess the similarity of T and T*, the coefficient of congruence (CC), as suggested by Wrigley and Newhaus (1955), is used. This measure is sensitive to pattern as well as magnitude differences in the two matrices. Values of CC will range from -1 to +1 and will be high when there is a high degree of fit between the observed loading matrix (T) and the expected loading matrix (T*).

Source Independence in Multiple Source Advertising Appeals: The Confederate Effect

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ABSTRACT

Current explanations for the multiple source effect in persuasion have centered on the information utility hypothesis. According to this hypothesis, a message recipient "needs" to process more deligently information from each of a set of multiple sources because each source may represent a different perspective. In this paper, we discuss some findings that seem to support this hypothesis. We also attempt to clarify the role of source "nonindependence" by contrasting Harkins and Petty's (1987) "committee effect" with a "confederate effect."

INTRODUCTION

Professionals who make their living persuading others to buy a product or vote for a candidate have long used multiple source techniques (e.g., multiple endorsers) to enhance the impact of their persuasive appeals. Harkins and Petty (1981a, 1981b, 1987), and colleagues, have used an information processing framework to try to explain the effect. The information processing approach holds that a persuasive appeal is strongest when it operates to stimulate recipients' motivation and/or ability to think about the attitude issue (Petty and Cacioppo 1986). Specifically, it has been argued that multiple sources act to facilitate a high level of motivation to engage in issue-relevant processing. That multiple sources are more effective than a single message source in stimulating message recipients to process information has been reported in a series of experiments by Harkins and Petty (1981a, 1981b).

Harkins and Petty (1987) suggest that information utility may be behind the enhanced processing that is stimulated by multiple source presentations. The message recipient, when exposed to multiple sources each presenting unique arguments, presumably perceives these different arguments as independent bits of information coming from individuals with different perspectives and backgrounds. Because information processing is in the service of prediction and control, subjects should be hightly motivated to process these arguments with greater interest and diligence. In contrast, when several arguments are delivered by a single source, message processing may be reduced since the target may feel that s/he has already heard from this particular source perspective; as the arguments occur, the subject feels s/he can predict later arguments from earlier ones, and can begin to "tune out."

Consistent with this hypothesis, Harkins and Petty (1987) found that the multiple source effect was eliminated when the sources were said to be members of the same committee (i.e., the "committee effect"), as opposed to when the sources were represented as being independent of each other. A committee can be assumed to reflect a single informational bias. Therefore, a message presented by multiple sources representing the supposedly unified views of a single committee should stimulate no additional processing, and thus no greater persuasion than a message presented by a single source.

In this paper, we will explore further the multiple source effect. We will present summaries of two research projects that bear on the informational utility hypothesis, and we will conclude with a preliminary report of research into nonindependence due to the "confederate effect."

SOURCE-TARGET SIMILARITY

One "boundary condition" on the multiple source effect that may be enlightening with respect to the information utility hypothesis concerns the perceived similarity of sources to the target. It follows from the information utility logic that multiple source effects should be minimized when the multiple sources are similar to the target. When the sources are dissimilar, as each source appears, that source's arguments provide no reliable clue to the positions/arguments of later sources. On the other hand, when the sources are assumed to be similar, a recipient may feel s/he can predict what later sources will say, and thus the later information has less utility (and the recipient's motivation to process arguments from the later sources may decline).

In Clark, Romero, Elam, and Reardon (1988), we reported some preliminary findings that seem to confirm the existance of a source-target similarity boundary condition on the multiple source effect. Half of the subjects in this study received four arguments in favor of a national gasoline sales tax from a single source; the other half received the same four arguments from four sources, one argument from each source. Crossed with the number of sources variable was a manipulation of the perceived similarity of the sources to the target. Half of the subjects in each of the number of sources conditions were told that the sources were fellow students from the psychology subject pool; the other half were told that the sources were from all over the country, and varied in age and occupation. Consistent with previous literature, more thought was associated with multiple sources. In particular, there was a tendency to list more issue-supportive thoughts in response to four dissimilar sources.

MULTIPLE SOURCES AND MULTIPLE ISSUES

In Reardon, Moore, and Young (1988), we were interested in the effects of multiple sources over a number of issues. Do subjects believe they learn enough about their sources of information over several issues to make predictions about what the future viewpoints of the sources are going to be? If so, then the multiple source effect may be attenuated with later issues (relative to earlier ones) as motivation to process declines (because the information has less utility). If not, the effect should persist across issues. In a sense, we were looking for the development of the perception of interdependence. We looked at one vs. four sources, who were either the same or different within each issue and across issues.

The issues were (a) senior exit exams, (b) location of a toxic waste site near campus, (c) a university library surcharge fee, and (d) divestiture by the University of South African investments. For half of the subjects, four arguments came from a single source; the other half received the same four arguments from four sources, one arguement from each source. Crossed with the number of sources variable was a similarity variable. For half of the subjects in each number of sources condition, the sources (whether one or four) were the same from issue to issue; for the other half, the subjects received either a different source with each issue, or a different set of sources with each issue.

Our findings for both attitude scale and thought listing measures revealed persuasive effects that, relative to single source conditions, persisted across issues in multiple source conditions. However, consistent with hypotheses, there was some moderation of the effect when the four sources were the same from issue to issue.

Neither Clark et al. (1988) nor Reardon et al. (1988) directly addressed source independence/nonindependence. Nonetheless, they did provide important support for the information utility hypothesis in contexts separate from the independence/nonindependence issue. Thus, in proposing a different pattern of subject response to nonindependence than that outlined by Harkins and Petty, our focus was more toward accounting for both patterns in terms of the information utility hypothesis than in suggesting a rival hypothesis.

THE CONFEDERATE EFFECT

Harkins and Petty's (1987) "committee effect" clearly represents a kind of nonindependence of sources. However, sources may also be independent of one another, yet still reflect a common information bias by virture of the influence exerted over them by an outside force; and recipients may be quite aware of this nonindependence. For example, even if product endorsers featured in "person-on-the-street" interviews are perceived as independent of each other, the persuasive impact of their testimony might be significantly diminished because it appears to the recipients that the sources have been monetarily compensated by the advertiser (Harkins and Petty 1983). In contrast to a "committee effect," we might call this a "confederate effect" because the sources may be perceived as confederates of an unobserved agent.

Logically, the persuasive advantage of multiple sources versus a single source may be significantly diminished if message targets attribute the reason for the product endorsement to the money the endorsers are paid rather than the endorsers' genuine feelings about the product. A message presented by a single source who is perceived to be independent of (i.e., not paid by) the message sponsor may be perceived to be more credible. Accordingly, this message should warrant more diligent processing than a similar message presented by a single source who is perceived to be biased because s/he is known to be paid for endorsing the product by the sponsoring company.

Essentially, the end products of the "committee effect" and the "confederate effect" are the same: Maximum persuasion with multiple, independent sources. Yet the information utility hypothesis, which, as noted above, has received support within other paradigms, must be able to account for the confederate effect as well as the committee effect. How might it do so? As a result of "committee" deliberation, a message recipient presumably believes s/he is able to predict other members' responses after being presented with one member's response. Multiple sources become, in effect, a single source in terms of a recipient's perceptual field. There is less persuasion because there is less cognitive generational activity.

This may not be the case with a confederate manipulation. Because the message sources are not involved with each other directly, respondents may not perceive of them as a single perceptual unit (Wilder 1978). Thus, there should be a significant increase in cognitive generational activity in both the independent and nonindependent multiple source conditions. However, there will still be less persuasion in the confederate conditions because the increase in generational activity will be in a negative direction (i.e., an increase in negative thoughts).

An attributional discounting factor (Kelley 1973) may be operating to spur further continued cognitive activity in the unpaid conditions. Sparkman (1982) found that when the underlying cause for a spokespersons's testimony was easily attributed to financial compensation by the message sponsor (vs. attributes of the product), there was a tendency to actively consider this alternative causal factor in the evaluation of the message. The valence attached to this consideration is typically negative: Sparkman (1982) found significant decreases in message recipients' evaluation of the believability and trustworthiness of the spokesperson.

We have collected some relevant data (Moore, Reardon, and Mowen 1988). We predicted that subjects who were exposed to independent multiple sources would generate a greater number of positive responses to an advertisement than subjects who were exposed to paid multiple sources. Futhermore, subjects exposed to paid multiple sources were expected to produce a greater number of negative responses than those exposed to a single paid source. Hence, a polarization of thoughts and attitudes was expected to occur in the multiple source treatment conditions. Two variables were manipulated: Type of message endorser (unpaid versus paid by the message sponsor) and number of sources (one versus four).

The results showed the predicted polarization of cognitive responses. Compared to the single source conditions, multiple sources yielded more positive thoughts when the sources were thought to be unpaid, and fewer positive thoughts then the sources were thought to be paid. For negative thoughts, a pattern of results occurred that was conceptually similar to that found for positive thoughts. Compared to the single source conditions, multiple sources yielded fewer negative thoughts when the sources were thought to be paid.

Scale measures of attitudes toward the brand and ad showed that, in multiple source conditions, subjects were more positive toward the product when the source(s) was/were assumed to be unpaid and were more negative when the source(s) was/were assumed to be paid. There was no such difference in the single source conditions.

CONCLUSION

On the basis of the information utility hypothesis, Harkins and Petty (1987) found that exposure to nonindependent sources (e.g., the committee manipulation) eliminated the motivation to process the message and diminished the persuasive advantage of multiple soruces. For this reason, the authors concluded that the perceived independence of the message sources is a necessary prerequisite for the occurrence of the multiple source effect. Harkins and Petty argued that the committee manipulation reduces persuasion because subjects put less effort into processing a message presented by nonindependent sources.

Clearly, some of the assumptions associated with the committee effect are not relevant to the confederate effect. Our results indicated that the motivation to process a message can increase rather than cease when message recipients are exposed to multiple, nonindependent sources. There was a significant increase in the generation of both negative and positive thoughts in the paid and unpaid multiple source conditions, respectively. Presumably, the increased attention stimulated by multiple sources serves to activate negative causal attributions when the endorsers are paid for their testimonies, and positive attributions when the sources are unpaid (Sparkman 1982, Kelley 1973). These findings are generally supportive of the information utility hypothesis, but they also suggest a broader interpretation of "information utility."

In their attempt to explain the underlying causes of the multiple source effect, Harkins and Petty (1987) put forward two rival positions: The information-utility account and the attention-focus account. According to the latter, it is the novelty of multiple sources that stimulates increased message elaboration. Therefore, exposure to nonindependent sources should stimulate rather than eliminate increased processing since it is the novelty of the multiple sources that sustains the attention of the audience. Since Harkins and Petty (1987) found no support for this proposition, the attention account was rejected.

To a significant extent, our results support a broadening of the information utility hypothesis to include the attention focus account. Novelty can be an important cue in determining the utility of information. Prior research seems to provide support for this line of reasoning. For example, cognitive psychologists and social cognition specialists have noted that prominent features and/or changes in the perceptual (and socio-perceptual) field command attention. This attention has survival value. The prominent and/or changed features require more careful cognitive consideration because they provide information about whether the perceiver can return to procedure-as-usual (i.e., return to automaticity), or must continue with greater cognitive consideration (Taylor and Fiske 1978, Taylor and Crocker 1981, Klatzky 1984, Jolly and Reardon 1985).

In multiple source conditions using a committee manipulation, it is true that the faces are novel. However, the arguments are *not* novel; they are predictable; continued attention and elaborate processing are unnecessary. With a confederate manipulation, the faces are novel. However, the arguments may also be novel and thus not predictable; continued attention and elaborate processing are necessary.

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Current Issues in Advertising Discussant's Comments

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The three papers presented in this session possess some commonalities. First, quite obviously, the papers deal with some aspect of how advertising works. The first, "Self-Monitoring and Reactions to Image Appeals and Claims About Product Quality", and the third, "Source Independence in Multiple Source Advertising Appeals: The Confederate Effect" both deal with influences on liking and persuasion. They differ in that the first deals with internally generated causes (personality differences) and the third deals with external causes (message source). The second paper, "Refining a Multidimensional Profile for Television Commercials: An Application of Target Analysis", deals not so much with what causes liking or persuasion but rather with what dimensions or constructs are used to process liking of an ad. A dimensional profile is then used to predict ad effectiveness.

The first paper concerning self-monitoring and type of advertising appeal was an attempt to replicate and extend previous research by Snyder and DeBono (1985) which posited a link between degree of self-monitoring (high vs. low) and reaction or degree of favorability to different types of advertising appeals (image vs. claim). The results presented in this paper essentially failed to replicate the findings of Snyder and DeBono.

One possible confounding factor, and a factor which appears to differ between Snyder and DeBono (original study) and Beardon, Shuptrine and Teel (current study) is product involvement. In low involvement situations individuals engage in a heuristic (Chaiken, 1987) or peripheral route (Petty and Cacioppo, 1986) processing strategy. Under conditions of high involvement, a systematic (Chaiken, 1987) or central route (Petty and Cacioppo, 1986) processing strategy is used. The effects of source variables have also been shown to differ under varying degrees of involvement (Petty, et al., 1981), (Pallack, 1983). In the current study, Beardon, Shuptrine and Teel used a pretest elicitation to obtain the test products. Consequently, these products (jeans and running shoes) could be viewed as highly involving to the subjects tested. The original study used cigarettes, whiskey and coffee as test products. Interestingly, the current study also exactly replicated the original study, using the same products including brand name. While this would seem to negate the above argument, degree of involvement could still be different due to either geographical or temporal differences between subject groups. Indeed, the current study did find evidence of a correlation between preference for quality-based ads and product involvement.

Another explanation for the conflicting findings could relate to the operationalization of the self-monitoring construct. There has been some criticism of the Snyder (1974) scale (Lennox and Wolfe, 1984), (Briggs, Cheek and Buss, 1980). Beardon, Shuptrine and Teel recognize this problem and try to resolve it by using four different measurements of self-monitoring in their study. However, in view of the low correlation between (at least) the original Snyder scale and the revised Lennox and Wolfe scale, more research on the measurement of self-monitoring seems warranted.

Indirect support for the findings in the current study can be found in another study presented at this ACR conference. In a paper titled "The Relationship Between Need for Cognition and Other Individual Differences" by Ayn E. Crowley and Wayne D. Hoyer from the University of Texas, no significant relationship was found between differing degrees of inner or other directedness and reaction to image or claim appeals in advertisements.

Regardless of the problems cited above, the current study was very exhaustive in its attempts to replicate and extend the research of Snyder and DeBono (1985). The authors' conscientiousness and attention to detail is to be commended. And due to this thoroughness, the almost total lack of replication is somewhat startling, especially in light of recent work which shows a relationship between self-monitoring and source effect (DeBono and Harnish, 1988). Consequently, more research in the area of self-monitoring and advertising appeal is needed.

The second paper by Zinkhan and Burton attempted to demonstrate reliability and validity of two commercial response profiles, Leavitt's (1970) multidimensional profile and Schlinger's (1979) Viewer Response Profile. This was accomplished by replicating the two studies and using a confirmatory factor analysis (target analysis with Procrustes rotation) to test the hypotheses of the two scales. The paper also compared and contrasted the two profiles.

The results indicated that the Leavitt profile generally outperformed the Schlinger instrument. The factor structure for the Leavitt profile was confirmed for three of the four dimensions. The fourth dimension, "Familiar", did not show strong discriminant or convergent validity, at least compared to the other three dimensions. The overall performance of the profile was high, as shown by a coefficient of congruence of .802. The performance of the Schlinger profile was not as high, with a coefficient of congruence of .703. Three of the four dimensions showed some breakdown in convergent and discriminant validity. Three of the four dimensions did emerge, but on the whole were not as strong as the Leavitt profile.

With respect to predictive validity, the Leavitt profile performed marginally better, accounting for 21% of the variance in brand attitude, versus 19% for the Schlinger profile. Neither performed particularly well in accounting for variance in choice behavior. Only one dimension of each was a significant predictor of choice.

Some obvious explanations exist for the differences encountered, most of which are mentioned by the authors. In the Leavitt profile, the one dimension which did not emerge as strongly as the others (Familiar) was operationalized using only four items. The other three dimensions used 12, 8 and 8 items for operationalization. Perhaps additional items would allow this dimension to emerge more strongly. Such research is needed before concluding the dimension should be eliminated. Also, items which did not load as strongly as predicted should be studied for rewording or elimination.

The Schlinger operationalizations seem unwieldy. The items were selected from verbatim quotes from viewers, and some seem ambiguous. Studies using different operationalizations should be conducted before any final conclusions are reached.

Although the authors assert, quite correctly, that the data seem to indicate the Leavitt profile is more stable, they performed very closely in terms of predictive validity. Interestingly, the two profiles are only slightly similar. Both profiles have dimensions labeled "Relevant" ("Relevant News" for Schlinger). However, the items used for operationalization for these two dimensions are not very similar. The other dimensions do not seem to be related between the two profiles. This would seem to indicate that further refining of the dimensions, as well as their operationalizations, would be useful research.

The third paper, "Source Independence in Multiple Source Advertising Appeals: The Confederate Effect" manipulated source independence and number of sources while measuring cognitive elaboration and attitudes. The authors postulated that in multiple source conditions, subjects would react more favorably (have more positive cognitive responses and more favorable attitudes toward brand, source and ad) under conditions where the spokesperson was perceived to be less biased. This bias measure was manipulated by letting the subjects know that the spokesperson's endorsement was paid for or offered free. However, when only one source was used, there would be no difference in response to the paid or unpaid endorser. The results supported the hypotheses in all cases.

This particular study is interesting in that it elaborates or further refines previous research concerning spokespersons' independence. Research on the "committee effect" (Harkins and Petty, 1987; Wilder, 1977) has shown independence of source to affect reaction to ads. This research points out that non-independence alone does not minimize cognitive elaboration. Rather, multiple sources (versus a single source) is also required.

The data yielded some interesting results which might spur additional research. Although the differences were not significant, in the case of a single source the results were always more favorable for the paid source rather than the independent source, contrary to an intuitive prediction. Perhaps more powerful experimental designs might yield more significant results. Also, as the authors pointed out, a closer look at product involvement is warranted. Past studies have shown involvement to be a factor in level of agreement with an expert versus nonexpert source (Petty, et al., 1981), likable versus nonlikable source (Chaiken, 1980) and attractive versus nonattractive source (Pallack, 1983). The authors did control for these factors in the current study. However, manipulation of product involvement might yield useful results.

As a whole, this session on current issues in advertising served to refine previous work in advertising research. Most importantly, all the papers helped to define robust areas for new creative endeavor.

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Memory Structure of Brand Names

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ABSTRACT

This study proposes that the transfer of brand name memory associations to new products is determined by categorization judgments, and such judgments are influenced by the nature of the memory structure associated with the brand name. Two experiments were conducted to test these propositions with three different brand name concepts, functional, symbolic and usage situation-based brand name concepts. The results suggest that functional and usage-based brand name concepts are understood and organized according to the product characteristics or usage situations of the products while symbolic brand name concepts are organized in terms of their direct linkage to the superordinate concept. Several implications on these differences in memory structure of different brand name concepts are offered.

One of the most valuable resources a firm has in the marketplace is the reputation of its brand name. Consumers often rely on a brand name as an important information cue in evaluating products (see Park and Lessig 1981, for example). This would be particularly true in situations where consumers are attempting to evaluate new products which have been introduced using an existing brand name (brand name extension). Although brand name extension strategies are becoming more prevalent (Nielson 1985, Kesler 1987), little is known about consumers' responses to these strategies (Aaker and Keller 1987).

One assumption underlying the use of brand extension strategies seems to be that consumers' responses to a brand extension will be based, in part, on existing brand name associations stored in memory and these associations, including affect, will transfer to the new products. The relevant question here is when and how these associations will be transferred? We propose that 1) the transfer of associations is determined by categorization judgments, in particular assessing category membership in terms of goodness of fit and 2) that such judgments are influenced by the nature of the memory structure associated with the brand name.

In other words, memory associations and affect will transfer when consumers identify a new instance, in this case a brand extension, as a member of a particular category (Cohen 1982, Fiske 1982, Hutchinson and Alba 1985, Sujan 1985). The processes of these judgments, however, differ, depending on the type of brand name and the memory structure associated with it.

One can think of brand names as both helping to define category membership (Cohen 1982) and as organizing product-category associations. Some brand names are represented in memory based on individual features and cues (feature-based) while others are represented in memory based on a more abstract holistic array of cues (concept-based). With feature-based brand names consumers judge "goodness of fit" based on whether the extension shares some critical feature or features (e.g., physical attributes, functions, usage context). For example, the brand name Honda is promoted and understood in terms of products that are related to small gasoline engines, Arm and Hammer is understood in terms of products that are related to deodorizing functions and Coleman in terms of products related to outdoor camping. In the case of Honda and Arm and Hammer, "goodness of fit" judgments would be based on whether the extensions were perceived as sharing physical attributes (small gasoline engine) or as performing similar functions (deodorizing function). For extensions introduced with the Coleman brand name "goodness of fit" would be based on whether consumers perceive the extensions as sharing the same usage context.

On the other hand, for brand names promoted and represented in memory based on a more abstract array of cues, category membership is assessed in terms of some overall criterion of fit and not by the presence or absence of readily identifiable common features. For example, the brand names Rolex, Jaguar and Gucci are understood in terms of abstract concepts such as high status, luxury and wealth. Consumers determine how well the extension fits with the concept implied by the category label (Cohen and Basu 1987) and not with individual features.

It is important to note that for brand names represented by feature-based memory structures (functional and usage) judgments of category membership is related to the identifiable or inherent relationships among the products (e.g., shared physical attributes, functions, usage context). Whereas, for those brand names represented by concept-based memory structures (symbolic) judgments of fit are independent of any identifiable or inherent relationships among the products. It is the concept of the brand name that provides a link between products that would not otherwise exist.

Although previous research has demonstrated that category membership (fit) and liking for extensions is based on perceptions of shared physical and functional characteristics (University of Minnesota Consumer Behavior Seminar, 1987), no research has demonstrated that category membership can also be usage-based and concept-based as well. The purpose of the present research then is to: 1) demonstrate that different brand name concepts (symbolic, functional, usage) are associated with different memory structures (Experiment 1) and 2) demonstrate that different memory structures associated with brand name concepts affect categorization judgments for existing products and by implication for brand extensions as well (Experiment 2). More specifically, we seek empirical data supporting the idea that categorization judgments are based not only on shared physical or functional attributes among products but can be usage or concept-based as well, depending on the nature of the memory structures associated with a particular brand name. We believe that this line of research will help marketers better understand how consumers evaluate brand name extensions.

EXPERIMENT 1

Rationale

The purpose of Experiment 1 is to investigate differences in brand name memory structure that may exist among different types of brand names (Park, Jaworski and MacInnis 1986) with respect to whether or not a linkage exists between brand names and superordinate concepts. We expect that brand names associated with the symbolic concept differ from those brand names associated with functional or usage concepts in that a superordinate linkage exists in the former concept but not in the latter concepts when products do not share common features.

More specifically, when individual brand names are understood on the basis of the functional features or usage context, perceptions of commonality among such brand names will also be based on such characteristics or cues. However, these features or cues associated with each brand name are not often shared among the brand names. Relating different brand names to one another based on common features or cues would, therefore, be difficult. Consumers in this situation are expected to engage in the reconstruction process of internal memory in an attempt to identify the common characteristics that serve as a superordinate concept. To perform this type of problem solving task will take time. Due to the absence of an organizing concept category among these brand names that facilitates retrieval, recall of these brand names is also expected to be difficult.

When a brand name is promoted with concepts difficult to describe with individual features (symbolic), they are best understood by the Gestalt arrangement of multiple cues. Concepts like wealth or high status may best be understood through associations with unique combinations of product, person and usage situational setting. For example, consumers come to understand the brand name Rolex when the product (watch) is promoted using persons (e.g. Donald Trump) and situations (e.g. yacht party) associated with the concepts of luxury and status. Following the same process, when a brand name like Gucci successfully elicits one of these unique combinations the name Gucci will also be understood as the company promoting status consciousness. Since these unique combinations all belong to the same concept category (luxury, status), consumers are expected to identify the commonality across these brand names readily. When there is a recognition of a common superordinate concept among these brand names, that concept itself serves as a retrieval cue for brand name recall.

In Experiment 1, in which subjects are given the task of thinking of what reasons sets of symbolic, functional and usage-based brand names have in common and then are given an unexpected recall task, we hypothesize a greater rate of brand name concept identification and better recall performance for the symbolic list than for the other two. This pattern of results would occur if consumers first realized the basis of commonality for the symbolic brands and then used this knowledge as a retrieval cue to aid their recall of the list members.

Method

Subjects consisted of a class of 35 MBA students from a large Eastern University. At the beginning of the session, they were given a test booklet which contained all the materials necessary for completing their tasks. The materials were three lists of 11 brand names each of which varied on the dimension of brand name concept. One list contained *symbolic* brand name concepts with each brand name conveying the idea of luxury and high status. Another list contained *functional* brand name concepts in which the products associated with each brand name shared certain features such as General Electric products all having to do with electronics. A final list contained *usage-based* brand name concepts in which products associated with each brand name shared a common usage context, such as Coppertone products being used for skin care in "sun-related" activities.[1]

These three lists, which are shown in Table 1(a), were presented to subjects in counterbalanced order on successive pages of the test booklet. Upon inspecting these lists their task was to list the reason or reasons that these particular brand names were included as members of the list. In addition, subjects were asked to note the time to the nearest second at three separate points for each list: when they started reading each list, when they thought of their first reason and when they thought of their last reason.

Following this search for common bases, subjects were unexpectedly asked to recall the brand names in each of the three lists. They were given as much time as needed. Finally, subjects were asked to turn back to each list and rate their familiarity with each brand name on a seven-point scale with greater familiarity being indicated with a higher number.

Results

Reasons for Grouping. In general, subjects were able to comprehend the experimenter-defined underlying basis for the symbolic list, but not for the functional or usage-based list. Two judges independently found that of 35 subjects, *30* supplied satisfactory reasons for the symbolic list, only one was able to identify the underlying functional basis, and no subject identified the usage-based rationale. In addition, subjects required significantly less time to think of their first reason for the symbolic brand names ($X=26.44$ sec.) than for the functional ($X=80.63$ sec.) or usage-based ($X=87.19$ sec.) brand names ($F(2,30)=6.95$, $p<.01$). A common strategy for dealing with the functional or usage-based lists was to

[1]The items comprising each list were chosen on the basis of experimenter judgment and confirmed in a separate study in which an independent group of subjects assigned brand names to one of these three categories.

TABLE 1

List of Brand Names (Experiment 1) and Products (Experiment 2)

(a) Brand Name Lists - Experiment 1

Functional	Symbolic	Usage-Based
Honda	Calvin Klein	Wilson
Sony	Yves St. Lauren	Corning
Arm & Hammer	Tiffany	Coppertone
Johnson & Johnson	Mercedes	Kellogs
Tide	Lenox	Vicks
General Electric	Rolex	Nike
Clorox	Gucci	Kodak
Xerox	Reebok	Totes
Bic	Brooks Brothers	Gatorade
Ivory	Bloomingdales	Swanson
Apple	Jaguar	Adidas

(b) Product Lists - Experiment 2

Functional (Sony)	Symbolic (Gucci)	Usage-Based (Coleman)
TV	Perfume	Lantern
Compact Disk Player	Shoes	Camp Stove
Cassette Tapes	Wallets	Cooler
Radio	Shirts	Jug
Video Tapes	Handbags	Sleeping Bag
VCR	Pens	Portable Heaters
Walkman	Luggage	Mess Kit
Car Stereo	Watch	Life Vest
Video Camera	Belts	Backpack
Turntable	Crystal	Canoe
Headphones	Neckties	Tent

find subsets of common product classes (e.g., Wilson, Nike, Adidas - sports equipment; Tide, Clorox, Ivory - cleaning supplies) and identify the function of those subsets.

List Recall. The hypothesis that memory for the symbolic brand names (X=6.60) would be superior to the functional (X=5.77) and usage-based (X=4.83) brand names was confirmed ($F(2,68)=9.24$, $P<.001$). This memory advantage for the symbolic list occurred in spite of indications that subjects spent less total time ($F(2,28)=3.05$; $P=.06$) pondering the symbolic list (X=139 sec.) than the functional (X=217 sec.) or usage-based (X=230 sec.) lists.

Also, the familiarity ratings indicate that the memory advantage for the symbolic lists cannot be explained by subjects' greater familiarity with the symbolic brand names. To the contrary, familiarity ratings were lower for the symbolic brand names (X=5.33) than for the functional (X=5.72) or usage-based (X=5.44) brands ($F(2,58)=2.75$; $P=.07$).

Discussion

The results of the first experiment indicate the concept of symbolic brand name has a degree of psychological reality for consumers that is not present for functional or usage-based brand name concepts. When brand names from each of these three categories are grouped together and presented for consumers' inspection, they were easily able to identify the underlying basis of the symbolic list but not of the other two lists. In addition, the superior recall of the symbolic list points to a memory structure for symbolic brand names such that a linkage exists between the individual brand name concepts and the superordinate level of "high-status" brands.

EXPERIMENT 2

Rationale

Insofar as Experiment 1 provided evidence of the "upward" memory links that exist between brand names and their associated superordinate concepts, at least in the case of the symbolic category of brand name, Experiment 2 seeks to investigate the nature of the "downward" linkages that exist between brand names and their associated products. In particular we propose that products associated with functional and usage-based brand name concepts are bound together by *similarities* that are inherent to the product lists themselves, either in sharing the same features or usage situations; whereas products that are associated with a symbolic brand name are not directly linked, but rather depend upon the brand name itself to supply the underlying common concept to which the various products are perceived as *fitting* together.

To test this hypothesis, we presented lists of products associated with each of the three brand name concepts either with or without the brand name as an organizing label for the list, and measured judgments of similarity and fit.

Starting with the assumption that the *similarity* judgment task is based on shared product features (Tversky 1977), we reasoned that this judgment would not be affected by the presence of the brand name label. This is expected since the perception of similarity of the symbolic, functional and usage-based products is based on direct product to product comparisons, and not on the presence of brand name labels. On the other hand, the *fit* judgment encouraged other processes to occur in addition to the assessment of shared product features.

Specifically, the fit judgment is expected to occur in two different ways. First, when the products share the common features, the features may serve directly as the superordinate concept which, in turn, brings the products together, thus facilitating the fit judgment. Second, when the products are linked to the superordinate concept directly, they may also be judged as fitting together. Therefore, even if products do not share the common features (are not perceived as similar), they may be judged as fitting together as long as they are directly linked to the superordinate concept. With this reasoning we hypothesize that the fit judgment for the symbolic brand name list would be positively affected by the presence of the brand name because it supplies the underlying abstract concept that ties the products together. By contrast, this judgment for the functional and usage-based brand name lists should not be affected by the presence of the brand name label, because as noted earlier, the inherent similarity of these products to each other is based on the common features among them.

Method

As in Experiment 1, subjects were asked to find bases on commonality in lists associated with symbolic, functional and usage-based brand name concepts. This time, however, the lists which are shown in Table 1(b), consisted of eleven names of products associated with three different brands, chosen to represent the three different categories of brand name concepts: Gucci (symbolic), Sony (functional) and Coleman (usage-based). The lists were presented under one of two brand name conditions: with the brand name present and with it absent. This resulted in a mixed experimental design with brand name presence as the between subjects factor and lists as the within subjects factor.

Thirty-eight subjects, who were MBA students from the same institution as the Experiment 1 subjects, were first asked to inspect the lists of products for the purpose of stating reasons why "the products may or may not belong together." They were then asked to rate these products on a seven-point scales according to (a) how the products "fit together as a group," and (b) the extent to which they were similar to each other. The reasons and rating scale items were completed together for one set of products at time before proceeding to the next set. The three lists were presented in counterbalanced order.

While doing these tasks, half the subjects were simply presented with the list of products, while the other half received the associated brand name as a label heading for the lists and as an adjective for each product. This redundancy was intended to insure that subjects processed the brand name.

Results

Ratings of Similarity and Fit. The mean similarity and fit ratings are presented in Table 2. Overall, subjects' ratings of similarity and fit indicate that perceptions of product belongingness are greater for the functional (Sony) and usage-based (Coleman) brand names than for the symbolic (Gucci) brand name. Using seven-point scales, subjects gave mean "similarity" ratings of 5.16, 5.05 and 3.53 for the Sony, Coleman and Gucci products, respectively across the two brand name conditions ($F(2,72)=29.55$, $P<.001$), and mean "fit" ratings of 5.84, 6.29 and 4.21 for those three brands, respectively ($F(2,72)=36.10$, $P<.001$). Both similarity and fit ratings were significantly higher for the functional and usage-based brand names than for the symbolic brand name. This appears to be due to the inherent product similarity present in the functional (Sony) and usage-based (Coleman) brand names when compared to those in the symbolic brand name (Gucci). However, neither rating task produced a significant main effect of brand name presence condition, with perceptions of similarity being slightly higher for the brand name absent condition ($F(1,36)=.51$) and perceptions of fit being slightly higher for the brand name present condition ($F(1,36)=2.08$, $P<.15$). As expected, the presence or absence of brand name did not affect the similarity judgment of products for each type of brand name.

The most interesting aspect of the data concerns the Lists by Brand Name Condition interactions. Here the prediction was that symbolic brand show higher fit (but not similarity) ratings when the brand name was present while the other brands would not be affected by the brand name presence. This pattern of results did occur. For the fit ratings, the interaction effect reached borderline significance ($F(2,72)=3.01$, $P=.055$) which reflects the fact that subjects perceived Gucci products as fitting together more ($t(36)=2.07$, $P<.05$) when the brand name was present ($X=4.74$) than when it was absent ($X=3.68$).

Such an increase in similarity ratings did not occur for the Gucci list when the brand name was present ($X=3.37$ vs. 3.68 for the brand name absent and brand name present conditions, respectively). It was not expected, however, that subjects perceived products as more similar when the brand name Sony was absent ($X=5.74$) than when it was present ($X=4.58$). This produced the significant interaction of lists and brand name conditions ($F(2, 72) = 5.33$, $P<0.01$) for the similarity measure. It appears that some of the products listed under the name Sony such

TABLE 2

Mean Similarity and Fit Ratings in Experiment 2

	SIMILARITY			FIT		
	Brand Name Concept			Brand Name Concept		
	Functional (Sony)	Symbolic (Gucci)	Usage-Based (Coleman)	Functional (Sony)	Symbolic (Gucci)	Usage-Based (Coleman)
Brand Name Present	4.58	3.68	5.05	5.74	4.74	6.47
Brand Name Absent	5.74	3.37	5.05	5.95	3.68	6.11

as cassette tapes, video tapes, car stereo and turntable might not have been typically associated with the Sony brand name. This may have negatively influenced subjects' judgments of product similarity under the presence of Sony brand name. Subjects appear to be highly sensitive in judging the similarity among products under the functional brand name. This result suggests that for the functional concept the brand name extension has a very limited boundary. In summary, as predicted, the presence of the brand name enhanced fit ratings, but not similarity ratings, for the symbolic brand; and failed to increase either the fit or similarity ratings for the functional and usage-based brands.

GENERAL DISCUSSION

The results of these two studies together suggest that different categories of brand names are structured differently in consumers' minds. Symbolic brand names, when presented to consumers in a list, are understood as representatives of a superordinate concept with a meaning akin to "products that are luxurious, high-status and expensive." By contrast, functional or usage-based brand name concepts are concepts that are not spontaneously articulated by subjects when presented with lists of brand names. Rather, brand names classified under these concepts appear to be understood in terms of their associated products without being understood in terms of the superordinate concept. Subjects' ratings of similarity and fit showed the same patterns for the functional and usage-based brand names; they were not increased by the presence of the brand name. On the other hand, subjects' judgment of how well the products fit together was enhanced by presenting the symbolic brand name.

According to our view, this occurred because subjects perceived the inherent feature-based similarity of the functional and usage-based product lists, and did not need the brand name as a cue to accomplish this. By contrast, the low similarity symbolic brand name product list was perceived as fitting together better when the brand name was presented because the brand name supplied the unifying superordinate symbolic concept that served as the basis for commonality. In other words, the presence of the Gucci brand name allowed subjects to see that such dissimilar products as belts, perfume, pens, etc. "fit together" because they could be luxury, high-status products.

We believe that these differences in memory structure for these different categories of brand name concept have definite implications for understanding how consumers perceive brand name extensions. Because functional and usage-based brand name concepts are understood and organized according to the product characteristics or usage situations of the products, a proposed extension will be judged according to the feature-based *similarity* of the new product to the existing set of products. Whatever beliefs and attitudes consumers have for the existing brand name and its products will transfer to the new product to the extent that it is similar to the features or uses of the existing products. The features or uses of the existing products will, therefore, serve as the extension boundary.

However, evaluations of extensions for symbolic brand names should follow a different process. Instead of referring to the existing products for a similarity check, subjects will assess whether or not the new extension could "fit" that concept. One immediate implication of this distinction is that there exists a greater latitude of acceptability for extensions for symbolic brand names than for functional or usage-based brand names.

Another interesting distinction that has surfaced in this research is the one between judgments of similarity and judgments of fit. When a new instance is assessed for membership in some category, that process of categorization appears to vary depending upon the nature of the existing memory structure. One method of categorizing is based upon comparing features of the new instance to features of already categorized instances. However, the results of Experiment 2 suggest that such judgments of similarity may not be the only basis for categorization; under some circumstances, subjects make judgments of fit. In this case, the new instance is compared to an abstract concept. Further research on basis categorization processes is needed to fully understand brand name extension phenomena (cf. Cohen and Basu 1987).

Finally, the existence of different memory structures for different brand name concepts suggests that different processes are responsible for their formation. Functional or usage-based brand name concepts, whose associated products share common features, may be formed according to a "bottom-up" type of process, in which the brand name concept is abstracted as a result of promotion or being exposed to the brand name's different individual products. For example, consumers may come to understand Honda as "small, gasoline engine-based" products because of their exposure to Honda's motorcycle, compact car, lawnmower, snowblower, generator, etc. The formation of the symbolic brand name concept, however, may follow a different "top-down" course because the brand name is promoted with concepts that are difficult to describe with individual features. Symbolic concepts like wealth or high-status may come to be understood by consumers with unique combinations of product, person or usage situational setting. As long as products are positioned properly, establishing associations with the superordinate concept, they would be understood in terms of that concept. This may account for the formation of the symbolic brand name. Therefore, another direction for future research would be to explore how brand name concepts are initially formed.

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Deviant Consumer Behavior

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ABSTRACT

Although sociologists and psychologists have been studying deviant behavior and delinquency for several decades, consumer researchers have ignored specific aspects of product acquisition and consumption processes which can be characterized as "deviant" consumer behaviors, including various types of negligent and fraudulent behaviors. The purpose of this research is (a) to present an approach for studying certain aspects of consumer behaviors which can be considered to be deviant, and (b) to present a framework for future research.

INTRODUCTION

Traditionally, most consumer behavior research has been aimed either at improving firms' marketing activities or increasing the effectiveness of consumers themselves. As a result, the focus of much of consumer research has been on behaviors which are *desirable* either from the marketer's point of view (e.g.,brand loyalty and store loyalty) or from that of consumers (e.g., comparison shopping and information seeking). Considerably less attention has been devoted to understanding *undesirable* consumer behaviors, that is, those that have negative consequences for businesses and/or for society as a whole. Such behaviors might include "negligent" activities, such as product misuse, credit abuse and not using seat belts (Faber and O'Guinn 1988; Lastovicka et al. 1987; Mowen 1987), as well as fraudulent behaviors, such as shoplifting and coupon misredemption.

The purpose of this paper is to show how previous behavioral research on "deviant" human behavior can offer insights into what might be termed "deviant consumer behavior," and provide a framework for research.

CONCEPTUAL FRAMEWORK

Deviant Consumer Behavior

Behavior is generally defined as "deviant" when it differs from some norm or standard (Deutsch and Kraus 1965; Sarason 1972). These standards or norms are in the form of customs, manners, rules and regulations, laws, and mores. To the extent the individual's behavior deviates from such norms it is considered by society to be undesirable, unacceptable, or dysfunctional--i.e., deviant.

Implicit in this definition is the assumption that society prescribes criteria for its members' behaviors; and that relevant criteria are based on normative theories of human behavior, reflecting efforts on the part of some society's members to regulate the behavior of other members so that certain desirable consequences follow (Brim 1966). Deviancy then can also be defined in terms of frequency or degree to which the individual deviates from society's norms and prescribed behaviors. For example, an individual may exhibit a non-conforming behavior more frequently than others; or s/he may commit several types (number) of deviant behaviors.

Prescribed criteria can also vary in terms of specificity/clarity and importance to society. For example, society expects its members to be "rational" consumers in the marketplace, but rationality is neither explicit nor clear. Generally, society appears to make few demands when the prescribed norm is not explicit and does not directly affect the functioning of the societal system. For example, use of unit pricing information is a desirable behavioral norm but it does not have clear adverse effect upon other consumers in the marketplace. For behaviors which can disrupt the functioning of a system, society tends to be more demanding upon its members by passing legislation and regulating behaviors. For example, exchange is fundamental to the healthy functioning of the marketplace, and society mandates its desires to its members through rules and regulations governing the exchange process. Thus, certain aspects of desirable or normative behaviors are not regulated, other aspects are regulated and are mandatory.

The distinction between regulated and nonregulated normative behaviors appears to be important, since deviance in each area would have different consequences upon the individual deviating from the norm and upon society. For example, product misuse or compulsive behavior can at best be termed as "negligent," but violating the law is a crime. Even for criminal behaviors, however, society has sanctions based upon the seriousness of the crime (e.g., parking ticket vs. arrest due to drunken driving).

The preceding discussion about the distinction between normative vs. deviant behavior and regulated vs. nonregulated can be summarized in the Figure. This figure is not by any means to represent the definitive typology of consumer behaviors from a societal perspective; it is merely used to provide some direction at preliminary stages of research in this area.

Because the marketplace is not homogeneous in terms of individual needs, values and behaviors, consumers are not likely to always agree upon consumption norms (e.g., areas where smoking should be restricted). Furthermore, consumer behaviors which simply deviate from norms held by the majority of consumers and which are dysfunctional for society may not always constitute deviant consumer behaviors. Thus, for example, a person may deviate markedly from food consumption norms (e.g., being a vegetarian) or may engage in behaviors which may be considered dysfunctional (e.g., impulse buying, materialism, brand loyalty) because such behaviors may not result in efficient allocation of resources (Aaker and Myers 1971; Maynes 1976). Yet, it could be argued that these behaviors would not be deviant because they may result in greater consumer satisfaction and shopping efficiency, and even economic well-being.

FIGURE

A Typology of Consumer Behavior From Society's Perspective

Desirability of Behavior	Demands Placed upon its Members: Non-Regulated Behavoir	Demands Placed upon its Members: Regulated Behavior
Normative	RATIONAL (Examples): •product information use •energy conservation •recycling	MANDATORY (Examples): •Exchange •Payment systems •Driving
Deviant	NEGLIGENT (Examples): •compulsive behavior •product misuse •impulse buying	CRIMINAL/FRAUDULENT (Examples): •Shoplifting •Credit card fraud •Drunken driving

Although we cannot dismiss the importance of socially desirable norms (assumptions such as "the world would be better off if people did more comparison shopping and conserved more energy"), "true" deviant consumer behavior (for research priority purposes) should focus upon those behaviors which society through formal agencies (e.g., law enforcement and judiciary systems) imposes restrictions and sanctions upon its members so that certain desirable consequences will follow. Because regulated aspects of consumption are always consistent with norms of some groups (usually the majority) they are also likely to be desirable for society in general. Thus, the empirical test for classifying an aspect of consumer behavior as deviant is whether or not the specific behavior (or its consequences) is regulated by a formal agency or system.

Furthermore it should be noted that the distinction between desirable and undesirable (deviant) consumer behaviors is unique to a particular culture, time, or social setting (Sarason 1972), and is subject to change as society imposes new regulations and sanctions. For example, nonuse of car seat belt laws is now considered to be a deviant form of behavior as a result of recent mandatory car seat belt laws in some states. Similarly, driving speed limit laws are unique to a given country (e.g., they do not exist in Germany) and have changed over time. The learning of new patterns of behavior (e.g., wearing seat belts, driving at lower speeds) falls into the classic area of resocialization (Brim 1966; Riesman and Roseborough 1955).

Theoretical Perspectives

Deviancy is a subject of "abnormal psychology" which is preoccupied with the study of human failures and inadequacies, often referred to "personal maladaptations" (Sarason 1972). The history of the concepts about deviancy and maladaptation is a rich and fascinating one, dating centuries ago in the works of Greek, Roman and Arabic scholars (Sarason 1972).

Social scientists have used a variety of approaches to the study of deviant behavior. Such approaches relied on psychoanalytic, psycho-social, sociological and even biological perspectives (Sarason 1972). Although these approaches represent different views, they have been recently viewed as complementary to the study of the phenomenon. Sarason (1972) notes: "Increasingly ... these divergencies are viewed as complementary approaches to conceptualizing the broader social context within which maladaptive behavior occurs" (p. 118).

Most of these perspectives emphasize the *processes* which characterize the development of deviancy, and deviance is generally viewed as a consequence of poor socialization. Specifically, deviant behavior is viewed as a consequence of deviant socialization experiences--that is, socialization to deviant norms--or of an inappropriate or inadequate communication of norms, or it might result from the individual's emotional or rational rejection of norms (Clausen1968).

Robert K. Merton, a sociologist and author of an influential theory of anomie and the effects of accepted status goals on individual behavior, is believed to have made an important contribution to our understanding of the way in which deviant behavior develops (Deutsch and Krauss 1965, pp. 198-203). In his book, *Social Theory and Social Structure* (Merton 1957) he offers rich insights into the way in which such deviant behavior is produced by specific types of social structures. According to Merton, each cultural or social system defines legitimate goals for its members as well as legitimate means for attaining these goals (Merton 1957, 132-33). For example, in our culture, affluence is a near-universal goal, but fraud is not a legitimate means of attaining it. The socially acceptable means are often referred to as "institutionalized means" (Deutsch and Krauss 1965, p. 199). When the integration of goals and means is lacking in a social structure of a culture, a state of "anomie" results and the individual may employ several modes of adaptation, two of which are associated with deviant behavior: innovation and rebellion (Merton 1957).

Innovation may occur when a person accepts a cultural goal but rejects the institutionalized means of attaining it. Instead, s/he may select means which are not legitimate in terms of the culture's value system, seeking adaptation to the culture via deviant behaviors. For example, when monetary success is a cultural goal but is prohibited to some individuals due to race or religion, new means of goal attainment can be expected (e.g., fraud, robbery). *Rebellion*, on the other hand, as a mode of adaptation "consists of both a rejection of the culture's values and institutions and the substitution of a new set of values and institutions" (Deutsch and Krauss 1965, p. 201).

Merton has contended that most forms of deviant behavior can be explained by social structure variables, particularly social class. According to Merton, deviant behavior arises as a result of lack of opportunity to succeed through legitimate means within the social structure. The individual either is likely to reject society's sanctioned routes to goal attainment as inappropriate for him/her or is more vulnerable to pressures to behave deviantly.

Another important contributor to the theory of social structure and anomie is Cloward (1959) who observed that individuals have access to institutional means of attaining culturally prescribed goals as well as to illegitimate means of goal attainment. The availability of legitimate and illegitimate means of goal attainment are both limited and differentially available, depending upon the person's location in the social structure.

Both Merton (1957) and Cloward (1959) stress the importance of social environment in the development of deviant behavior. For example, Merton observes that socialization among the middle class emphasizes the importance of rules and obedience; therefore, members of the middle class would be less likely to use innovative means of achieving culturally accepted goals. Rather, innovation is the typical mode of adaptation in lower-social classes where less stress is placed on the importance of rules. Similarly, Cloward (1959) emphasizes the social environment within which socialization to deviant behavior occurs, referring to (a) "appropriate learning environments for the acquisition of values and skills associated with the performance of a particular role" (p. 168), and (b) opportunities to perform the role once the skills are acquired.

Brim (1966) also discusses the acquisition of dysfunctional behaviors, norms and attitudes from a socialization perspective. According to Brim, the main responsibility (causal factor) for deviance lies in the ways in which society (through its socialization agents) has socialized the person. Brim emphasizes the socialization perspective not only in explaining the roots of deviance, but in prescribing its treatment as well. He suggests that society can treat deviance through resocialization, using techniques in line with the reasons for behavior.

> Where ignorance is the cause, education; where lack of ability is the difficulty, improved training; where motivation is the problem, a planned and deliberately executed program of manipulation of rewards and punishments to reorient the individual to appropriate goals and behavior (Brim 1966, p.43)

The work of Sutherland (1937) also deserves attention. His theory offers insights into the development of criminal behavior and it has influenced efforts to resocialize criminals. Sutherland's *differential association theory*, which has much in common with learning theories of criminality (cf. Sarason 1972), argues that criminal behavior is learned the same way as behavior that conforms to the norms and expectations of society, with the criminal receiving reinforcement (usually from deviant peers) for behaving antisocially.

Finally, developmental psychologists (e.g., Erikson, Kohlberg) have offered insights into deviant behavior by suggesting that deviant behavior may be the result of the person's inability to engage in moral reasoning because of incomplete cognitive development (Kohlberg 1976). However, unlike sociological theories, developmental theories explain behavior primarily at earlier stages in the life cycle.

Deviant Consumer Socialization

The socialization approach to the study of deviant behavior is not only the underlying theme of the various theoretical perspectives, but also a frame work for integrating these theories and studying them as complementary rather than divergent views (Moschis 1987; Sarason 1972). Thus, using the general notions of socialization to deviant behaviors, norms and values, one can define socialization to deviant consumption-related orientations as the process of acquisition of those consumer orientations considered to be illegal. Thus, within a broader context of socialization and existing models of consumer learning (e.g., Moschis 1987; Moschis and Churchill 1978), the criterion variable is the outcome of deviant consumer socialization--i.e., deviant consumer behaviors. Explanations for specific types of deviant behavior can be sought in two types of variables which not only are commonly used in consumer socialization literature but they are also suggested by deviant theory: (a) antecedent variables which locate the person in a social structure, and (b) specific agent-to-learner relationships (commonly referred to as "socialization processes").

The presence and influence of specific antecedent variables, socialization processes on outcomes are suggested by theory and research. For example, as a social structure, social class is a key condition for maladaptive and deviant behavior according to theoretical notions advanced by Merton (1957) and Cloward (1957), whereas age (another antecedent variable) is an explanatory factor in cognitive developmental models (e.g., Kohlberg 1976); and socialization processes are the explanatory factors in sociological models (e.g., Brim 1966, Sutherland 1937). The influence of antecedent variables in the consumer socialization model may not only be direct but also indirect via socialization processes (Moschis and Churchill 1978), and similar possibilities exist for deviant consumer socialization (e.g., Cloward 1959; Merton 1957; Sarason 1972).

While deviant consumer behavior and socialization to deviant orientations may occur at any age, research which focuses on youths might be particularly rewarding for two reasons: first, consumer socialization and contemporary delinquency-deviance literature suggest that childhood and adolescence may be the most crucial periods for the acquisition of consumption-related orientations, both desirable and undesirable (e.g., Klemke 1982; Moschis 1987; Moschis and Churchill 1978); second, these age groups are the most likely to commit deviant behaviors (e.g., shoplift) (*Stores* 1971; Verill 1978).

Explanatory Variables

Sociological theories and research on crime and delinquency, as well as theories of social and moral development provide useful bases for studying relationships between specific variables in the context of socialization to deviant consumer behaviors. In this section, examples of relevant antecedent variables and socialization processes are presented and guided by such theories, and only variables which can be derived from, or interpreted in the context of theory and research are proposed. Thus, the list of variables chosen from each category in the socialization model is not necessarily exhaustive; and it would vary by specific type of deviant consumer behavior investigated. The direct effects of antecedent variables are examined first, followed by the main effects of socialization processes and antecedent-process interactions.

Antecedents of Deviant Consumer Behavior. Maturation can help us understand certain aspects of development and change in dysfunctional consumer behaviors. Kohlberg (1976), for example, has focused our attention on adolescence as a period of moral growth during which a person develops the ability to engage in moral reasoning. During this period the youth is expected to lose the ego-centric orientation developed during childhood and to begin considering relevant others and society. Beginning in early adolescence the child becomes increasingly concerned with the mandates of society and the internalization of the belief that morality is defined by law and moral codes. This process is believed to be completed by the time the adolescent has entered adulthood, at which stage the importance of laws and rules to the functioning of society have been completely internalized.

Social class has also been linked to delinquency and dysfunctional behaviors. Theory suggests that children from upper classes are more likely to obey society's rules than their lower-class counterparts (Merton 1957). Research also has found that low educational level and poor educational achievement among young people are related to the tendency to seek danger on the road (Maki, Tallqvist and Prigogine 1975).

Hess (1970) cites *broken homes* as an antecedent factor contributing to delinquency. According to Hess, children in families where parental attention and warmth are lacking are more likely to become alienated and commit behaviors not approved by their parents. The presence of both parents is expected to enhance the likelihood of receiving parental support; parental absence may deter it, leading to alienation and delinquency.

Deviant Socialization Processes. Theoretical explanations for the reason "significant others" may be deviant socialization agents can be found in Sutherland's (1937) differential association theory, Linden and Hackler's (1973) affective ties theory, and Klemke's (1982) deviant socialization hypothesis. Although these writers are not very explicit with respect to specific types of socialization agents involved, all of them include peers as potential deviant socialization agents.

The influence of peers is contingent upon a host of interpersonal and antecedent variables. For example, sociologists have stressed the importance of the nature of the relationships youths have within their immediate social networks and within the larger social structure (Cohen 1955; Cloward and Ohlin 1960; Empey 1978; Hirschi 1969; Matza 1969; Polk and Schafer 1972). As a social system, the family appears to play a significant role in defining the extent to which peers affect the youth's involvement in delinquent activities. Reliance on peers may also be a function of the amount of time the youth spends with his/her parents. In families where parents, especially mothers, dedicate their time to outside careers, youths tend to gravitate toward nonfamilial peer groups. Specifically, in homes where one or both parents are frequently absent the child is likely not only to become more dependent on peers but also to become more alienated, a condition which may lead to performance of activities disapproved by parents, including delinquent behaviors (Sebald 1968). In fact, the somewhat limited data available on social, psychological, and behavioral correlates of youthful drinking and driving problems indicate some association between feelings of rebellion, hostility and alienation and increased numbers of traffic violations and accidents (Cameron 1982).

DISCUSSION

Previous consumer research has focused on understanding normative aspects of consumer behavior, contributing to higher sales for businesses, effective and efficient allocation of resources, more satisfied consumers, and the like. Considerably less attention has been devoted to understanding those aspects of consumer behavior which have undesirable consequences on businesses in the form of higher costs and upon society in the form of higher prices for consumers. This research has shown how the field of consumer behavior can expand its boundaries to include the examination of deviant consumer behaviors, along the same lines social scientists have investigated several aspects of deviant behavior.

Future research could examine consumer deviancy based on theories of deviant behavior within the context of socialization. Research that would focus on the development of a typology of deviant consumer behaviors could be particularly useful in helping researchers approach the area in a systematic and consistent way. The present research has attempted to present an approach to the study of deviant aspects of consumer behavior. By taking advantage of past work in other fields, select variables were identified having their roots in theory and research on deviant behavior. Based on these and other variables, hypotheses can be developed for several aspects of fraudulent and negligent consumer behaviors. This research has hopefully expanded the knowledge on consumer behavior by addressing the ignored area of deviant consumer behavior and has provided a research approach for its examination.

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Classifying Compulsive Consumers: Advances in the Development of a Diagnostic Tool

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ABSTRACT

This paper reports on initial efforts to develop, employ and validate a screening measure to identify compulsive buyers. The scale is comprised of 14 psychological and economic measures which best discriminate self identified compulsive buyers from members of the general population. Construct validity for this screening instrument was then assessed by comparing responses from people who were identified as compulsive buyers with a sample of self-identified compulsive buyers on a distinct set of psychological and motivational variables. These variables had previously been found to distinguish compulsive buyers from other consumers. Use of this screening instrument with the general sample of consumers indicates that the incidence of compulsive buying in the population may be as high as 5.9%.

INTRODUCTION

Research on the phenomenon of compulsive buying was introduced into the consumer behavior literature by Faber, O'Guinn and Krych (1987) and subsequent work has extended those initial findings (Faber and O'Guinn 1988; O'Guinn and Faber 1988; Valence, d'Astous and Fourtier 1988; d'Astous and Tremblay 1989). This abnormal form of consumer behavior is typified by chronic buying episodes of a somewhat stereotyped fashion in which the consumer feels unable to stop or significantly moderate the behavior. Although compulsive buying may produce some short term positive feelings for the individual, it ultimately is disruptive to normal life functioning and produces significant negative consequences (O'Guinn and Faber 1988).

While efforts have been made to document and understand the problem of compulsive buying, none of these previous works have been able to provided an estimate of the incidence of compulsive buying. One reason for this is that much of this work has relied on self-identified subjects. While self-identified compulsive buyers can provide a rich and valuable source of information about this problem, there are some potential limitations and concerns in relying solely on self-identified respondents.

A major problem with only examining self-identified compulsive buyers is that they are likely to be at a later stage in the development of this problem behavior. Research with other forms of addictive and compulsive behaviors indicate that people generally go through denial stages and feelings that they are somehow immune from negative effects before admitting that they truly have a problem (Marlatt et al. 1988; Prochaska and DiClemente 1986; Salzman 1981). People in these earlier phases may differ from those who are able to admit they have a problem. Feelings and behaviors during these earlier periods can be examined by having people try to retrospectively report them, but such efforts are subject to errors in recall and changes in perspective that are likely to come with time and experience. A related problem is that people who seek help may be different from those who don't (Schacter 1982). By relying solely on self-identified respondents, we are unable to examine these possible differences.

Another problem with using self-identified respondents is that it prohibits us from determining the magnitude of the problem. While some anecdotal evidence indicates that compulsive buying may be more common than generally imaged (Jacoby 1986; Mundis 1986), only the development of a screening instrument would provide us with an opportunity to estimate how widespread this problem might be.

A few self-help groups such as Spender-Menders and Spenders Anonymous have published lists of questions to help people determine if they might be compulsive buyers. However, no efforts have been made to assess these as diagnostic tools. One scale, however, has been developed to measure compulsive buying (Valence, d'Astous and Tremblay 1988). This scale is comprised of 13 items which form three dimensions: a tendency to spend, a reactive aspect and post-purchase guilt. This scale has been administered by d'Astous and Tremblay (1989) to a sample of 190 Canadian consumers. However, they simply report bivariate correlations with the measure among their sample, reflecting their view that compulsive buying is not qualitatively but only quantitatively different from normal buying.

Although d'Astous and Tremblay refer to this behavior as an "extreme case of a generalized urge to buy" (1989; 2), they offer no definitional threshold for where this extremity would begin and in their analysis treat it as if it were simply a linear difference in the population.

O'Guinn and Faber (1988), on the other hand, hold that the constellation of attitudes, value orientations and economic behaviors that comprise compulsive buying represent a phenomenon that is fundamentally different from even high levels of the normal buying urge. Instead, they have shown that compulsive buying shares many similarities with other types of compulsive and addictive behaviors (Faber and O'Guinn 1988; O'Guinn and Faber 1988). The debate between a qualitative versus a quantitative difference is admittedly a difficult point to resolve here just as it has been in other areas of clinical and developmental psychology (cf. - Reese and Overton 1970).

Regardless of whether one views compulsive buying to be qualitatively or only quantitatively different from normal buying, a good measure of this trait is needed to distinguish compulsive buyers from other members of the population. This measure should also be able to provide us with an estimate of how common this problem is in the general population. It is, therefore, the purpose of this paper to report our initial efforts at building an effective screening instrument for identifying compulsive buyers and assessing the incidence of compulsive buying within the general population.

METHOD

A survey of both self identified compulsive buyers and members of the general population was employed in this effort. In the case of the problem consumers, the sample was drawn from among people who identified themselves as compulsive buyers and desired, but had not yet received, help for their problem. The sampling frame was explicitly chosen to minimize the number of people already in therapy. This was done in order to reduce the possibility of contamination in respondent's answers and clinical measures due to learned responses from the particular type of therapy employed and the acceptance of the therapist's explanation for their pathology. Of course, this approach still has problems of self selection bias, and the possibility that self-identified problem spenders will include people who have spending or debt problems but are not truly compulsive buyers. Still, this approach appears to be the best available prior to the development of a valid screening instrument.

The compulsive sample was obtained from people who had written to a California based self-help group for problem consumers. The director and founder of this organization had appeared on several radio and television talk shows throughout the U.S. and had been the subject of numerous newspaper and magazine articles. In the six months prior to this study, the organization had received approximately 1400 letters as a result of this publicity. All these letters were read and reviewed by the authors, and any letter that did not indicate that the letter writer had a personal spending problem was eliminated. Thus, people who were simply commenting on the interview or those who were writing because someone they knew had a problem, were removed from the sampling frame. The review of the letters identified about 200 that were not written by people with spending problems of their own. These were eliminated from the sampling frame and the remaining letters were stratified by states. A systematic sample, selecting two out of every three letters, yielded a final sample of 808 people who were sent questionnaires. A total of 386 completed questionnaires were returned, for a response rate of 47.8%.

To serve as a comparison group, a sample of the general population of three Illinois cities was drawn. These cities were chosen to represent a large city (Chicago), a small city (Springfield) and a more rural area (Bloomington-Normal and surrounding rural area). A sample of 800 people was drawn and sent questionnaires. After the first mailing, 129 completed questionnaires were received. A second mailing yielded another 121, and a third another 35 for a total of 285 or a response rate of 35.6%.

The questionnaire covered a wide range of dimensions. One set of items was designed to determine if the problem consumers differed significantly from the general population on a measure of compulsivity. This was assessed by a five item subset of the psychasthenia (obsessive-compulsive syndrome) scale of the MMPI. Also included in the survey were measures of materialism, fantasy, sensation seeking and items assessing feelings towards shopping and the consequences of compulsive buying. Finally, several other items were used to assess perceived and objective aspects of economic well being, debt load, credit behavior, and feelings regarding the process of buying. The majority of the items were assessed via five-point Likert type scales. For some items the scales measured the level of agreement (or disagreement) with a statement. Other questions asked respondents to indicate the frequency ("very often"; "often"; "sometimes"; "rarely" or "never") with which they engaged in various behaviors or experienced different feelings.

Analysis

The logic behind the analysis is fairly straight forward. It has six major steps:

1) Find the variables which best discriminate members of the two strata (compulsive buyers and members of the general population).

(2) Use those variables to construct a screening measure.

(3) Compare the distributions of the screener within both strata.

(4) Compare the degree of intersection of the two distributions and establish a statistically based threshold score for classifying someone as a compulsive buyer.

(5) Estimate the incidence within the general population strata.

(6) Partially validate the screener by comparing the individuals screened from the general population as being compulsive buyers with those who identified themselves as such on a separate set of more general psychological and economic measures.

As is the case in all attempts to estimate incidence of a psychopathology, we are admittedly operating with several very severe constraints. The estimate is thus inferential in the truest sense, and subject to all the same methodological problems that has historically plagued the estimation of prevalence of psychopathology, particularly given our reliance on personality measures (see Nathan 1988 for a critique.)

Previous research by O'Guinn and Faber (1988) and Faber and O'Guinn (1988) has determined a number of predisposing factors or correlates associated with individuals who identified themselves as compulsive buyers. These factors include both psychological (attitudes and emotional states associated with money and shopping, self esteem, general compulsivity, etc.) and economic (i.e., debt load) characteristics. Our task was to develop the most powerful screener possible, then to determine reasonable population parameters for it within the general population, and finally to validate it by using these other variables shown by previous research to be distinguishing characteristics.

Scale Construction

The first step of this process utilized both survey strata (compulsive and general population). A multiple discriminant analysis was used to determine the set of variables which best discriminated the compulsive strata from the comparison strata. Since our goal was to both develop a screening instrument and validate it using the same subjects, some items needed to be used in scale construction while others were reserved for validation. We chose to use items which directly asked about buying behaviors, attitudes and emotions as potential items for the scale. More general constructs which had previously been found to be associated with compulsive buyers were reserved as validation measures.

A stepwise procedure was used with a set of 32 variables which assessed psychological, motivational and behavioral aspects of buying. The development of these items emanated from two main sources. One source was the existing literature on other forms of compulsive and addictive behaviors. Several items which represented psychological states and behaviors which are commonly found to be present in several other compulsive or addictive behaviors were specifically designed to be applied here to buying situations. The remainder of the items were developed based on our previous knowledge of compulsive buying. Prior to the development of these items, we had sat in on several group therapy sessions with compulsive buyers, talked with psychiatrists and counselors working in this area and conducted both group and individual interviews with compulsive buyers to gain a greater understanding of this problem. The knowledge we gained through these efforts helped us to develop variables which represented behaviors and feelings which many compulsive buyers seemed to share. A pilot test with a small group of compulsive buyers helped us to further refine these measures (Faber, O'Guinn and Krych 1987).

Each variable in the discriminant analysis had to make a statistically significant ($p < .10$) contribution on the generalized distance measure (Wilk's lambda) to be entered and retained in the function. This level of statistical significance is advisable in the early stages of the construction of a screening instrument when the most powerful discriminating scale is the primary goal. The resultant function was comprised of 14 variables. Table 1 lists these variables in order of descending incremental discriminating power.

The derived discriminant function correctly classified 320 of the 372 people in the compulsive strata (86.02%) and 234 of the 270 in the comparison strata (86.67%), for a total of 86.29% correctly classified. It should, however, be mentioned that since both the solution and the classification were derived from the same data, the classification is to some extent inflated by idiosyncratic error. A future effort employing a separate sample for validation would therefore be worthwhile. Still, it is unlikely that this will reduce the classification power of the function in a dramatic fashion.

Our screening instrument is simply composed of the unweighted summation of the scores on the fourteen variables selected in the discriminant analysis. These are all five point Likert type scales resulting in a screening scale with a range of 14 to 70. Before proceeding further, we tested this scale within the general population for unidimensionality and internal reliability. When factor analyzed only one viable and interpretable factor emerged. The examination of internal reliability determined that Chronbach's alpha was .83. This is considered an acceptable level especially during the development of a new scale.

Incidence

In order to determine the incidence of those predisposed to compulsive buying within the general population, we had to compare the distribution of our screener within the problem shopper strata and within the general strata. By examining the extent and nature of these two distributions' overlap, we could make some inferences about probable incidence. The determination of the parameter level is essentially an arbitrary one based on statistical criteria. However, this is not only justifiable in a normative sense, in that this is the very way incidence for psychopathologies have been historically determined, but also in the sense that high scores on the screener attests to the presence of a constellation of factors which are only present when this psychopathology exists. We would thus expect very little intersection of scores from the two strata.

By examining the descriptive statistics of the two distributions offered in Table 2, one can see that only the two opposite tails of the distributions overlap. In other words, only a very few people in the general population have scores high enough on the screener to overlap with people in the compulsive strata. This, was consistent with our expectations about compulsive buying and is very encouraging.

As can be seen in Table 2, the distribution of the screener within the compulsive strata is more normal, while in the comparison strata variance is much lower and the skew toward low levels of compulsivity is great. This is exactly what would be expected in the construction of a screener for a psychopathology that one believes not to be simply high levels of a trait normally distributed throughout the general population, but a uniquely different phenomenon.

As part of the fourth step in our analysis procedure, it was necessary to determine a reasonable cut-point to be used for classification purposes. Since a primary goal in developing a screening instrument is to be able to use it to identify compulsive buyers within the general population, we made this determination based on the distance from the mean screener score within the general population strata. At approximately 1.5 standard deviations from the mean of the this group (a score of 46) one finds 30 individuals or 11.11% of the strata. At two standard

TABLE 1

Variables Discriminating Between Compulsive and Normal Consumers

1) bought things even though I couldn't afford them.
2) felt others would be horrified if they knew of my spending habits.
3) If I have any money left at the end of the pay period, just have to spend it.
4) made only the minimum payments on my credit cards.
5) bought something in order to make myself feel better.
6) wrote a check when I knew I didn't have enough money in the bank to cover it.
7) just wanted to buy things and didn't care what I bought.
8) I often buy things simply because they are on sale.
9) felt anxious or nervous on days I didn't go shopping.
10) Shopping is fun.
11) felt depressed after shopping.
12) bought something and when I got home I wasn't sure why I had bought it.
13) went on a buying binge and wasn't able to stop.
14) I really believe that having more money would solve most of my problems.

TABLE 2

Descriptive Statistics from 14 Item Compulsive Buying Scale

Strata	Mean	s.d.	Mode	Median	Skew
Compulsive	37.44	10.74	42	37	+0.18
Comparison	57.33	7.51	58	59	-1.34

(Lower scale values indicate greater agreement or compulsivity.)

deviations (or a scale value of 42) there are 16 of 270 people or 5.93%.

We chose to use the two standard deviation criteria. Two standard deviations is admittedly an arbitrary point, but after careful examination of the two distributions, and their intersection, it seemed like a reasonable and fairly conservative choice. People in this tail of the distribution clearly overlap with those in the compulsive strata. A score of 42 also represented the modal score for the self identified compulsive buyers. Thus, people in the general population scoring 42 or lower (lower scores indicated a greater level of compulsive buying) would seem to score similarly on this measure to self identified compulsive buyers.

According to this definitional criterion, approximately 6% of the general population could reasonably be classified as being at risk or predisposed to compulsive buying. Since it seems to be a progressive disorder (d'Astous and Tremblay 1989; Faber and O'Guinn 1988; O'Guinn and Faber 1988) the estimate could be reasonably lowered or raised depending upon some stage criterion. It is also unlikely, given the mix of variables within the screener which deal specifically with aspects of shopping that we are simply picking members of the population with so called compulsive personalities. Still, our estimate here should be considered a preliminary one based solely on one sample. Yet, despite this strong cautionary note, we feel that the number is meaningful as an initial indication of the potential prevalence of this psychopathology.

VALIDATION

At this point, we had identified 16 individuals that according to our screening instrument, should be at risk, predisposed or behaving as compulsive buyers. If this were so, then we would also expect them to have other characteristics in common with self identified compulsive buyers. Faber and O'Guinn (1988) and O'Guinn and Faber (1988) had found several key characteristics of compulsive buyers. Compared to other consumers, compulsive buyers have a lower level of self esteem, a higher level of generalized compulsivity, higher materialism, particularly on the envy subscale, and a higher fantasy level. These are deeper underlying personality dimensions and value orientations which go well beyond what is measured in the screening instrument, and can therefore be used to establish construct validity for the scale. Another important distinction between compulsive buyers and normal consumers occurs in the economic consequences of the behavior. This can be seen in their much higher debt load. Thus, size of debt load can also serve as an objective economic criteria to provide further construct validity for the screening instrument.

In order to provide partial validation for the compulsive buying scale, we sought to compare the individuals captured by our screener with those who identified themselves as compulsive buyers on these more general dimensions. In order to have near equal numbers for comparison we randomly sampled 16 individuals from within the compulsive strata. These 16 self identified compulsive buyers were then compared with the 16 individuals identified by our screener. A series of t-tests were used to compare the mean responses of the two groups on those dimensions. These findings can be seen in Table 3.

As can be seen, there were no statistically significant differences between the self identified compulsives and the members of the general population identified by the developed screener on these critical dimensions. This is supportive of the belief that the individuals selected from the general population by the screener are no different than those who identify themselves as problem shoppers. Some additional support for the construct validity of this measure is obtained by considering the mean values of the total general population as reported in Faber and O'Guinn (1988). Here, examination of the means reveals fairly large differences between the screened population and population from which it was drawn. For example, the mean value on the self esteem measure was 14.92 for those identified by the screening instrument as compared to 18.33 for the general population. Most striking was the percent of household income, after mortgage or rent, which goes to pay for past purchases (40 vs. 22). Likewise, the fantasy score was 6.38 for the screened population and 9.15 for the general sample. General compulsivity was 14.31 for the screened population and 10.84 for the general population. Finally, envy was 6.98 in the general strata and 9.50 in the screened compulsives. So, in terms of the validating items, those screened from the general population have mean scores very much like those in the compulsive strata, and very different than those in the general population. Taken together, this evidence suggests that the screener is being quite successful in distinguishing those individuals who have similar psychological and economic attitudes, value orientations and behaviors as compulsive buyers and thus appears to possess construct validity.

DISCUSSION

There are several obvious limitations to this study that should be addressed. First, the initial sample of compulsive buyers was self selected. It's quite possible that because of this, they are significantly different than those who, for various reason, would not choose to identify themselves or cooperate in a study. Yet, this is almost always a problem with clinical-epidemiological studies. Until we are much further along in our knowledge about the problem of compulsive buying, we have no other option but to build our knowledge and our measures based on those people willing to be identified.

A second potential problem arise from the fact that the comparison sample was from Illinois only. While we have no reason to believe that Illinois is significantly different than the rest of the nation, we simply do not know this. Again, this awaits a larger study. Since our instrument is built on the basis of responses from these two groups it is subject to errors which might arise from any differences between them and the larger populations they are assumed to represent. Furthermore, there may be many other

TABLE 3

	Self ID (n=16)	Screener ID (n=13)	t	df	p
Compulsivity	16.00	14.31	.84	27	.40
Fantasy	7.69	6.38	1.22	23.9	.23
Materialism	27.12	28.23	.40	27	.69
Envy	9.50	8.92	-.43	27	.67
Possessiveness	10.81	11.31	.45	21.8	.66
Non-generosity	6.81	8.00	.95	27	.35
Self-Esteem	15.00	14.92	.04	27	.97
Percent of income which goes to pay for past purchases	49.40	40.00	.95	18.9	.36

important variables and dimensions yet unexplored which would better screen for a predisposition to compulsive buying. For these reasons we would encourage further efforts to validate our initial attempt at a screening instrument and develop improved versions.

There are also several important things to be done in future research. One is to more directly confront the tangle that has plagued the study of all addictive behaviors and compulsions in that causality is so terribly illusive. For example, it may be that compulsive buying causes low self esteem, rather than the other way around. Still, causality is not a necessary requisite for building an effective screener, which is our most immediate goal. Most importantly, we need to move more in the direction of examining the psychological, societal, cultural, and environmental processes operative in compulsive buying. For now, a descriptive and phenomenological approach is entirely appropriate, but we must someday move beyond that.

CONCLUSION

We believe consumer researchers should be concerned about the abuse potential of consumption and its relationship to all sorts of factors such as environmental (retail) stimuli, mood states, etc. As part of this concern, it seems reasonable to want to know something of the prevalence of compulsive buying. Just how "deviant" is the behavior? How many are suffering from it? Is it getting more common? Does it exist in other cultures? How concerned should policy makers be? To answer these types of questions we need to have some idea of incidence levels. Our best estimate based on the screener developed here is that as much as 5.9% of the population may be at risk for becoming compulsive buyers. Although this figure may seem high, it is in line with estimates of the incidence of other types of addictive and compulsive behaviors.

While we believe that this estimate represents a significant number of people which further justifies the need to study compulsive buying, we frankly also feel that the problem of compulsive buying should be studied regardless of the number of people it effects. We hold this view for at least two reasons. The first is that by studying the abnormal we often learn a great deal about the "properly functioning" organism. Thus, the study of compulsive buying may provide important insights into factors that also influence more "normal" buyer behavior. Secondly, no matter how rare, the fact that consumption seems to have an abuse potential similar to substances or other activities is not only noteworthy, it has been so totally ignored in the consumer behavior literature that it is conspicuous by its absence. As part of our social responsibility, we need to be aware and concerned about issues such as this. It is hoped that with the further development of effective screening instruments, our ability to examine this phenomenon will be enhanced.

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Abnormal Consumer Behavior: A Model of Addictive Behaviors

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I have been asked to speak about abnormal consumer behaviors specifically from an addictions model. My comments will attempt to pull the four papers in this session together, but I also hope to present some information about commonalities across a wide spectrum of addictive behaviors, including such things as compulsive collecting and compulsive spending.

One of the presenters this morning defined deviant behavior as "any behavior which differs from the normal standard". I submit that we would be hard pressed to defend this definition due to the difficulty in defining the term "normal". Many definitions of deviant behavior are very subjective and emotionally laden in nature, and often the term "deviant behavior" arises whenever someone else is doing something we ourselves don't like or approve of. For example, in the not-so-distant past people who indulged in consumption of a drug or engaged in some other form of activity to the point of social or physical harm, and continued with such behavior despite expressed intentions to stop, and despite recommendations from others, were said to be suffering from a form of mania, such as dipsomania, narcotomania, kleptomania, or pyromania, to name a few. They were often seen to be in the grip of "morbid appetites" or "diseases of the will". Although such language is largely outdated, the phenomenon to which this language referred have continued unabated, and the repertoire of addictions has even expanded. Addiction to alcohol and drugs is well known, of course. Compulsive gambling is another well known addiction. In recent years various eating disorders have been conceptualized as types of addictions to food. We are also hearing and learning more about sexual addiction, addiction to work ("workaholics"); some people are examining addiction to video games. We also hear of addiction to spending (as mentioned in this conference), exercise addicts, people addicted to religion, and others. Currently there are many researchers attempting to examine and understand these phenomenon more completely.

History teaches us that the same behavior can be viewed from totally different perspectives depending on the fashion of thought at the time, and the orientation of the observer. For example, some addictive behaviors have been viewed as non-problematic overindulgence (in the early days of the United States, drinking to the point of drunkenness was common, but was seen as non-problematic overindulgence), sinful behavior, criminal activity, as a disease, as maladaptive behavior, and as deviance. Many of these perspectives lose their objectivity in emotionality and value laden beliefs and attitudes.

What I would like to do this morning is to discuss various addictive behaviors, looking for patterns and commonalities across addictions.

All addictions externalize themselves in compulsive behavior. Addictions are characterized by repetitive loss of predictable control of the addictive behavior, which results in adverse consequences (i.e.. life problems) for the individual, and in many cases, for the family members and friends of that individual as well. An operational definition of "loss of predictability": On any given occasion, once the addictive behavior begins, the individual cannot reliably predict where it will stop for that occasion. For example, an alcoholic may plan to drink only three drinks and stop, and may do that on several occasions. However, he may find that sometimes but not always (unpredictable but repetitive) he plans to drink three drinks and ends up drinking many more than that, and suffers negative consequences as a result, (e.g., DWI). Similarly, a compulsive consumer, once a spending binge begins, may or may not stop when or where he or she planned to on that given occasion. This phenomenon also holds true for gamblers, compulsive overeaters, sex addicts, and others.

Therefore an operational definition of an addict is someone who (a) engages in the addictive behavior, (b) has problems because of that behavior, and (c) keeps doing it again and again anyway in spite of destructive consequences. These "problems" can fall into many categories along the biopsychosocial continuum: for example *family problems* (arguments, physical and/or psychological abuse, separations and divorce, homicide in extreme cases, affecting spouse, children, parents, and other relatives); *monetary problems* (cost of engaging in the addictive behavior itself; secondary cost, for example, cost for treatment, fines, restitution, etc.); *health problems* (this is especially notable with alcohol and/or drug addiction, eating disorders, and sex addiction); *emotional-health problems* (low self-esteem, guilt and remorse over engaging in the addictive behaviors, depression, despair, a sense of failure for being out of control, irrational resentments, etc.); *legal problems* (including arrests and fees); *job problems* (impaired performance, loss of job, underemployment due to instability, etc.); *social problems* (including loss of friends, social withdrawal and isolation).

The following are commonalities across addictive behaviors:

1. The individual engages in the behavior and finds it pleasurable and rewarding.

2. There is an increase in preoccupation with the addictive behavior or activity.

Frequently this preoccupation takes the form of anticipating the next binge, looking back fondly on the last addictive experience, planning for the next occasion, and so on.

3. There is an increase in the frequency of the addictive behavior, accompanied by loss of interest in other activities.

4. The addict begins to demonstrate defensive reactions, either overtly or covertly, to family members and others concerned about his or her overindulging in the addictive behavior.

This defensiveness is an early manifestation of the psychological mechanism of denial. *Denial* is a primary characteristic of all addictions. Denial is a psychological defense mechanism which serves to block the addict's awareness that continued participation in the addictive behavior has become destructive, that these behaviors are now causing additional life problems. Denial is extremely subtle and extremely powerful in helping the addict to continue to engage in the addictive behavior and feel justified in doing so. In fact, the addict truly believes that he or she engages in the addictive behavior to *obtain relief* from all other life problems and stressors. It is common for addicts to describe engaging in the addictive behavior as the only source of relief from their perceived stress. In actuality, however, although the addictive behavior provides some measure of temporary relief from the perceived stress, it is short-lived and the stressors subsequently re-emerge. This then triggers another cycle of the addictive behavior, and so on in a downward spiral of addiction. This cycle generally continues until the addict experiences a major life problem which forces the issue into the open.

5. Addicted individuals periodically experience a craving, or a longing to engage in the addictive behavior, coupled with an unrealistic expectation of anticipated relief or escape from physical discomfort or emotional distress.

6. Addicted individuals continue to engage in the addictive behavior, defending it and justifying it through excuses in spite of increasingly adverse consequences. Early in the course of the addiction, these are generally situation-specific (and, typically, plausible) excuses to justify an episode of addictive behavior to others. Later, however, these excuses and justifications become increasingly more global and nonspecific in nature. They involve an increasing distortion of reality to minimize the addicts awareness of the harmful consequences directly resulting from the addictive behavior.

7. As the life problems escalate, the addicted individual becomes aware, at some level, that the addictive behavior is causing life problems. The individual then makes repeated and varying attempts to control the addictive behavior, which invariably fail after only a short time. (Examples of these attempts to control the behavior include: making promises to oneself or to others to stop, or to engage in the behavior only at certain times; attempt to regulate the duration of the episode or the frequency of the episodes; attempts to regulate the place where it occurs; repeated (broken) promises to quit altogether).

8. The function of the addictive behavior in the person's life changes. That is, initially, the addictive behavior is pleasurable, rewarding in and of itself. In later stages, however, the addictive behavior is engaged in to provide relief from perceived discomfort, pain, and distress. In a sense, the addicted individual engages in the addictive behavior in an effort to essentially self-medicate, that is to do something to help himself/herself feel better quickly, to gain relief from perceived stress. The problem of course is that the relief is only short lived, and is often destructive, causing additional problems for the person and his or her family members and friends in the long run.

9. The individual's tolerance for anxiety and other unpleasant emotions is diminished, and the person's repertoire of alternate adaptive coping skills, responses, and mechanisms to deal with these negative states are gradually extinguished through lack of use. Engaging in the addictive behavior becomes the addicts only perceived option for relief when under stress. (This, of course, is the key to intervention in the initiation of change in addictions treatment. The addicted individual learns that there are many alternative choices, and gains practice utilizing them.)

10. "Enabling" is common in families of addicted individuals. In their efforts to help, family members very often assume responsibilities that should be shouldered by the addict (for example, they cover a bad check, make excuses for the addictive behavior, etc.). This contributes to the addictive spiral of short term immediate gratification at the expense of long term problem resolution. This "enables" the destructive addictive process to continue in spite of everyone's best intentions to help.

11. Finally, there is a continuation and escalation of this cycle, with an increase in the number and types of major life problems, as well as a decrease in coping skills until a major life crisis occurs. This crisis usually brings the addict to the attention of a social agency, and possibly, to treatment (for example, the addict has a medical crisis as a result of the addictive behavior, he or she comes to the attention of the legal system, the addict's family threatens to leave unless the addictive behavior stops, etc.).

The above described patterns seem to be common to all addictive behaviors. I will now address the issues of incidence and causation.

The incidence and etiology of addictions is gaining increasing attention. In terms of our most obvious national addiction, alcoholism, it has been well documented that between 7 and 10% of users of alcohol in the United States develop alcoholism (NIAAA). The National Institute on Drug Abuse has reported similar incidence rates for addiction to drugs other than alcohol. Research on the prevalence of other addictive behaviors is still limited. Current estimates of the prevalence of pathological gambling range from 2% to approximately 6% (Sommers, 1988). In this conference, Faber and O'Guinn found that as much as 5.9% of the population may be at risk for becoming compulsive buyers. Research on the incidence of eating disorders as well as the incidence of sexual addiction is still in it's early stages, and findings are inconclusive at this time.

In another arena, research examining the coexistence of more than one addiction within the same individual suggest that the phenomenon of dual addictions may be more common than previously recognized. For example, Lesieur and Associates (1986) found coexistence of pathological gambling and alcoholism and/or drug addiction in 19% of patients in treatment for chemical dependency. Washton (1988) reported that cocaine addiction and sexual addiction have a special relationship and have become a common dual problem that is best treated simultaneously. Other research indicates a high incidence of eating disorders (especially bulimia) among alcoholic women.

The question of etiology of addictions, especially alcoholism, has been under intense scrutiny in recent years. The growing body of research is indicating that genetic factors play a critical role in the etiology of alcoholism, and may be equally important in the etiology of all addictive behaviors. For example, Dr. Theodore Reich, in a presentation at the 1987 symposium sponsored by NIAAA's Alcohol Research Utilization System, identified 6 ways in which a predisposition towards alcoholism might be biologically transmitted to the children or grandchildren of alcoholics. He also notes that biological inheritance may not be specific to alcoholism at all, but instead, may provide a general tendency that is transformed into alcoholism by the environment. A related growing body of literature is providing evidence suggesting that individual differences in brain chemistry, specifically in brain serotonin levels, may play a significant role in the etiology of addictive behaviors. For instance, in the last 10 years, scientists have identified three very specific neurophysical and neurochemical abnormalities within the brains of young men genetically at risk for alcoholism. First, unusually fast EEG activity is often present in the sons of alcoholics, whether or not these sons are actually exposed to alcohol. Second, at risk young men often respond to external stimuli with less neurovoltage than their peers from non-alcoholic families. Thirdly, monoamine oxidase (MAO), an enzyme in the central nervous system, is found at abnormally low levels among male alcoholics and their relatives. Further research may reveal how these biological markers of alcoholism interact with environmental factors. Other studies provide further evidence that alcoholics differ from non-alcoholics in the content of serotonin in several brain regions. Regarding other addictive behaviors, a recent study indicates that pathological gamblers have different levels of cerebral spinal fluids, specifically those which affect brain serotonin levels, that result in gamblers high sensation seeking behavior. High risk behavior (e.g., gambling) creates increased levels of serotonin which at adequate levels produces a feeling of well being (Roy et al, 1988). Other studies have confirmed similar physiologic deficits in impulsive, aggressive, and hostile individuals. Overall, the literature points towards a neuropsychogenetic model of addictions. A biochemical predisposition to high risk behavior, regardless of the nature of that specific addictive behavior, may be mediated in part by either innate (genetic) or environmentally (stress) induced brain chemistry dysfunction. There may exist a spectrum of disinhibitory behavioral disturbances characterized by impulsivity, low frustration tolerance, and stimulus seeking behavior which manifest themselves as addictive behaviors that are mediated by reduced central serotonergic activity, and which have a genetic component, but which also are effected by environmental cues. The question of genetic predisposition versus environmental stimuli is still being examined. Enoch Gordis, director of the National Institute on Alcohol Abuse and Alcoholism, in 1987 stated "In emphasizing the role of genetics, it is important to realize that even the most articulate exponent of genetic research would be the first to say that influences other than genetic predisposition are still terribly important in the development of alcoholism, as well as in it's manifestations. Ultimately our understanding of alcoholism will have to be based on an understanding of the relationship between genetics and the environment. In fact, many of the genetic factors in alcoholism may turn out to be specific genetic responses to different environmental stresses."

Dr. Gordis' comments aptly apply to other addictive behaviors as well.

Research, of course, will continue to examine addictive behaviors in all their manifestations. Clearly, a comprehensive understanding of the etiology, incidence and course of addictions and addictive behaviors will lead to the identification of early warning signs of trouble, which can be addressed directly before the emergence of serious life problems. This more comprehensive understanding will also result in major social benefits. The harmful effects of addictions are not isolated to just the addict, but rather affect many others in harmful ways (family, friends, co-workers, employers, etc.). The social cost of addictive behaviors, both in personal expenditures and in costs to the public (for example health care, crime control, disability, etc.) are enormous if not immeasurable. A better understanding of addictive behavior can be lead to more cost-effective and cost-beneficial treatment modalities. It has already been clearly demonstrated that the cost of alcoholism treatment is more than reimbursed by direct and indirect savings following treatment. Identification and intervention with people suffering from other addictive behaviors may result in similar beneficial effects to the individual, to his or her family, and to society as a whole.

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A Grounded Model of Consideration Set Size and Composition

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ABSTRACT

This paper presents a model of when brands will enter a consumer's consideration set. While much descriptive work on consideration sets exists, little has been done by way of providing a testable framework to determine how the criteria affecting consideration interact to decide a brand's inclusion in the set. A review of commonly used brand choice models reveals substantial research surrounding evaluation *given* a consideration set, but little work on the consideration set itself. Assuming a utility-maximizing consumer we calculate the brands of which he or she is aware that should enter the consideration set in terms of their utility, mental processing costs and acceptability.

The model contains two aspects to consideration which may be important to different degrees: both non-compensatory and compensatory factors may influence whether a consumer considers a brand or not. This framework explains some of the conflicting empirical evidence in the field. It is also consistent with work on phased decision rules and provides a nice fit with the concept of inept and inert sets.

The paper concludes with a discussion of management implications of the model in terms of an audit of existing brands, new product management, and product line strategies. A summary of limitations of the research is given, as well as suggestions for future directions.

INTRODUCTION

Most marketing texts describe the consumer decision process as a successive refinement in the number of brands evaluated in the decision process (e.g., Kotler 1988, Figure 6-5). Typical typologies have the total set being divided into those brands of which the consumer is aware and those of which he or she is not aware. Awareness is divided into consideration (and non-consideration) and from that set a purchase decision is made. Each of these stages has attracted research attention. A considerable body of literature in the consumer behavior field examines correlates of the consideration set. However, the work is largely descriptive, rarely attempting to establish how the elements affecting consideration fit together. This paper aims to take phased decision rules from consumer behavior and the marketing science tools of decision analysis to develop a grounded theory of when new brands will enter a consumer's consideration set. This allows forecasts to be made and provides a testable model of the process.

Consideration is an important element to consumer behavior. In many product categories leading brands may derive their predominant market share by entering the consideration sets of a higher proportion of consumers than other brands, while not necessarily having a higher preference amongst considerers. Conversely, low share brands must have consideration before they can increase their market share. In this situation marketing mix elements aimed at increasing preference at the purchase evaluation stage may be wasted. To quote Ries and Trout (1986, p. 138) "Out of mind, out of business".

LITERATURE

The concept of an evoked set, or consideration set, as the brands which a consumer would evaluate first appeared in the marketing literature in Howard's text on consumer behavior (Howard 1963). It was empirically demonstrated to be a subset of the set of brands of which a consumer was aware by Campbell (1969) and became an integral part of the Howard-Sheth model. Howard and Sheth (1969) define the evoked set as those brands on which the consumer gathers information.

Since that time the existence of consideration sets as strict subsets of the awareness set has been extensively demonstrated (see Table 1 for a summary of studies). The concept fits nicely with theory in consumer behavior which suggests that for complex decisions or those involving many alternatives a consumer is likely to employ a decision process which can be represented by a phased decision rule (see Bettman, 1979, p. 215 for a review). However, while many consumer behavior studies have demonstrated the existence of the consideration set, marketing modelers have been slow in developing frameworks which specify the way in which determinants of consideration operate. The probability of brand choice (given category purchase) can be thought to have three elements; the probability of being aware of brand j; the probability of considering brand j, given awareness of it; and the probability of choosing brand j, given awareness and consideration. It is the second of these elements that this paper addresses. There is a strong body of research relating awareness to advertising (see Mahajan, Muller, and Sharma 1984 for a review). There are also many individual-level brand choice models which express purchase probability as a function of perceptions and preference, *given a consideration set* that is some fraction of the entire market (e.g., Assessor, Silk and Urban 1978; Defender, Hauser and Shugan 1983). However, there is a distinct lack of systematic studies to model the process by which aware brands enter the consideration set.

Before looking at work on the modeling of consideration sets it is useful to examine the foundations on which the concept is built. The

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TABLE 1

STUDIES OF AVERAGE EVOKED SET AND AWARENESS SET SIZES BY CATEGORY

	Campbell (1969)	Narayana and Markin (1975)	Reilly and Parkinson (1985)	Silk and Urban (1978)	Jarvis and Wilcox (1983)	Gronhaug and Troye (1983)	Brown and Wildt (1987)	Gronhaug (1973-74)	Hauser Roberts and Urban (1983)
Beer		3.5 (10.6)							
Mouthwash		1.3 (3.5)							
Deodorant		1.6 (6.0)		3.1					
Toothpaste	3.1 (10.4)	2.0 (6.5)	3.1						
Gasoline							3.0 (6.7)		
Fast food							5.1 (14.4)		
Soft drinks							5.4 (11.8)		
Bath soap			3.1						
Margarine			3.8						
Laundry detergent	5.0 (19.3)		3.7						
Shampoo			3.4						
Hand lotion			3.1						
Paper towels			3.1						
Ground coffee			2.8		4.2 (10.2)				
Dishwashing detergent					5.6 (15.2)				
Table napkins					5.0 (7.3)				
Autos						2.1		2.8	5*

Note: Figures in brackets represent average size of awareness sets.
*Median

existence of consideration sets (as distinct from awareness sets) is a logical outcome of theories in economics and psychology and has strong empirical support. Research in the economics of information was initiated by Stigler (1961) and is based on the premise that a consumer will continue to search for information as long as the expected returns from that search (in terms of making a choice of expected higher utility) exceed the marginal cost of further searching. In marketing, Shugan (1980) developed a model of the *cost* of search which showed that the cost of search was proportional to the number of brands that the consumer evaluates and the difficulty of making comparisons. Ratchford (1980) estimated the expected *benefit* of searching second, third, and fourth brands for various household appliances.

In addition to the economics literature which suggests that the consumer may have little *incentive* to search numerous brands, the psychology and consumer behavior literature raises questions as to his or her *ability* to be able to do so. Miller (1956) suggests that our cognitive capacity to evaluate alternatives lies around a maximum of about seven due to limits in ability to differentiate and finite memory span. Researchers in consumer behavior have postulated phased decision rules to represent consumers' methods of coping with this complexity. With these rules the consumer firstly filters available alternatives and then undertakes detailed analysis of this reduced set (e.g., see Wright and Barbour 1977, Lussier and Olshavsky 1979). Bettman (1979, p.215) summarizes the implications of this theoretical and empirical work with his proposition 7.8.iv:

> "Phased decision strategies, with an elimination phase and a choice phase, may be found when the number of alternatives is large".

What is large in practice may be as low as four (e.g., Gensch 1987).

Not only is there a sound theoretical basis on which to posit the existence of consideration sets, there is also strong empirical support. Consideration sets have been studied for consumer durables (e.g., Gronhaug 1983; Gronhaug and Troye 1983; Hauser, Roberts and Urban 1983) and packaged goods (e.g., Campbell 1969; Reilly and Parkinson 1985; Narayana and Markin 1975), as well as industrial products (Le Blanc 1981, Kosnick 1986). The majority of this empirical work has been largely descriptive, reporting evoked or consideration set sizes and searching for correlates of the size of an individual's evoked set in terms of attitudes to the category, innovativeness, information search, and sociodemographic information.

A summary of findings on evoked set sizes are presented in Table 1. Average sizes range from 1.3 for mouthwash (Narayana and Markin 1975) to 5.4 for soft drinks (Brown and Wildt 1987). Awareness set sizes are shown where available and these tend to be twice to three times the size of the evoked set. A number of studies on the same category come up with substantially different results (e.g, autos). Reasons for this would appear to come from differences in definition of consideration and the measures used.

A summary of the work on correlates of evoked set size is presented in Table 2. There also appears little consistency between findings regarding determinants of the set, with the exception of the relation between awareness set size and consideration set size. Again, this may well be due to differences in the constructs and their operationalization, as well as different populations.

Varying definitions of consideration or evoking raise the need to discuss nomenclature. "Evoked set" was the term first used by Howard (1963) and Campbell (1969). However, the term "evoked set" has been used in a number of ways. From Howard and Sheth's "brands that the consumer would consider" (1969), Belonax (1979) used it to be brands "acceptable to the consumer". As Myer (1979) points out, these two sets are not likely to be the same. Other authors have included aware but rejected brands in the definition of evoked set, a group which Allaire (1973) calls the relevant set. The relevant set may provide useful measures of perceptions and preference for market research but it has little meaning from a consumer behavior perspective. Wright and Barbour (1977) use the term consideration sets and it seems untainted by the ambiguities plaguing evoked sets. Thus it is used in this paper. The definition is the same as that of Howard and Sheth for evoked sets: "the brands that a consumer will consider". This set may change during the information search process and so the consideration set is dynamic. When search is finished and the evaluation phase is undertaken, the final consideration set is termed by some authors the choice set (Kotler 1988, Hauser and Shugan 1983).

Having introduced the concept of consideration sets with a theoretical rationale as well as empirical evidence, we now look at developments in the modeling of consideration sets. The weight of the consumer behavior literature tends to favor non-compensatory models at the consideration phase and then compensatory models at the evaluation stage (e.g., Wright 1975). These have also been observed to give good fits (e.g., Lussier and Olshavsky 1979, Gensch 1987, Lehtinen 1974). In detailed studies of consideration set composition, Brisoux and Laroche (1981) found that a conjunctive model gave better fits than a compensatory model, while Parkinson and Reilly (1979) found the converse. In both cases the difference in fits was very low. In this paper we argue that both formulations are appropriate. Narayana and Markin's (1975) classification of aware but non-considered alternatives into inept and inert holds the key to this argument. Inept brands correspond to those that are ruled unacceptable for some reason and a conjunctive (or other non-compensatory) rule would appear to be the best way to model such a decision. Inert brands correspond to those which are acceptable but for which the consumer does not feel a need, that is those that do not offer sufficient utility. A compensatory multiattribute utility model would appear to offer a good representation of deciding between whether a brand is worth considering or not (inert).

TABLE 2

STUDIES OF CORRELATES OF EVOKED SET SIZES

Potential Explanatory Variables	Campbell (1969) *	Narayana and Markin (1975)	Reilly and Parkinson (1985)	Jarvis and Wilcox (1983)	Silk and Urban (1978)	Gronhaug (1973-74)	Brown and Wildt (1987)	Ostlund (1973)	Sutton (1984)	Belonax (1974)	Maddox et al (1978)
Method employed	M	M	M	M	M	M	M	M	L	L	M
Brands aware of	X	√Ø	√	√	√Ø		√		√		
Brand loyalty	√		√					√			
Interest						√					
Experience						√		X			
Information exposure									√		
Search time								√			
Information seeking								X			√
Familiarity			√								
Frequency of purchase	X										
Concentration of category							√				
Number of choice criteria										√	
Perceived risk	√					X		X			
Mean less variance										√	
Situational influences			√								
Price sensitivity	√							X			
Venturesomeness						√					
Family size	≈		√								
Education	≈		√								√
Respondent age	X										√
Socioeconomic status	X										
Family income	≈										X
Self confidence	X										
Time pressure						X					
Cross category size	√			√							
Intra family influence								X			
Definition of evoking							√				

√ : Significant at the 10% level; X: not significant; ≈ : mixed results
L: Laboratory experiment with hypothetical concepts;
M: Market-based with actual products
Ø: Calculated across brand averages, not across individuals
*: Somer's d-statistic

MODEL DEVELOPMENT

The previous section highlighted the theoretical grounding for consideration sets and empirical evidence of them. Analysis of consideration sets will be important where factors influencing consideration are different to those influencing evaluation (e.g., Gensch 1987) or where different decision processes are adopted at the two stages (e.g., Wright and Barbour 1977).

The literature suggests that a grounded model of consideration should include search costs as well as the expected (but uncertain) benefits to search, the flexibility to explain non-consideration in terms of non-compensatory factors as well as compensatory ones, and a framework which allows integration with choice models. Thus, we posit the existence of two types of decision rule at the consideration stage: conjunctive and linear compensatory. This formulation subsumes most of the popular models of consideration, given that disjunctive rules have not been shown to provide good fits (Parkinson and Reilly 1979; Brisoux and Laroche 1981). The major accusation that can be made against it is that it is not parsimonious.

The model for consideration is illustrated as a decision tree in Figure 1. We examine the conjunctive and compensatory aspects of the consideration process separately. For the conjunctive model we calculate whether the brand will enter the consideration set in terms of the underlying conjunctive threshold tolerances for acceptability. For the compensatory aspect we look at the *evaluation* process which will be undertaken with a given consideration set by a utility-maximizing consumer. Only if a brand passes both of these tests will it be considered. Which of these phases gives the *most* leverage will depend on situational variables, including the category. For the packaged goods categories examined by Narayana and Markin (1975) the ratio of average number of inept brands to inert brands ranged form 2.4:4.7 for beer to 2.5:2.0 for toothpaste. Within a category this ratio was higher for some brands than for others. Presumably the more specifically a brand is targeted to a segment the higher level of inepts it will get among the population at large and the lower number of inerts. For example, Narayana and Markin showed the smoker-targeted toothpaste brand of Pearl Drops as having 65% inepts and 20% of the population as inerts, while the late entrant generally-targeted Aim had only 35% inept, but 46% inert.

The first step in modeling is to decompose consideration into its two elements; a conjunctive one and a linear compensatory one. Let Aj be the condition that represents the conjunctive part of the model, the brand's acceptability. $A_j = 1$ if the brand is acceptable, 0 otherwise. Similarly let V_j be the condition that the brand is of sufficient utility to pass the compensatory criterion. Again $V_j = 1$ if it does and 0 otherwise. Thus a brand will only be considered if both A_j and V_j equal 1.

Conjunctive Model

A_j may be expressed in terms of the underlying constraints (threshold tolerances) that the consumer has. These thresholds may not be the same as the attributes which the consumer uses at the evaluation stage. For example, for breakfast cereals at the conjunctive phase actual sugar levels may have a maximum threshold level, while at the evaluation stage physical sugar levels may not be important, but sweetness might be and although it is positively related to sugar, it may be a desired attribute.

We will denote the thresholds that a brand must meet to pass the conjunctive screen by T_n (n=1,2...N) and measure them so that they represent minimum levels on each constraint (e.g., by multiplying maximum constraints by minus one). The level of product j on constraint n is y_{jn} and δ_{jn} represents whether j passes the threshold or not.

Thus $\delta_{jn} = 1$ if $y_{jn} \geq T_n$
$= 0$ if otherwise

$$\text{and so } A_j = \prod_{n=1}^{N} \delta_{jn} \qquad (1)$$

Note that Einhorn (1970) suggests that the actual levels of a brand on these constraints may never be discovered and the final section of this paper discusses the case of measurement error or random elements to consumer choice at the conjunctive stage.

Compensatory Model

If we assume that the consumer is aware of brand j and it passes his acceptability criteria, we now examine if it passes a test of sufficient utility. To determine that we first examine the *evaluation* decision (see Figure 1) following a method proposed by Roberts (1983, pp 219-220).

Using a Fishbein model (Fishbein 1967) we can model attitude towards (or utility for) brand j, Uj, as a weighted linear function of its attributes. Thus,

$$U_j = \Sigma\, w_k\, y_{jk} \qquad (2)$$

where U_j is the utility of brand j,
w_k is the importance weight of attribute k, and
y_{jk} is the amount of attribute k that brand j has.

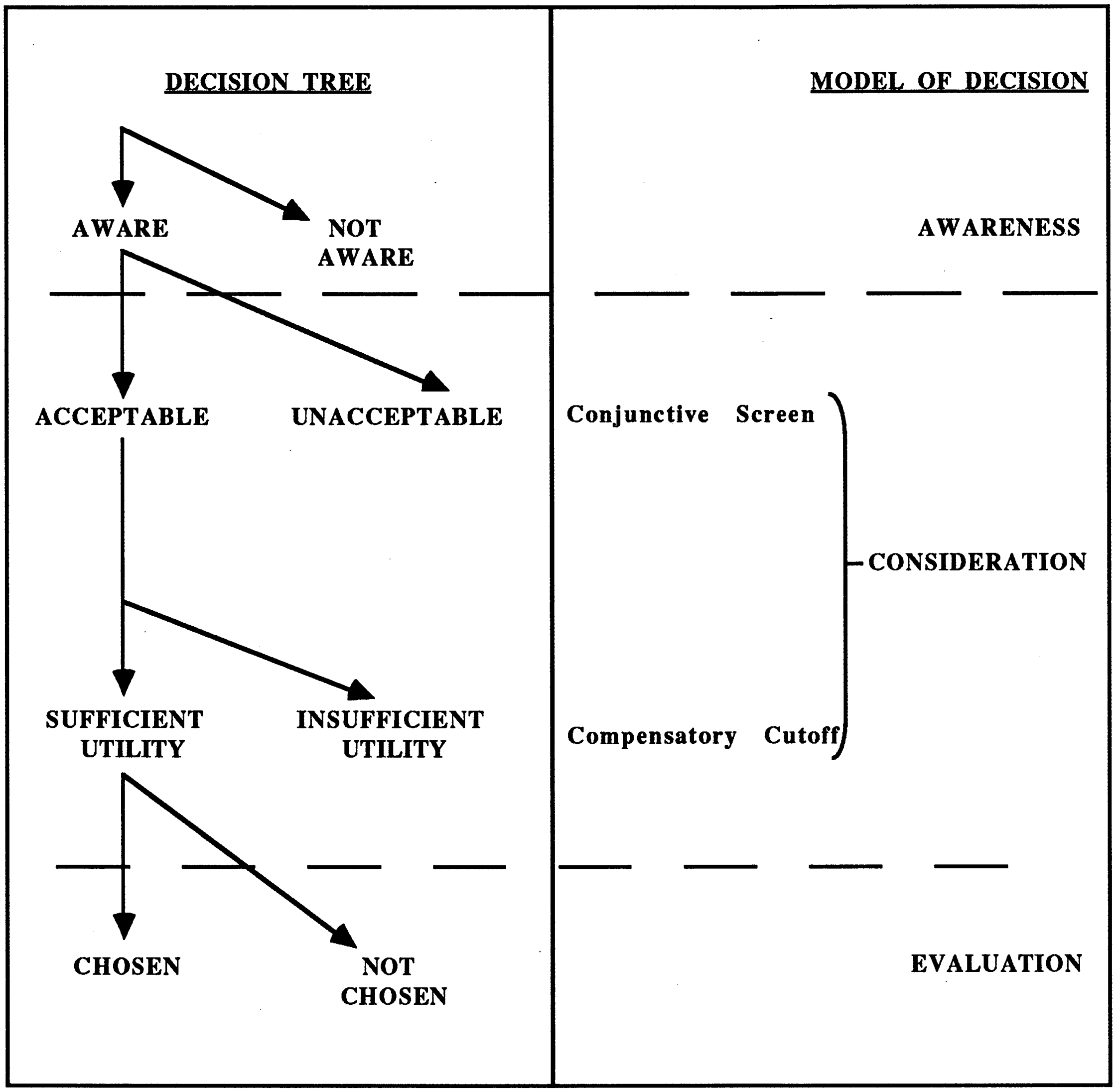
McFadden's logit model, a special form of Luce's axiom, may be used to relate U_j, to its probability of purchase. The probability of selecting j given a consideration set κ is

$$P_{j/\kappa} = \frac{e^{U_j}}{\sum_{l\varepsilon\kappa} e^{U_l}} \quad (\text{for } j\varepsilon\kappa)$$

It should be noted that with the logit model comes the assumption of the independence of irrelevant alternatives (e.g., Ben Akiva and Lerman 1985). The implications of that to consideration are considered under future research.

FIGURE1

MODEL OF CONSUMER CHOICE FOR AN INDIVIDUAL BRAND



The expected utility that the consumer will derive form the category given a consideration set κ, $E(U_\kappa)$ is given by Ben Akiva and Lerman (1985):

$$E(U_\kappa) = E(\max_{l\varepsilon\kappa} U_l) = \ln \{ \sum_{l\varepsilon\kappa} e^{U_l} \} \tag{3}$$

Given this formula it is possible to derive a utility criterion for a brand j to enter the consumer's consideration set κ. Brand j will enter the consideration set if the increase in expected category utility that it causes more than offsets the associated mental and physical transaction costs (C_j).

That is $V_j = 1$ (brand j is of sufficient utility) if

$$E(U_{\kappa\cup j}) > E(U_\kappa) + C_j \tag{4}$$

Substituting in the expression for $E(U_\kappa)$ we can express the criterion either as the maximum search costs that a consumer will bear, given a brand's expected utility, or the minimum level of utility it needs to enter the consideration set, given the physical and psychological costs of evaluating it ("search costs"):

$$C_j < \ln\left(1 + \frac{e^{U_j}}{\sum_{l\varepsilon\kappa} e^{U_l}}\right) \tag{5}$$

$$\text{or} \quad U_j > \ln\left\{ [\sum_{l\varepsilon\kappa} e^{U_l}]\,[e^{C_j}-1] \right\} \tag{6}$$

We have expressed the utility needed for brand j to enter the consideration set in terms of the utility of other brands in the set and its search costs. The compensatory nature of this phase of the consideration process may be seen from the fact that individual attributes enter in a compensatory manner (using equation (2)). Note that if $C_j = 0$ brand j will be considered on this utility criterion for any $U_j>0$. A number of implications stem from this model of the compensatory process. These have been expressed as lemmas below.

Lemma 1 As a brand's search costs increase, the necessary utility to maintain consideration increases more than proportionately. This result stems directly from differentiating inequality (6) at its indifference point with respect to search costs:

$$\frac{\partial U_j(\text{indifference})}{\partial C_j} = [1 + \frac{1}{e^{C_j} - 1}] \qquad (7)$$

Note that this is independent of the utilities of other brands in the consideration set. What this means in practice is that when search costs are close to zero then a brand that is only marginally considered will have low utility. If search costs increase by say 10% the brand must increase its utility by substantially more than this to still be considered. As search costs continue to increase the necessary proportionate utility gain to maintain consideration asymptotes to 1.

Lemma 2 Given a consideration set κ and $\sum_{l\varepsilon\kappa} e^{U_l}$ = k, brand j is preferred for inclusion to brand j' if

$$\frac{k + e^{U_j}}{e^{C_j}} > \frac{k + e^{U_{j'}}}{e^{C_{j'}}} \qquad (8)$$

Note that the decision is dependent on the risk-adjusted preference of other brands already within the consideration set if search costs are not equal. For equal search cost inequality (8) degenerates to preferring j to j' if $U_j > U_{j'}$. Inequality (8) says that the extra search costs that a brand with high utility can justify depend on the expected utility that it can add to the category relative to another candidate. That is, the marginal utility of a brand to consideration (its "consideration value") is a function of other members of the set. Lemma 2 suggests that if brand j adds 10% more utility to the existing consideration set than brand j, i.e., $(k + \exp(U_j)/(k + \exp(U_{j'})) = 1.1$ it can afford to have up to a 10% exponentiated transaction cost disadvantage ($\exp(C_j) \leq \exp(C_{j'})$. 1.1).

Lemma 3 Assume the consumer becomes aware of a new product, *N*. The consumer has a consideration set κ. The ongoing search cost of brands already within κ is C, while for the new brand it is C_N. The brand will enter the consideration set, i.e., $V_N = 1$, (given acceptability and awareness) if

$$\text{i.e. } U_N > \ln k\, [e^{C_N} - 1] \qquad (9)$$

(increasing the size of the consideration set), or

$$\text{i.e. } U_N > \ln [e^{\min_{l\varepsilon\kappa} U_l} + k(e^{(C_N - C)} - 1)] \qquad (10)$$

(displacing an existing member of the consideration set).

Model Summary

To return to the overall model of consideration, the inclusion of brand j in the consideration set occurs it passes both non-compensatory test (A_j=1) and if the compensatory screen (Vj=1). It passes the non compensatory test if it meets each of the attribute thresholds, while it passes the compensatory test if its multiattribute utility exceeds a benchmark utility which is a function of the utilities of brands already in the consideration set and mental transaction costs.

In summary, we have modeled consideration with two elements which to date have been only used separately to model the process. This approach helps explain some of the conflicting evidence and comparable fits of different rules, while sitting well with Narayana and Markin's concept of inert and inept sets.

MANAGEMENT IMPLICATIONS

The model has been implemented and results from fitting it are included in Roberts and McBurney (1988). In addition to providing a tool for determining levels of consideration of a new product (forecasting), the model provides a framework to investigate why consideration is not taking place. If it is because the brand is perceived as unacceptable then a number of options are available. Firstly, the accuracy of perceptions can be checked. For example, in an application to the Australian ready to eat cereal market, Crunchy Nut Corn Flakes was perceived as having higher sugar levels than it did, disqualifying it from many consumers' consideration sets. Secondly, the offending attribute may be changed or a variant launched; for example caffeine-free Sprite. Thirdly, the threshold may be changed. Samuel Adams and other premium-priced beers have been highly successful in persuading consumers that it is acceptable to pay an extra dollar or so for a beer. Finally, the threshold can be avoided. Of a sample of eighty Australian cereal-eaters, none said that they would reject a brand on the grounds that it was high in energy, while 32% said that they would reject a brand high in calories. Calories are, of course, just a measure of energy. A brand could be positioned as a high energy product to avoid the high calorie conjunctive screen.

Similarly, if brands are acceptable but not considered (that is they fail the compensatory utility test) diagnostic data are available to determine what is necessary to create sufficient utility. The multiattribute utility model outlined in equation 2 can be used to determine how attribute perceptions would have to be altered in order to generate sufficient perceived utility to be included in any segment's (or individual's) consideration set.

The above application is an example of the use of consideration sets for a brand audit to examine the health and market potential of existing products. The technique can also be used for new brand forecasting and marketing mix optimization. Gensch (1987) has shown the improvement in forecasting performance by including a consideration stage. Equations 1,2,9,and 10 predict how much consideration will be gained and how this will vary with different product formulations. Attributes important at the consideration stage may be particularly emphasized or (with conjunctive criteria) just satisfied. Examples of this include safety in airline choice, sugar levels in breakfast cereal, and manufacturer reputation in the purchase of industrial equipment (Gensch 1987). These consideration formulae may be used directly or in conjunction with other new product forecasting models, such as Assessor (Silk and Urban 1978).

A third application to the model is in the field of product line planning. Product line strategies, which attempt to cover the whole of a population's consideration sets with single brands (e.g., Budweiser beer) can be compared to those which segment and aim for higher inepts, but lower inerts (e.g., the Bond Corporation's regional strategy in the U.S. beer market).

SUMMARY

Consideration sets as subsets of the awareness set have been shown to exist. With the increasing level of brand proliferation currently being experienced, consideration may become an increasingly binding constraint on market share. Studying the way in which the determinants of consideration sets are composed seems to be an area of great managerial relevance and academic interest. This paper has presented a model of set composition. It has a number of limitations which include the independence of irrelevant alternatives so that little can be said about the "shape" of the consideration set, no treatment of information uncertainty and its dynamics have been included so changes to the set as search in undertaken have not been addressed, and an error theory which suggests that brands will be probabilistically rather than deterministically considered is lacking. However, we have presented a grounded theory which does explain a number of the conflicting findings in this area as well as providing a testable model of the process.

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The Cultivation of Consumer Confidence: A Longitudinal Analysis of News Media Influence on Consumer Sentiment

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ABSTRACT

This study explores the ability of a new model of the dynamic influence of information on the distribution of sentiment in large populations (Fan, 1988) to predict the movement in the University of Michigan's Index of Consumer Sentiment between 1978 and 1988. Based on a detailed content analysis of 2,000 news stories about the economy, mathematical predictions of the influence of the news environment on the distribution of consumer sentiment were calculated for a period of 127 months. The results showed that the model yielded an excellent prediction of the secular trends in the Index. The findings are discussed in terms of contemporary research on the role of the media in shaping public perceptions of social conditions.

INTRODUCTION

The emergence of empirical research addressing questions about the cumulative effects of media message environments marks a major departure from the well-worn and sometimes rambling path of media effects studies: largely charted by theoretical and empirical emphasis on rather specific interactions between source, message, channel, and receiver characteristics (Bryant & Zillmann, 1986). The two areas of inquiry best representing this new effects perspective are research on the agenda setting influence of the news media on public perceptions of issue importance (McCombs & Gilbert, 1986) and "cultivation" research on the distortions in public perceptions of social reality resulting from the effects of cumulative exposure to entertainment television's depictions of society (Gerbner, et al., 1986).

Agenda setting research has essentially asked the question: does the *amount* and *prominence* of coverage given to issues in a community by the news media influence public perceptions of the importance of issues? Although agenda setting research emphasizes the ability of the news media to transmit cues about what's important and what's not so important -- rather than the ability of the news media to determine where an individual, or a community, stands on a given issue -- it does not explicitly deny the possibility that the news media may have a role to play in shaping public opinion.

While research on the agenda setting function of the press and research on entertainment television's influence in cultivating perceptions of social reality are quite distinct areas of inquiry, they have far more in common than one might expect. Like agenda setting research, cultivation research raises questions about the cumulative impact of media messages. Also like agenda setting research, it has set about the task of identifying cultivation effects by using content analysis to document dominant themes in media messages in combination with surveys of public perceptions of social conditions (Gerbner, et al., 1986). Most important of all, cultivation research also recognizes the central role of the media in society as the conduit through which much of what we know, or think we know, about the world outside our own direct experience is transmitted.

Because the original research questions about cultivation effects were so closely linked to entertainment television's ability to influence perceptions of social reality, cultivation effects have rarely been examined in association with other forms of mass communication. There is nothing inherent in the nature of the concept, however, that limits its application to questions about the effects resulting from the depictions of society in entertainment television. It becomes a far more powerful concept if it is applied more broadly to represent the influence of the media message environment -- not just commercial television -- on perceptions and evaluations of social conditions beyond the scope of personal experience.

The messages reaching the public from the news media, like those of entertainment television, are shaped by a multitude of institutional, political, and economic constraints. While the public generally accepts the notion that the news media provide a veridical reflection of events, this faith is not generally shared by those who understand the news business. Heavy reliance on "official" news sources, economic incentives to maximize audiences, journalistic norms emphasizing the news value of dramatic and conflictual events, the tyranny of deadlines and time/space limitations, and a host of other factors all come into play in determining what reaches the public as the news of the day.

The present study of the cultivation of consumer sentiment is based on the premise that perceptions of economic conditions in society are largely determined by the information and interpretations provided by the news media. Our position is that what many would perceive to be public reactions to conditions and events in the world are, in a more direct sense, reactions to the *representation* and *interpretation* of events presented to the public by the media as news. The meaning of a change in interest rates, for example, is not something any of us outside the confines of large financial institutions instinctively understand. We are highly dependent upon the news media to generate the messages that alert us to the change; that provide the contextual cues and interpretations we need to understand the significance

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of the event for the economy as a whole; and that might prove useful to us in helping guide personal decisions we may want to make about savings, investments, consumer loans, and the like. As DeFleur and Ball-Rokeach (1982) point out, this dependency is a natural outgrowth of our modern day existence in highly complex social systems.

An adequate test of this model requires that we have (1) indicators of changes in consumer sentiment over time, (2) a means of identifying the volume and nature of media messages about economic conditions introduced in the social system over time, and (3) a model for predicting the impact changes in the message environment will have on consumer sentiment about economic conditions. Fan's (1984, 1985, 1988) recent work on a mathematical theory of the persuasive influence of information on large populations provides a methodological and theoretical framework well-suited for the task.

In a series of recent empirical investigations, Fan's ideodynamic theory has shown that changes in public opinion about a wide range of social issues such as defense spending, nuclear energy, presidential approval, Contra aid, and the spread of AIDS can be predicted with a high degree of precision over extended periods based on predictions generated from an analysis of characteristics of the messages about these issues reaching the public at large via the news media (Fan, 1988; Fan, McAvoy & Freeman, 1988; Fan & Tims, 1988).

In the present study we have applied Fan's model to explore the linkage between changes in the economic news environment and changes in the distribution of consumer sentiment. If the messages reaching the public about economic conditions can indeed be used to predict changes in consumer sentiment then we will have taken the first step in establishing a broader foundation for understanding the importance of the news media as a major player in helping to shape patterns of consumer sentiment and consumer behavior.

METHOD

Index of Consumer Sentiment

The Index of Consumer Sentiment was originally formulated by George Katona, a pioneer in the study of behavioral economics, as "a summary measure of trends in consumers' attitudes and expectations" (Curtin, 1983, p. 498). The measure is composed of five items asking for evaluations of changes in personal finances, short- and long-range expectations for business conditions, and buying conditions for large household goods (see Table 1).

The history of the University of Michigan's Surveys of Consumers dates back to the mid-1940s (Curtin, 1982). The sample sizes for the monthly surveys since 1978 vary between 500 and 1300+. Since 1985 the monthly samples have ranged between 500 and 700. The values for the Index of Consumer Sentiment used in this study were taken from the "Surveys of Consumers: Historical Data" and the July, 1988 update of the "Surveys of Consumers" (Institute for Social Research, University of Michigan, 1988).

Content Analysis of Economic News

A search of the Nexis electronic data base identified a total of 38,279 news stories from the Associated Press wire on the subject of economy in combination with the key root words: condition, health, prospect, future, forecast, outlook, projection, and variants of these roots during the period between January 1, 1977 and August 25, 1988. The Associated Press wire is the nation's largest and most extensive news gathering and reporting organization. The AP is received by over 1,400 daily newspapers and over 6,000 broadcast stations in the United States; it serves 84 percent of the daily newspapers in the United States and reaches 96 percent of the newspaper readers through these newspapers (Shaw, 1988).

A random sample of 2,000 full text stories (5% of the population), containing approximately 500,000 words, was retrieved from the data base and organized into 100 text files. Each of the 100 files contained 20 stories ordered in random sequence.

The retrieved text was first *filtered* to remove stories originating in other countries or about economic issues in regions and countries other than the United States (see Table 2 for a list of the most frequently encountered character clusters used to identify news stories not about economic conditions in the United States). Stories containing character clusters indicative of a foreign news theme were deleted if the character clusters appeared either in, or within 60 characters, of the headline, dateline, or keyword index for the AP wire dispatch.

The stories remaining after the foreign news filtration (1,252) were subjected to a second filtration to identify paragraphs within stories containing character clusters representing economic terms. Table 2 contains examples of the character clusters most frequently encountered during this second filtration. All paragraphs containing words or phrases containing these character clusters were retained for content scoring. Paragraphs not containing at least one instance of *any* economic term character cluster were eliminated from the analysis. The first and second filtrations resulted in the elimination of 41 percent of the retrieved text.

The text remaining after the two successive filtrations was analyzed using a complex set of relational rules and key words. Table 2 lists a partial dictionary of the most commonly encountered character clusters and terms used for the content scoring. The terms in the dictionary were grouped into broad concept categories. For example, terms indicating increases (boost, growth, gain, climb, hike, etc.) were grouped under one concept and terms indicating decreases (crash, cut, decrease, drop, tight, etc.) were grouped under another. Additional categories were formed for words indicating unhealthy economic conditions, healthy economic conditions, etc. In addition, words that changed the meaning of a statement (not, unlikely, few, little, etc.) were also used in the development of relation scoring rules. For example, the statement "under current economic

TABLE 1

Items in the Index of Consumer Sentiment

1. We are interested in how people are getting along financially these days. Would you say that you (and your family living there) are better off or worse off financially than you were a year ago?
2. Now looking ahead -- do you think that a year from now you (and your family living there) will be better off financially, or worse off, or just about the same as now?
3. Would you say that at the present time business conditions are better or worse than they were a year ago?
4. And how about a year from now, do you expect that in the country as a whole business conditions will be better, or worse than they are at present or just about the same?
5. About the big things people buy for their homes -- such as furniture, a refrigerator, stove, television, and things like that. Generally speaking, do you think now is a good or a bad time for people to buy major household items?

TABLE 2

Examples of Character Clusters and Terms Used in Text Filtration and Scoring

A. Character Clusters and Terms Used to Eliminate Foreign News Stories

(N)		(N)		(N)	
80	arab	93	israel	94	german
111	canad	118	chin	128	polan
152	iran	153	brit	196	europe
202	mexico	260	africa	263	japan
299	sovie	351	foreign	456	world
544	internat				

B. Character Clusters and Terms Used to Identify Paragraphs Containing Specific Messages About Economic Conditions

(N)		(N)		(N)	
126	recess	126	financ	145	stock
147	deficit	151	growth	154	market
155	consume	158	spend	163	mone
165	produc	182	tax	192	indust
210	employ	227	busin	229	interes
236	inflati	246	budget	340	price
1834	econom				

C. Character Clusters and Terms Used in Text Scoring

(N)		(N)		(N)	
260	improv	269	unemploy	285	n't
351	down	380	recover	393	low
396	up	411	decline	414	spend
456	recess	464	tax	538	deficit
541	interest r	561	market	600	high
650	increase	694	inflation	704	not
886	price	895	grow		

Note: This table contains a partial list of the most frequently encountered character clusters and terms used in the filtrations and text analysis.

conditions an increase in the rate of inflation is *not* expected in the future" was coded as favorable news about economic conditions since the scoring system was designed to consider the significance of the word *not* in the statement. Relational operators in the scoring system specified how any of the terms in one cluster would act on any of the terms in another cluster in evaluating how each paragraph would be scored.

The computer text analysis, using the scoring rules and concept categories described above, was applied to several of the randomly sequenced text files. The computer scoring was then compared to the scoring decisions of independent human coders. This process was repeated until the computer scoring rules yielded coding decisions comparable to those of the human coders.

Each paragraph was scored for favorable and unfavorable information about the economy. If a paragraph contained a passage identified as having either favorable or unfavorable information about the economy it was scored as containing an "infon" pressure in that direction. If a paragraph contained both favorable and unfavorable information, the paragraph was scored for both positions. A total of 4,282 paragraphs contained in 1,252 news stories were coded as containing either favorable or unfavorable infons. Eighty-two percent (1,027) of the stories had at least one paragraph scored as containing favorable economic news, and 84 percent (1,047) of the stories had at least one paragraph scored as containing unfavorable economic news. The total score for all favorable infons was 2,082 paragraphs. The comparable figure for unfavorable infons was 2,183 paragraphs.

Ideodynamic Modeling of Consumer Sentiment

The infons resulting from the content analysis described above are used as the basis for the mathematical modeling of the persuasive influence of the information environment (Fan, 1988). The infon pressures in both directions entering the system during every 24-hour period are added together to represent the messages pressure on public sentiment about the economy. The predicted movement of public sentiment resulting from the message pressures is operationalized as a function of the opposing pressures (favorable messages versus unfavorable messages) operating over time. The influence of each AP paragraph was hypothesized to decay at a rate of about 50 percent per day, so that after about one week a specific message is no longer capable of exerting influence on the subsequent movement of public sentiment. This average decay rate has been empirically validated in a series of studies reported by Fan (1988).

The mathematical model further specifies that the message pressures only influence opposing sentiments. The rationale for this assumption is quite simple. If a segment of the population is already categorized as having a favorable outlook about the economy, the introduction of favorable message pressures will not push them out of this category. On the other hand, the introduction of favorable message pressures will operate on the segment of the population with an unfavorable outlook about the economy. The general form of the model is:

$$F_t = F_{t-1} + k'(GF_t * U_{t-1} - GU_t * F_{t-1})$$

where: F is favorable sentiment, k' is a constant, GF is message pressure on favorable sentiment, U is unfavorable sentiment, GU is message pressure on unfavorable sentiment, and t is time.

The constant in the equation is introduced to control the volatility of the predictions generated by the model. The actual mathematical formula used in the opinion predictions is somewhat more complicated since the GF and GU parameters take into account residual half-life influences of messages (see Fan, 1988, for a full discussion of the mathematical model).

RESULTS AND DISCUSSION

Figure 1 depicts the total number of messages analyzed, aggregated by month, for the period beginning January, 1977 through August, 1988. Although the initial sample of 2,000 news stories should have been adequate to provide a good base for representing economic news content during the entire period, it seems clear from Figure 1 that AP wire coverage of the economic issues captured by this analysis increased substantially after 1981. As a consequence, fewer than 10 messages were captured during most of the months prior to the second quarter of 1979. While this is likely to be an accurate reflection of actual news densities -- given that stories were sampled at random rather than systematically -- it does suggest that the sampling fraction (2,000/38,279 or 5%) may not have been large enough to provide desired reliability for predictions of media impact on consumer sentiment for periods during which the economic news density was extremely low.

Figure 2 shows the initial coding of the paragraphs as either favorable news about the economy or unfavorable news about the economy. This simple analysis is an excellent depiction of the conflictual nature of news reporting. While it is possible to detect periods during which good news was more prevalent than bad news, and vice versa, the most clearly observed pattern is the tendency for increases in news coverage to yield increases in both good and bad news. This finding adds considerable insight into the findings reported in agenda setting studies (McCombs & Gilbert, 1986). As an issue becomes more salient in the news media by virtue of increased coverage, so does the salience of the conflict about the issue. Indeed, subsequent studies may well find that it is not simple news salience that leads to agenda setting effects but issue conflict made salient by the news coverage.

The ideodynamic model starts with the raw count of paragraphs scored for favorable and unfavorable infons as a basis for the calculation of "infon pressures." If a particular piece of news is not repeated or given additional coverage its impact on the message environment is reduced to zero after several

FIGURE 1
Total Messages About the Economy

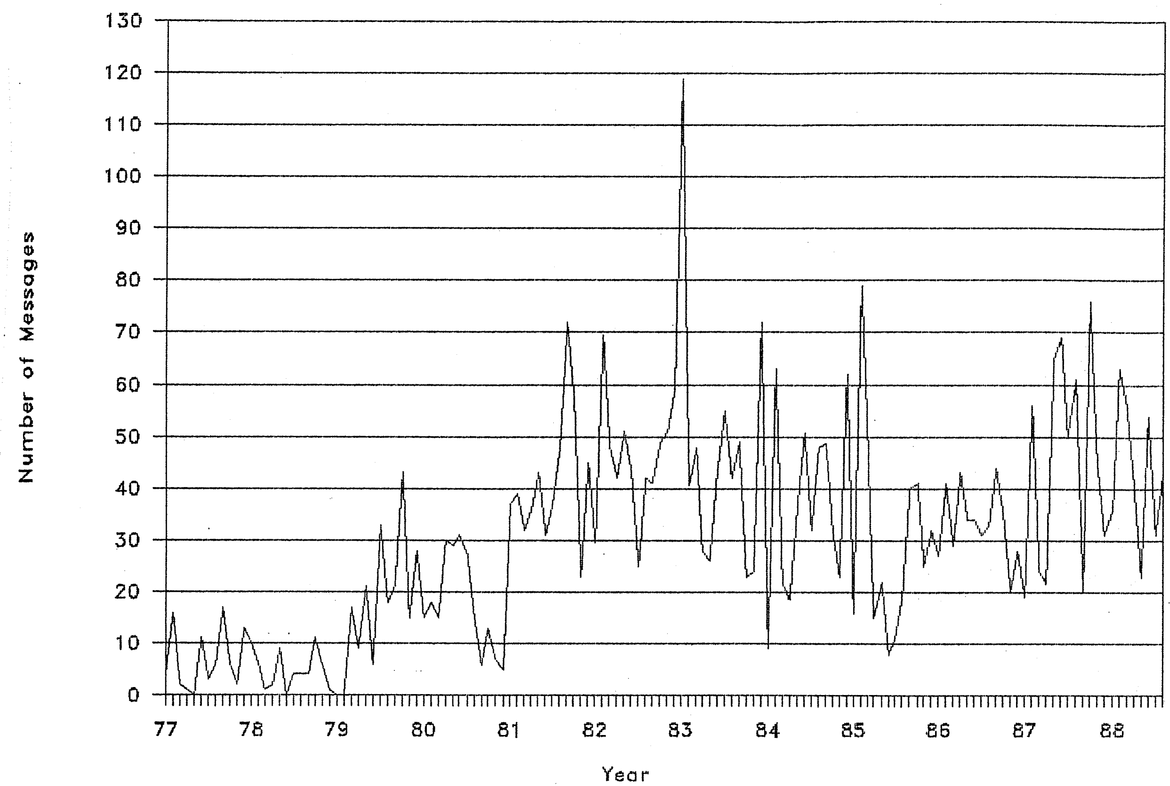
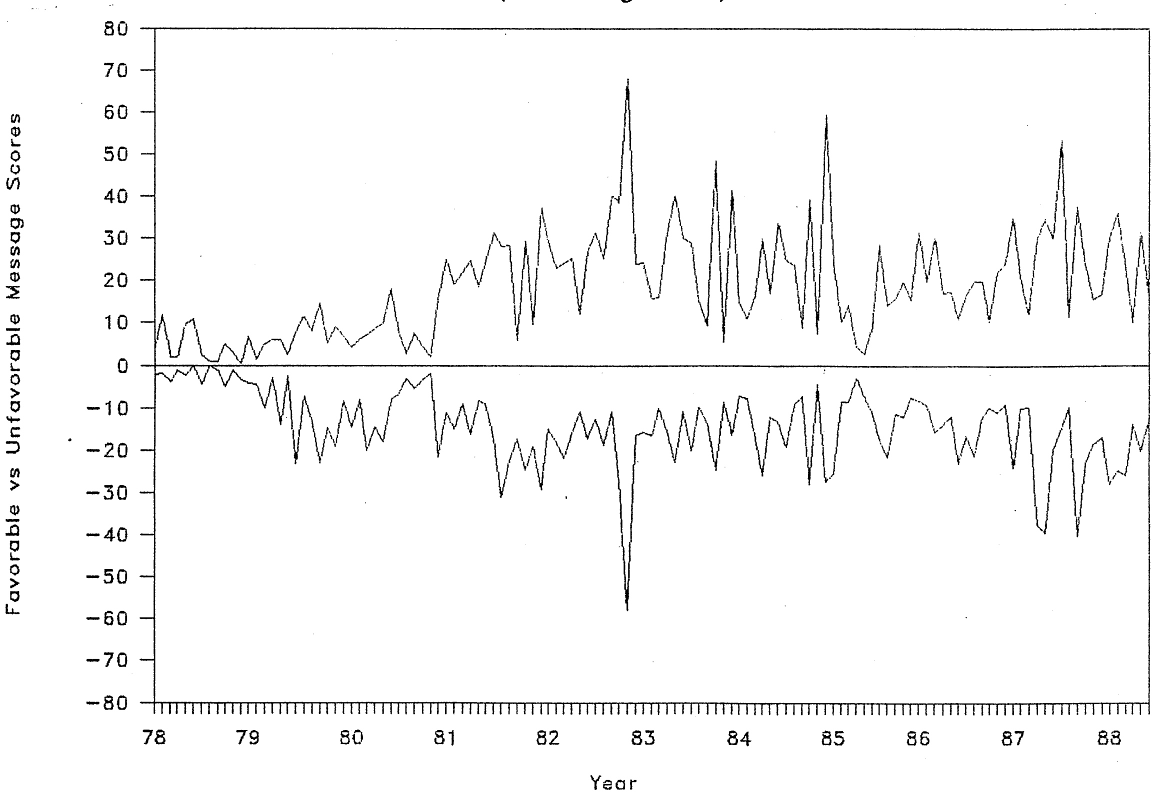


FIGURE 2
Favorable and Unfavorable Messages
(Raw Message Scores)



days. Figure 3 contains the transformations of the raw infon scores aggregated for each month into infon *pressures*. The results indicate that message pressures in one direction tend to be countered by message pressures in the opposite direction. The zero-order correlation between the two infon pressures is .71 ($p <$ .001).

The net pressure on public sentiment from the media environment at any given point in time can be seen by simply examining the difference between the two infon pressures (see Figure 4). The analysis of net message pressures shown in Figure 4 suggests that the message pressures on public sentiment about the economy varies substantially during the period under investigation. Although this analysis provides a very useful summary of the characteristics of the economic news environment, it does not directly translate into changes in public sentiment resulting from the news environment.

Using the value of the Index of Consumer Sentiment during the first quarter of 1977 as a starting point, predictions for the Index were calculated using the cumulative impact of the infon pressures shown in Figure 4. The calculations were based on successive evaluations for each day during the period. Figure 5 shows the results of these predictions averaged by each month between January, 1978 and August, 1988. The figure does not show the calculations for 1977 since the Index of Consumer Sentiment was not gathered on a monthly basis prior to January, 1978.

Based only on the influence of news coverage of economic issues by the Associated Press the resulting infon pressures were used to predict the Index of Consumer Sentiment over a 127-month period. Since the ideodynamic model uses no information about prior values of the actual Consumer Sentiment Index beyond an initial starting point, it is entirely possible for the ideodynamic predictions to move off in directions unrelated to the movement of the Consumer Sentiment Index. Figure 5 shows that the Consumer Sentiment Index was predicted to show a strong downturn between 1978 and 1980. It was predicted to show a brief improvement followed by another decline during 1981 and a period of recovery between 1982 and 1984. After 1984, the prediction was for the Index to remain relatively high until mid-1986, after which a gradual downturn was predicted.

Figure 6 shows the actual values of the Index of Consumer Sentiment reported by the Institute for Social Research at the University of Michigan from January, 1978 through July, 1988. A direct comparison of the Index and the ideodynamic predictions for the Index is shown in Figure 7. The correlation between the consumer surveys ($n = 127$) and the ideodynamic predictions is .70 ($p < .001$). These findings support the prediction that changes in the distribution of favorable and unfavorable news about the economy can be used to predict secular changes in consumer sentiment.

The Index of Consumer Sentiment is often broken into an Index of Sentiment about Current Conditions and an Index of Sentiment about Expected Conditions. Figure 8 shows the values of the Current Index, Expected Index, and the ideodynamic predictions. When the Index of Consumer Sentiment is broken out in this fashion it becomes clear that the variations in the ideodynamic predictions typically fall within the boundaries of the variation between the Current and Expected components of the composite Index. Overall, the ideodynamic predictions are a somewhat more accurate model of the Index of Consumer Sentiment about Current Conditions ($r = .76$, $p < .001$) than the Index of Consumer Sentiment about Expected Conditions ($r = .62$, $p <$ .001).

DeFleur and Ball-Rokeach (1982) note:

> ... when media messages help to create an affective state of fear about one's own and the nation's economic future or the belief that a depression is unavoidable, people may *not* buy stocks, new cars, certain foods, or a multitude of other products that they would have otherwise bought (p. 275).

What we have shown is that the news media are doing more than simply communicating news about economic events; they are defining the meaning of the events. In turn, the media definitions appear to serve as excellent guides to the distribution of public sentiment about the economy.

In terms of a broadly defined cultivation hypothesis, these findings are equally significant. We have defined cultivation as the ability of the media message environment to have systematic influences on perceptions of social reality. Unlike traditional cultivation studies, which have been limited to attempts to document "distortion" of social perceptions, our approach is to demonstrate that changes in the distribution of message pressures can be used to model changes in the social perceptions of large populations.

The ideodynamic model recognizes that the media environment is not static -- the pressures it exerts are neither uniform nor unidirectional. It leaves open the possibility that the message environment contributes to the distortions so elegantly outlined by Gerbner and his associates (Gerbner, et al., 1986). It seems likely that, when organizational and economic forces operate to constrain the news gathering process and/or the content attributes of entertainment programming, systematic distortions may result. (See Bennett (1988) for a detailed discussion of this subject.)

Cultivation theory acknowledges the cumulative impact of messages on perceptions of social reality. It acknowledges the ability of media representations to have influence beyond heightened awareness. In these respects the theory is quite similar to ideodynamic theory. Ideodynamic theory differs in its emphasis on the dynamic influence of message pressures. In reporting news about the economy the news media do more than simply tell us that unemployment has increased; they tell us if it's okay because it is a temporary change resulting from success in dealing with some other economic concern or if it signals a serious economic problem. In reality, as we have shown, changes in economic conditions will result in

FIGURE 3

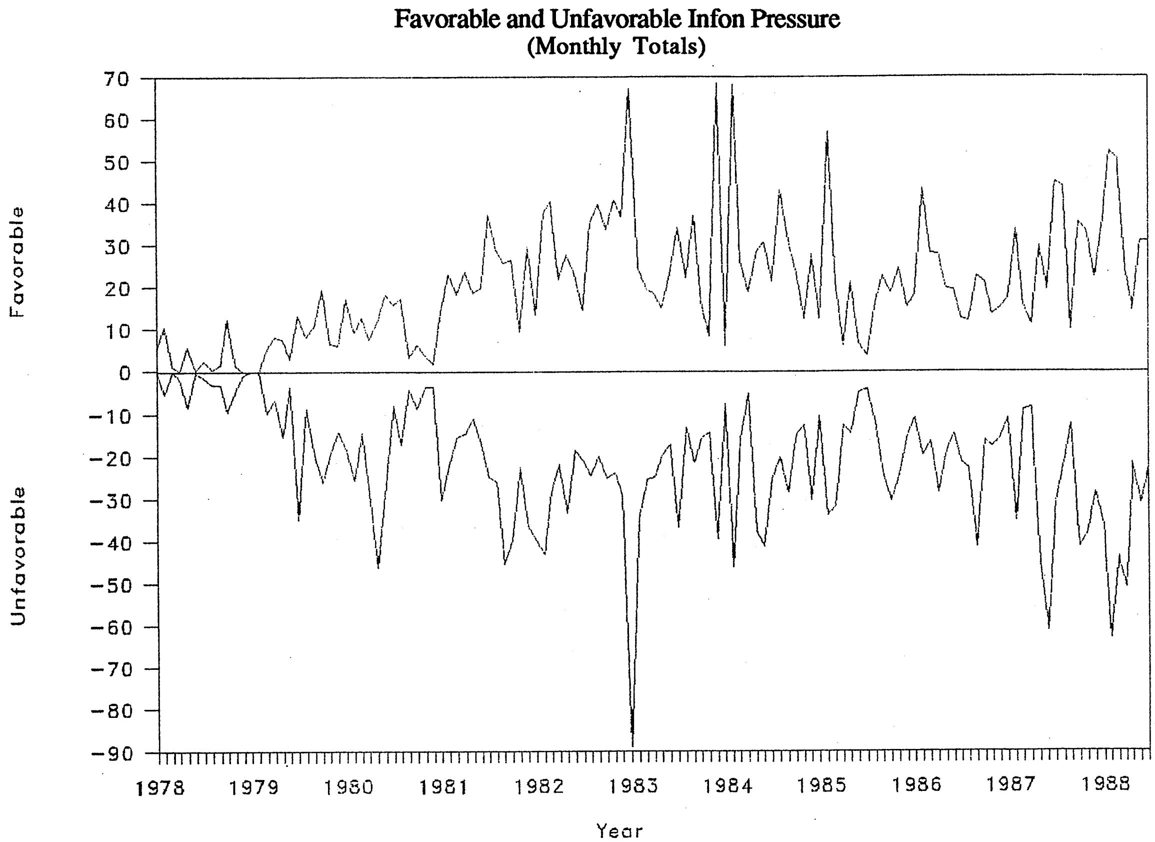


FIGURE 4

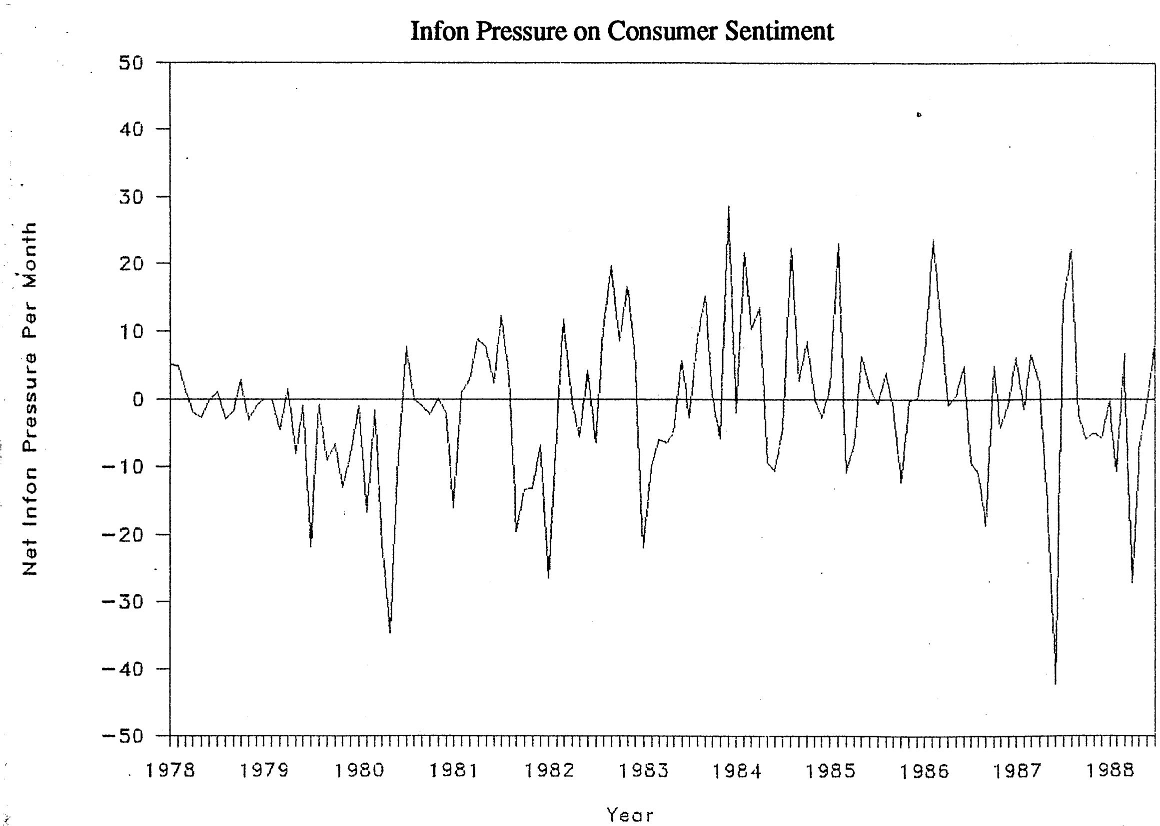


FIGURE 5
Infon Predictions of Consumer Sentiment

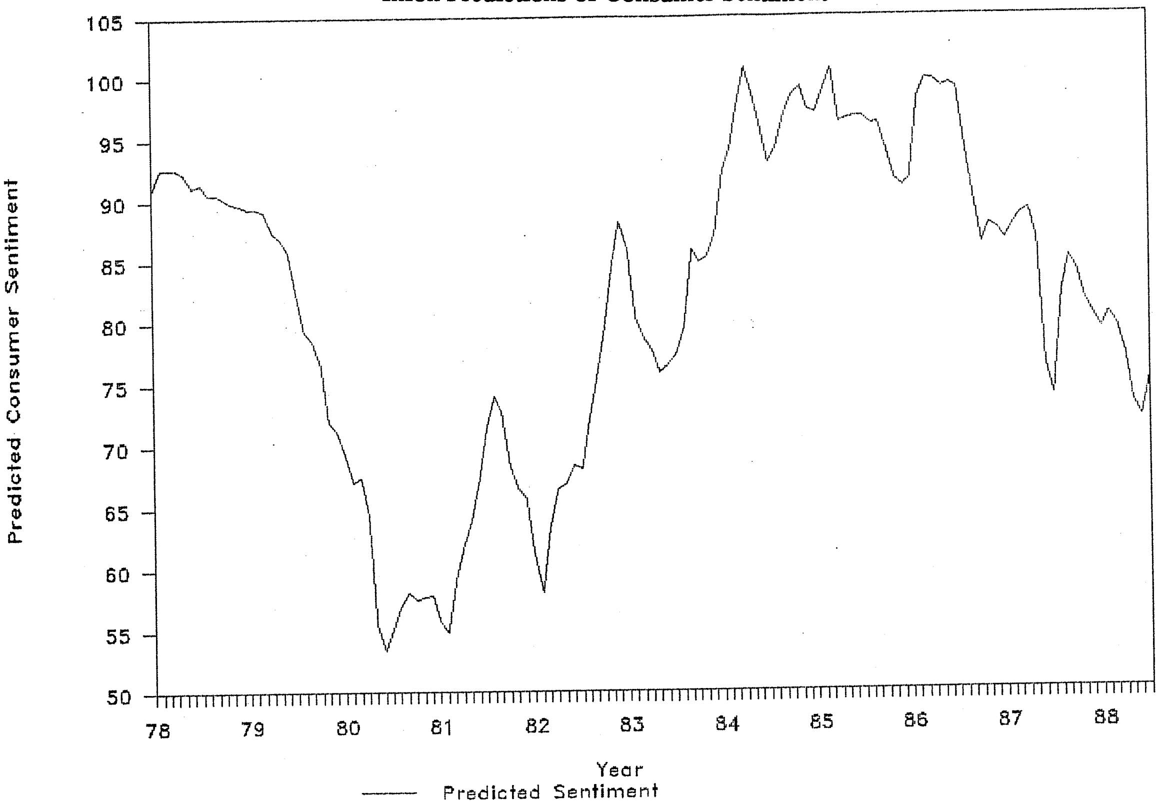


FIGURE 6
Index of Consumer Sentiment (ISR)

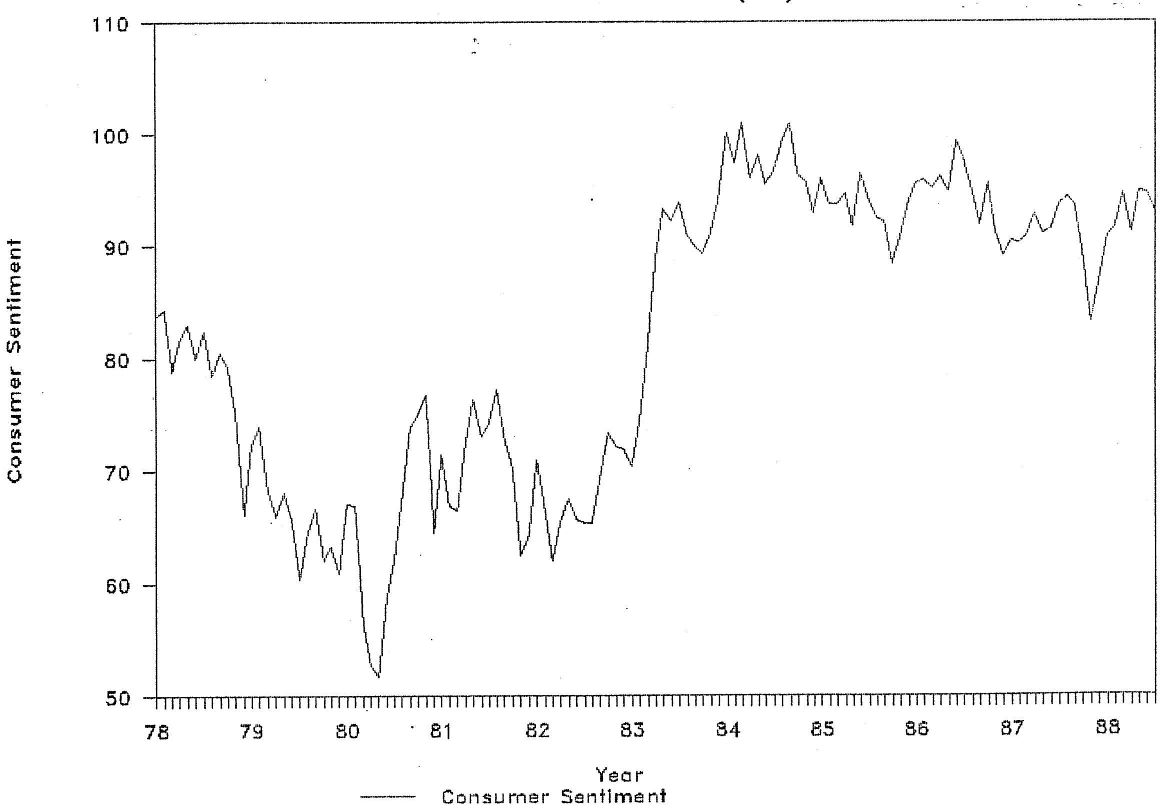


FIGURE 7
Ideodynamic Prediction and CSI
(Standardized Values)

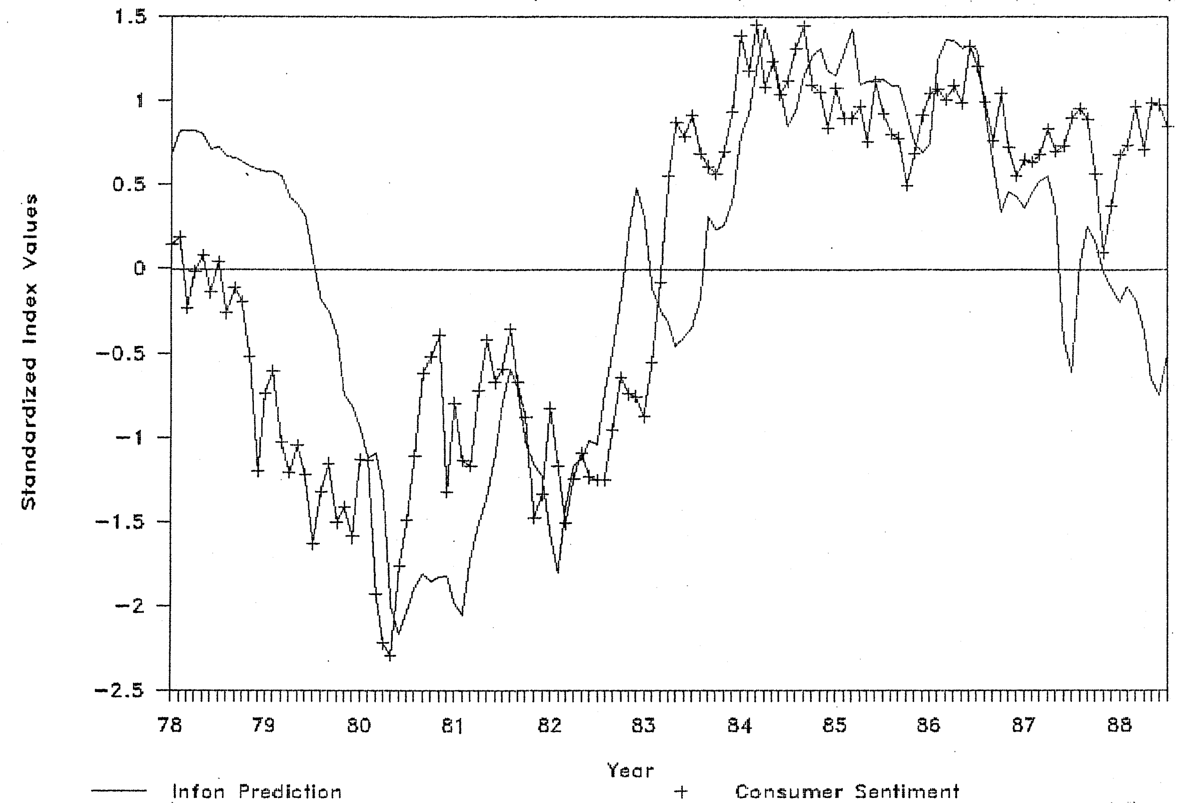
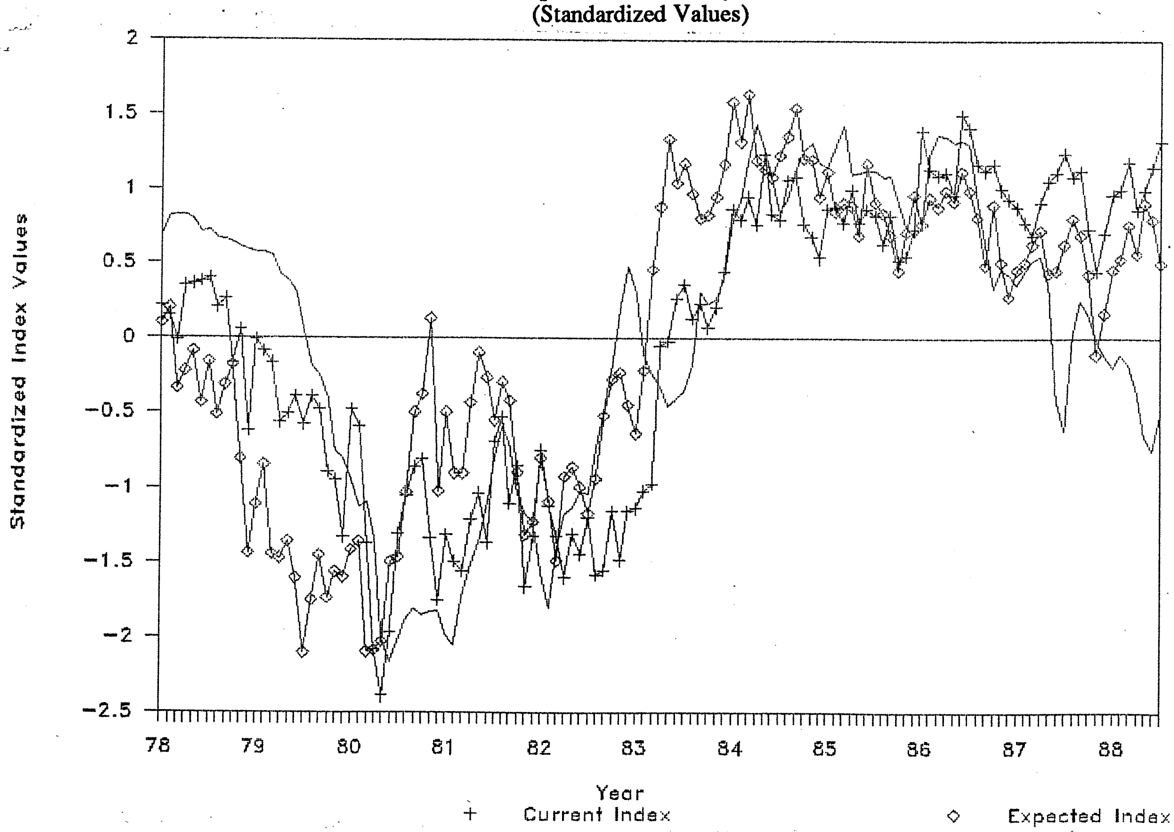


FIGURE 8
Current, Expected, and Ideodynamic Index
(Standardized Values)



conflicting interpretations. What ultimately matters is if the prevailing message environment favors one side or the other of the conflict. From our perspective, it is the news media's playing out of the issue conflict that influences the public's perception of social reality.

Perceptions of the Economic News Environment

The Surveys of Consumers Series conducted by Michigan's Institute for Social Research includes several measures beyond those used for the Index of Consumer Sentiment. One of these is a measure asking respondents: "during the last few months, have you heard of any favorable or unfavorable news about business conditions?" The question format permitted respondents to mention hearing both favorable and unfavorable news. Although this measure does not entirely capture the scope of the Index of Consumer Sentiment nor fully represent the domain of the content analysis used for the ideodynamic predictions, it does provide a useful means for determining if changes in the *perceived* news environment covary with the Index of Consumer Sentiment and with the content analysis of economic news used for the ideodynamic predictions.

For the present study this item was converted to an index using the same procedure used in constructing the Index of Consumer Sentiment. Mentions of unfavorable news were subtracted from mentions of favorable news and added to 100. Thus when favorable news is exactly equal to unfavorable news the index has a value of 100. When unfavorable news is more often mentioned than favorable news the index has a value less than 100. Figure 9 presents the scores for this News Index. The perceived news environment represented by this index shows considerable variation, ranging from a low score of 10 in early 1980 to a high score of over 150 in early 1983. A sharp change in the perceived business news environment is evident during the second half of 1982.

Figure 10 shows the standardized values of the Index of Consumer Sentiment compared to the standardized values of the News Index ($r = .78$, $p < .001$). These findings show that the respondents in the consumer surveys were indeed aware of changes in the news environment and that substantial covariation exists between the perceived economic news climate and the level of consumer sentiment. This represents confirming support for our position that the movement of public sentiment is closely linked to the salience of favorable versus unfavorable economic news reaching the public.

A comparison of the perceived News Index and the ideodynamic predictions of consumer sentiment are shown in Figure 11 ($r = .54$, $p < .001$). The findings reported in Figure 11 are quite impressive keeping in mind: that (1) the ideodynamic predictions for each month are based on fewer than 10 news stories (on average); (2) the predictions were designed to model the Consumer Sentiment Index rather than favorable versus unfavorable business news; and (3) the news heard measure asks a very global question about hearing favorable or unfavorable news over the past few months.

The secular trends in perceptions of the news environment generally correspond to the ideodynamic model's predicted pressures of the news environment on consumer sentiment. While the fit is not perfect, it does tend to provide further validation of the ideodynamic model and the methodology used in the content scoring system.

CONCLUSIONS

The findings reported in this study are representative of an emerging trend in media effects research toward systematic investigation of the influence of the media message environment on social change in large social systems. The demonstrated ability of the ideodynamic model to predict changes in the aggregate distribution of consumer sentiment over a span of more than 10 years lends support to our hypothesis that the message environment plays a major role in cultivating perceptions of social conditions. The success of the predictive model also contributes to the further validation of Fan's mathematical representation of the influence of information in social systems (Fan, 1988).

This research is neither a throwback to early conceptions of powerful direct effects of the mass media on individuals nor a challenge to more recent theories describing the active role of the individual in categorizing, filtering, and integrating information. We recognize: (1) that specific messages are not universally available; (2) that individual differences abound in the interpretation, personal relevance, and processing of messages; and (3) that personal circumstances and experiences are likely to play a significant mediating role in the process of message assimilation. Nonetheless, we also recognize: (1) that much of what we know about the larger social environment in which we live comes to us via mediated channels; (2) that the changes in the representation of social conditions in these channels provide a unique common source of "experience" for members of the social system; and (3) that changes in the distribution of sentiment in large social systems is not random. One need not deny the uniqueness of the individual to accept these notions or the position that a primary source of influence in the movement of public sentiment in large populations is the information environment. In this study we have shown that, when the persuasive characteristics of the message environment are rendered systematically observable, changes in that environment provide a powerful foundation for predicting changes in the distribution of public sentiment.

A number of methodological issues will need to be addressed before we can make definitive statements about causality. Obviously, we need to examine changes in leading economic indicators along with the ideodynamic predictions and the measures of consumer sentiment using autoregressive integrated moving-average (ARIMA) models before we can rule out many of the alternative explanations that might account for the observed relationship. An extensive program of research in this area is now underway.

FIGURE 9
News Heard About the Economy (ISR)

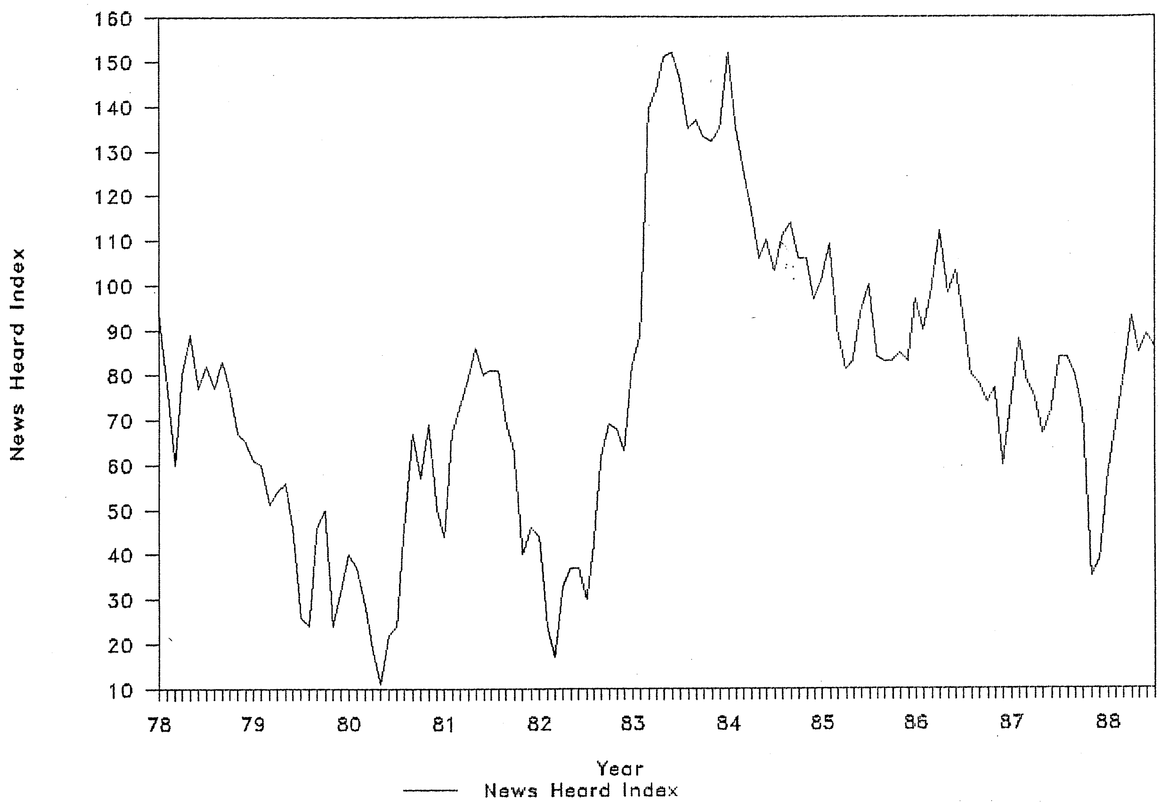


FIGURE 10
News Heard and Consumer Index
(Standardized Values)

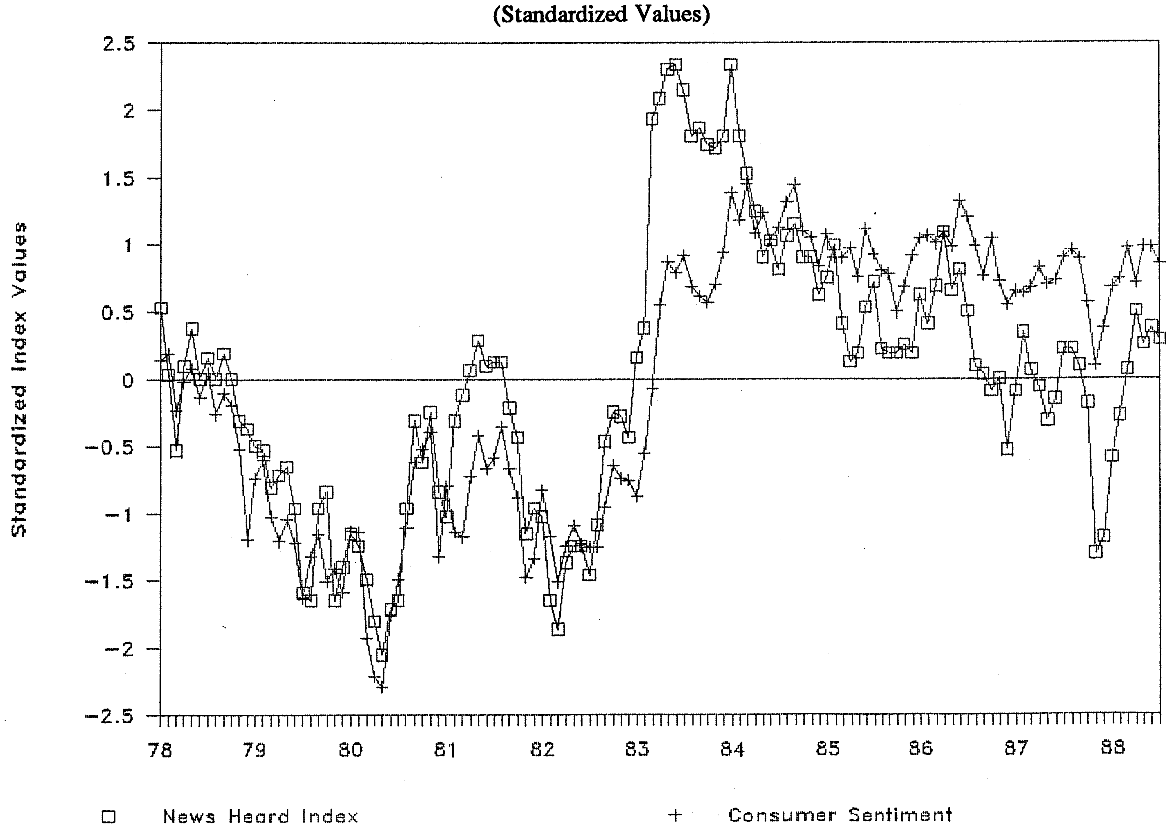
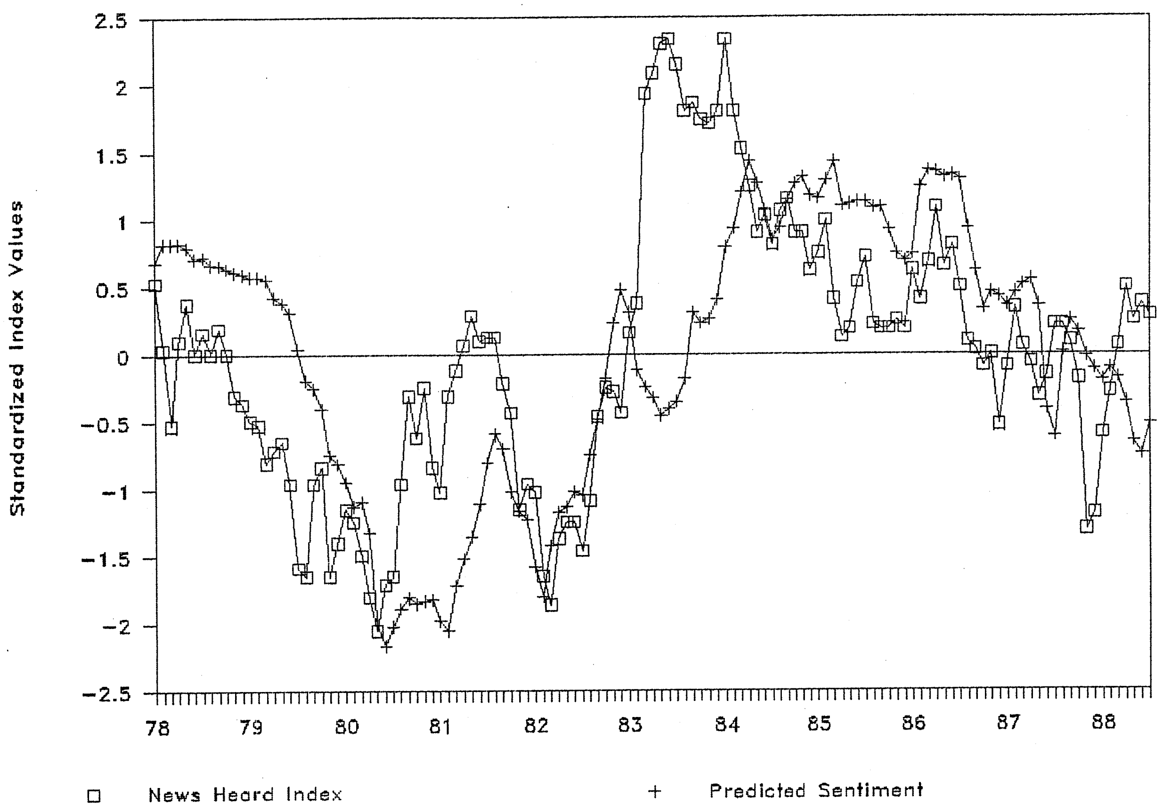


FIGURE 11

News Heard and Infon Predictions
(Standardized Values)



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The Mass-Mediated Consumption Realities of Three Cultural Groups

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ABSTRACT

An important and fundamental question that needs to be addressed in consumer acculturation research is how and through what sources people in various ethnic groups perceive the consumption reality in the host society. The cultivation theory of communication has long proposed that those who habitually render themselves to television messages would construct a different version of the social reality than those who watch very little television. It is therefore reasonable to suspect that the cultivation effects would be the greatest among the acculturating individuals who tend to rely mostly on mass media in their understanding of the way things are in the host society. This perception of consumption reality would undoubtedly have significant impact on the acculturating individual's newly acquired or adjusted orientation toward consumption. The present study attempts to apply the cultivation theory of communication to the study of consumer acculturation process.

The study examined the relationship between exposure to mass media and the perception of consumption reality in three groups of respondents--Taiwanese, Taiwanese residents in the U. S., and Americans. The perception of consumption reality was assessed from respondents' estimated percentages of Americans who own or enjoy various consumer products and services which are often portrayed in the mass media. Their self-reported exposures to the dominant American mass media, television, were also measured. Results indicate general support for the cultivation theory of communication and observe interesting phenomena when comparing the cultivation effects across cultures.

INTRODUCTION

Culture is one of the fundamental determinants of human experience and behavior. In today's global environment, the maintenance of a single culture in isolation has become virtually impossible. When cultural groups come into contact with one another, certain changes are expected to occur. These changes can be perceptual, attitudinal, or behavioral. Acculturation, therefore, describes the changes in attitudes, values, or behavior of members of one cultural group toward the standard of the other cultural group (Gordon 1964; Herskovits 1941; Triandis, Kashima, Hui, Lisansky, and Marin 1982). Consumer acculturation is simply that aspect of the acculturation process which concerns the consumption-relevant attitudes, values, or behaviors. Implicit here is the acknowledgement that in today's world all cultures are constantly engaging in this merging process.

To truly understand cross-cultural consumer behavior, consumer behavior researchers must first know how and from what sources aspects of consumer knowledge are adopted. For immigrants to acculturate into the American culture, they must first learn, from various acculturation agents, the symbolic meaning system of the host society. What they have acquired from their culture of origin may be inadequate and subject to modifications as they encounter new social environments. Depending on their original cultural backgrounds, immigrants are open to different parts of the American culture and interpret their experiences in different ways (Glazer and Moynihan 1970).

In the process of acculturation, individuals rely on both direct and indirect channels to facilitate their understanding of the culture of residence. Several important variables may act upon their merging process differently. In particular, the sources through which individuals become acculturated may very likely dictate their renewed orientations toward aspects of life. Undeniably, twienth century American mass media offer the immigrant a unique opportunity to take a quick view of the American society. In this case, even without first-hand experience, immigrants are still able to understand how Americans live their lives. This mass-mediated learning may result in fundamentally different social perceptions and behavioral patterns than that acquired via direct experience (Adoni and Mane 1984; Berger and Luckmann 1987; Gerbner, Gross, Signorielli, Morgan, and Jackson-Beeck 1979; McLeod and Chaffee 1972). It would therefore be reasonable to argue that acculturating individuals, in their eagerness to adjust to and become members of the culture of residence, be most susceptible to the messages from mass media and, in turn, perceive an often exaggerated version of affluence in the host society.

There is, in fact, a unique aspect of the American culture, namely, a "consumer culture." It is a culture which evolves mainly around material abundance and the happiness obtained through the pleasure of consumption (McCracken 1985). Needless to say, many immigrants come to the United States for the pursuit of the so-called "American dream." Oftentimes, this American dream is premised upon the belief in, and promise of, a material "good life." In many ways, the symbolic meanings of material objects explain the underlying reasons for the motivation to own and the desire to display various consumer products. Therefore, it is crucial that we closely examine the way in which those new to America learn to become "American consumers."

The present study is an attempt to investigate the consumer acculturation process of members of the Chinese subculture in the United States and, most importantly, their perception of American consumption reality. Specifically, this study explores the impact of mass media on consumption reality. Chinese residents in the United States, while adopting varying levels of many aspects of the American culture, learn the consumption-related attitudes, knowledge and skills in order to function as consumers in the American marketplace. Among these many things, one of the first thing they are likely to learn are the socially expressive aspects of being an American consumer. The agents very likely to be responsible for this type of consumer learning in the United States are the mass media (O'Guinn, Faber, and Rice 1985; O'Guinn, Lee, and Faber 1986). Through the mass media, the acculturating individuals may learn what consumer products they "should" want and own in order to be considered as members in good standing of the dominant society.

CULTIVATION THEORY AND MASS-MEDIATED CONSUMPTION REALITY

It may be difficult for us to admit that less and less of our information these days comes directly from our experience with the "real" world. Instead, most of our perception and understanding of the world around us comes indirectly from the mass media. McLeod and Chaffee (1972, p. 349) also indicate that "our complex communication systems enable us to overcome the time and space limitations and leave us with a greater dependence on mass media in shaping our ideas about how things are in the world." Among the various mass media, television undoubtedly exerts the most influence on our everyday life.

An approach to the study of how mass media affect the individual's construction of social reality is George Gerbner's cultivation theory of communication (McQuail 1983). Social reality is generally defined (Ogles 1987, p. 43) as:

> internalized, learned expectations derived from (1) past experiences, and (2) information, such as that obtained from media exposure.

The assumption of the cultivation theory is that people are brought up in a mass-mediated environment which cultivates images based on the cultural conventions. Gerbner considers television content to be mostly stereotypical and inconsistent with the "real" world. This discrepancy between media content, especially that of the television, and the real world gives two very different versions of what the world is like. An individual's perception of the world, therefore, as would be argued by Gerbner, depends on the amount of television the individual is exposed to. The most widely known theme of this cultivation theory is the so-called television-viewing-and-aggression hypothesis during the 1970s (Morgan 1980). An example of this type of hypothesis is that heavy television viewing would result in people's exaggerated estimations of violence in the society (Gerbner 1973). Similar findings of cultivation effects have been documented over the years (Carveth and Alexander 1985; Hawkins and Pingree 1981, 1982; Morgan 1986; Perse 1986; Pingree 1983; Potter 1986; etc.). A general agreement among those studies is that when individuals have very little or no direct experience, they are more likely to think television portrayals are realistic and thus more cultivation effects. This is exactly the case for the acculturating individuals who enter into a new cultural environment with very little, or in most cases zero, first-hand experience of the environment.

The major implications of the cultivation theory of communication are two-fold: (1) the stereotypical nature of television content; and (2) the content of television begins to be accepted as reality by the group of audience who habitually watch television. In other words, the content of television may have become the primary source for the construction and validation of social reality. The impact of television programs is mainly in their ability to construct for the audience an imaginary world where everyone can experience the maximum excitement in life without being confronted with the risks that usually accompany such forms of excitement in reality (Cawelti 1976). In most television programs and almost all commercials, we see people display the pleasure of consumption and ownership. However, rarely do we see them engage in the moment of purchase where hard-earned money is spent. We usually see an exciting picture, the before-and-after kind of picture, rather than the in-between process where reality comes in.

Advertising, in particular, provides a different kind of messages from that of television programs. Needless to say, the goal of advertising is to portray for the audience a desirable way of life which is mainly consumption-based. The focus is therefore on consumer products and what they can do for the individuals, either functionally or symbolically. The notion that consumer products can communicate symbolic social meanings and can thus be used to express one's self-concept is not new in consumer behavior research. It has long been documented that many consumer products possess symbolic features and that the consumption of consumer goods is often dependent more on their social meanings than their utilitarian functions. Research in the areas of symbolic consumption (Hirschman 1980), the role of consumer products in impression formation and communication (Belk 1978; Belk, Bahn, and Mayer 1982; Holman 1981; etc.), and product-image and self-image congruence (Birdwell 1968; Dolich 1969; Gardner and Levy 1955; etc.) all point to the significant role of consumption for social recognition. In more than one way, consumers rely on the social image associated with products to assert self-identity and satisfy role performance. It is therefore logical to suspect that acculturating individuals, who are uncertain about their identities, would show greater reliance on material symbols to create an "in-group" feeling (Wallendorf and Arnould 1988).

Materialism has always been thought of as one of the underlying determinants of how people want to live their lives. Belk (1985) suggests that "what one does" (status) used to be a strong determinant in a person's self-image. However, "'what one has' became a stronger part of self-image as individuals move toward a larger and more anonymous societies with multiple role identities" (Belk 1985, p. 266). This focus on the material world is said to be prevalent in the values and aspirations of Americans (Yankelovich 1981). Such a materialistic outlook has also become widely spread through the images and ideals protrayed in the mass media. It has been the general consensus of communication researchers that mass media transmit the cultural aspects of the society. It is conceivable that materialism is an important cultural trait concerning consumption in the United States. The desire to retain ownership of one's possessions is most likely cuturally bound.

Mass media, especially television, provide a unique type of consumer acculturation sources. Rather than specific information on purchase decisions, mass media provide mainly images and values for various types of consumption activities. Research has shown that mass media rarely provide specific information for consumption-relevant skills (Resnick and Stern 1977). Therefore, individuals absorb from mass media mainly the general attitudes and values *about* consumption. In fact, mass media are said to be conveying the idea of material abundance and the desirability of consumption ownership (Faber and O'Guinn 1988; O'Guinn et al. 1985). Their contents may be important sources for individuals' acquisition of a variety of consumption-related norms. It is therefore reasonable to expect television viewing to be positively related to individuals' perception of consumer objects owned in reality.

It may still be too early to make a conclusion about the causal relationship between television viewing and the construction of social reality. However, it is reasonable to suggest that television does portray for the audience a culturally defined social reality, especially for the acculturating individuals. An important notion here is that American mass media convey a consumption-oriented aspect of the American culture not only to the Americans but also to those new to the country, the immigrants.

A central theme of the acculturation process is the constant interaction of ehtnic subcultures and host society. There are various ways that the acculturating individuals come into contact with the host society, either directly (school, work place) or symbolically (mass media). However, the constant interaction from direct contact can also be very difficult for the acculturating individuals who are not entirely fluent in English. Television, the major pictorial mass media, therefore provides a perfect solution to the dilemma. The acculturating individuals with inadequate language skills can always understand the television programs through their vivid pictorial presentations. Television viewing among those acculturating individuals is by no means passive. The type of learning from mass media, especially television, is in essence an emulating process. Most immigrants are adults when they come to the U. S.. This means that they need to pick up the dominant American culture in a relatively short period of time in order to function as members of the society. Mass media are readily available for the immigrants. They help reduce the embarrassing situations one has to go through to "do things right." Imitating television characters or personalities appears to be an easy way to learn the "appropriate" behavior for various social occasions. This has special implications for the study of the acculturation process.

Even though research on ethnic media usage is scattered, some investigations on the function that mass media serve to immigrants have revealed that immigrants use more television as a source of knowledge regarding how people live, to explain how important issues and events relate to them as individuals, and to provide explanations on things already experienced (Nagata 1969). For example, Garcia (1982) concludes that preference to be associated with media entertainer an important clue in identifying cultural orientations. Research on Mexican Americans has suggested that they prefer the mass media over many other agents as a source of information and advice. The affluent lifestyle commonly portrayed on television, especially in advertising, has long been documented (DeFleur 1964; Gentile and Miller 1961; Smythe 1954). O'Guinn, Faber, and Rice (1985) also indicate that:

> Content of U. S. television during the 1970's and 1980's is much the same as films of the 1920's. The themes are of opulence, and the glorification of conspicuous consumption.

Less than affluent life styles are sometimes presented, but they are generally overshadowed by portrayals of the "good life" (Fox and Philliber 1978). To the immigrants, this may very well be synonymous with "American culture," and to become acculturated to the "mainstream" American society would therefore mean living a materially abundant life.

THE STUDY

The present study examines the cultivation effects on the perception of consumption reality among Chinese subculture in the United States relative to the culture of origin (Taiwanese) and the culture of residence (American). The cultivation theory of communication suggests that the more the individuals are exposed to mass media, especially television, the more likely they are to perceive the mass-mediated portrayal as reality. Given the pervasive messages of conspicuous consumption in today's television programs and advertising, it is logical to expect those acculturating individuals to perceive a society that is affluent and mostly consumption-oriented. On the other hand, for those acculturating individuals who have little television exposure, they would have a different picture of the American society. Expanding on this notion, the hypothesis for the study can be stated as: Those acculturating individuals who watch a great deal of television would differ significantly from those who watch very little television in their perception of consumption reality in the U. S.

Samples

Since the objective of the study was to examine the cultivation effects in the process of consumer acculturation, it was necessary to include both the culture of origin (i.e., Taiwanese/Chinese) and the culture of residence (American) as anchors. Thus, three groups of respondents were included in the study: Taiwanese in Taiwan, Taiwanese residents of the United States, and Americans. Students attending major Taiwanese and U. S. universities were used as participants in the study. Initially, a sample of approximately 40 college students in each group was use in the elicitation. The purpose was to gather qualitative information on consumer products and services that are usually associated with American's way of life. A list of 12 items was then compiled.

Subsequently, approximately 200 university students from each cultural group were asked to participate in the study (N=641). The Taiwanese participants were students attending four major universities in the Taipei metropolitan area in Taiwan. The acculturating Taiwanese were students attending universities in the United States (three universities in Midwest and one in Southwest). The American respondents were mainly students attending a state university in the Midwest.

Measures

The study employed a survey research design using self-administered questionnaires. Taiwanese students attending major U. S. universities and American college students were asked to respond to English questionnaires. The same questionnaire was translated into Chinese and was used with Taiwanese college students. Back-translation technique was used (Brislin, Lonner, and Thorndike 1980).

Major variables in the study consisted of exposure to television and perception of consumption reality. Exposure to American television was used as the independent variable while perception of consumption reality was the dependent variable. Exposure to television was measured from respondents' self-reported amount of time spent watching television daily. Perception of consumption reality was defined as the individual's perception of what the social reality of consumption and ownership is. It was operationally defined as the estimated percentages of people in the society who own or enjoy various consumer products or services. The 12 items generated from elicitation were: a house; a house with a pool; a boat; a sport car; a personal computer; take yearly vacation to Europe; have servants at home; more than one car; a microwave oven; a phone answering machine; a video cassette recorder; and a compact disc player. Respondents were simply asked to write down, for each of the 12 items listed, their estimated percentages of Americans who own or enjoy them.

RESULTS

In Table 1, respondents' estimated percentages of the ownership of various consumer products and services in the American society were compared across the three cultural groups. Ten out of the 12 items yielded significant differences across the three cultural groups. For all ten items, the acculturating Taiwanese's estimated percentages fell mostly within the two anchoring groups' responses. They indicated the general process of acculturation as the acculturating individuals lay somewhere between their culture of origin (Taiwanese/Chinese) and the culture of residence (American). The findings suggest that the acculturating Taiwanese are indeed in the middle of the merging process (i.e., the acculturation process). As a group, their estimated percentages are between the two anchoring groups. The highest estimated percentages usually come from the Taiwanese in Taiwan who, without any direct cultural contact, provide evidence for the "stereotypical" perception of the American society as most affluent. The possible sources for such perception come mainly from the mass media. Some of the most popular television shows in Taiwan, at the time of the study, consisted of programs such as "Dynasty," "Dallas," "The Cosby Show," and "The A-Team." The somewhat lower percentages from the acculturating Taiwanese indicate the influence of direct contact in bringing perception closer to reality. And, of course, American respondents are assumed to represent the perspectives most closely connected to reality.

Once the position of the acculturating Taiwanese relative to the two anchoring cultural groups was observed, the focus was then on the acculturating group and their perception of the American consumption reality. The acculturating individuals were categorized into high (i.e., watch more than two hours of television daily) and low television exposure (i.e., watch less than two hours of television daily) groups. Based on the mean percentages as presented in Table 2, five items yielded significant differences between high television exposure acculturating individuals and low television exposure individuals in their perception of consumption reality. The five items included: own a house, own a personal computer, take yearly vacation to Europe, own more than one car, and own a compact disc player. Therefore, the present study partially affirmed the suspected relationship between television viewing and perception of consumption reality. Some cultivation effects are observed, however, they are not overwhelmingly strong. A possible explanation could be that the use of student samples tends to give a somewhat limited representation of what "real" consumers would think. However, the relationship oberved here does give some general indication of the potential for cultivation effects since, of the five significant items, high television exposure individuals tend to give higher percentages than low television exposure individuals.

CONCLUSION

Past research has repeatedly shown that ethnic minorities, the young and the less educated watch more television relative to other groups of the population in the United States (Greenberg, Burgoon, Burgoon, and Korzenny 1983; Hawkins and Pingree 1982). Since ethnic minorities do not always have the advantage of being familiar with the American social and cultural systems, their use of mass media, especially television, becomes an important way of learning the value system, the social and interpersonal role structures of the American culture. It is no wonder that they become heavy television viewers. In fact, research has suggested that ethnic minorities tend to consider television as a trustworthy and reliable source for information and advice (e.g., Greenberg et al. 1983). This is usually shown through their positive attitudes toward television programs and advertising. The acculturating individuals may use television to gain insights as to how people live their lives in the host society and to perceive the reality as portrayed on television. Consequently, they are inspired to live the kind of lifestyle as portrayed on television.

Mass media contents tend to affirm cultural interests and attitudes by portraying for the audience an imaginary world of excitment and pleasure. The

TABLE 1

ANOVA of Mean Responses to Questions Asking for Percentages of Americans Who Own Certain Consumer Products or Services

Item	Taiwanese	Acculturating Taiwanese	Americans	F
A House	59.45^{A}	56.86^{AB}	53.61^{B}	4.569**
A House w/ A Pool	27.11^{A}	20.89^{B}	19.45^{B}	12.662***
A Boat	17.13	19.19	15.97	2.414
A Sport Car	41.25^{A}	25.19^{B}	23.93^{B}	42.485***
A PC	54.46^{A}	37.62^{B}	32.82^{B}	53.638***
Yearly Vacation to Europe	32.56^{A}	26.44^{B}	11.12^{C}	77.119***
Servants At Home	25.30^{A}	9.88^{B}	6.53^{C}	108.219***
More Than One Car	46.90	47.74	46.90	0.081
A Microwave Oven	65.15^{A}	65.38^{A}	53.50^{B}	16.558***
A Phone Answering Machine	60.75^{A}	51.77^{B}	35.66^{C}	68.712***
A VCR	65.51^{A}	61.98^{A}	47.80^{B}	34.842***
A CD Player	41.04^{A}	41.38^{A}	26.21^{B}	35.517***

*p<.05; **p<.01; ***p<.001

For F-statistics implicating rejection of the hypothesis of equivalent means, group means with a common letter superscript are not significantly different by the Tukey test procedure with alpha of .05.

TABLE 2

ANOVA of Mean Responses to Questions Asking for Percentages of Americans Who Own Certain Consumer Products or Services

Item	Acculturating Taiwanese Low TV Exposure (n = 64)	High TV Exposure (n = 124)	F
A House	52.34	59.06	4.773*
A House w/ A Pool	18.03	22.15	2.238
A Boat	16.36	20.71	2.644
A Sport Car	22.00	26.96	2.277
A PC	33.25	39.96	3.794+
Yearly Vacation to Europe	22.53	28.60	3.167+
Servants At Home	8.83	10.35	0.777
More Than One Car	41.89	50.97	6.163*
A Microwave Oven	62.75	67.07	1.162
A Phone Answering Machine	48.98	53.48	1.423
A VCR	60.03	63.02	0.574
A CD Player	37.17	43.49	2.872+

+p,.10; *p<.05

cultivation theory of communication has long proposed the notion that mass media is a powerful and effective learning agent (Gross and Morgan 1983). Numerous studies on the cultivation theory have focused mainly on Americans and indicate that their perception of social reality is strongly influenced by their use of television. However, no previous research has used the cultivation theory to investigate the effects of television on ethnic minorities. The present study therefore attempted to explore the cultivation effects among Chinese subculture in the United States. Partial support was found for the hypothesized relationship among the acculturating Taiwanese. Further research using non-student sample should yield better insights of the cultivation effects on various ethnic minorities.

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The Cultivation of Consumer Norms

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ABSTRACT

This paper represents an initial effort to bring cultivation theory to bear on the process by which consumer norms are formed and maintained. To this end, we present the results of a pilot study and a detailed research agenda for subsequent investigation. The results of the pilot study were supportive of the theory of cultivation, particularly the "mainstreaming" effect.

Consumer behavior researchers have long recognized that product desires and choices are influenced by perceptions of cultural norms and values. Yet as cultures have grown more complex, our ability to develop accurate perceptions of norms may have actually decreased. This is due largely to the extent to which we use mass-mediated information in lieu of that directly acquired. This information is often distorted and appears to be largely unchallenged as an acceptable substitute for "knowing" about the world. This includes what we think we know about how others behave as consumers.

Although we all like to believe that our perceptions of social reality are accurate and based on our ability to observe and interpret information from the world around us, this may be only a comfortable illusion. In fact, we are able to observe only a tiny fraction of our world. A vast amount of what we "know" is mediated by information we gather from other people or the mass media. Much of this information is treated just as if it were directly observed in the real world and is worked into cognitions of reality. Due to the nature of this indirectly acquired information and its ubiquitous presentation, it may result in a limited and distorted synthesis of normative consumption information. The result is that people may, at times, operate on the basis of false perceptions of social reality. This, in turn, can have important implications for our consumption desires, beliefs and behaviors.

A growing number of researchers interested in consumer behavior have written about the role of advertisements in creating symbolic and cultural beliefs in consumers (Mick 1986; McCracken 1986; Levy 1959). However, advertising represents only a small portion of media content. Surprisingly, the programs between the ads have largely been ignored by consumer researchers. Furthermore, symbolic meaning is only one aspect of social reality. Perhaps even more fundamental, exposure to the "world" as portrayed on television has the potential to influence our perceptions of the very existence or incidence of things. If unchallenged these perceptions become part of enduring cognitive structures. We begin to believe the world, or at least part of it, exists as it is constituted on television. The role of entertainment television programming in affecting these perceptions has been examined by communication researchers studying cultural indicators and the cultivation hypothesis (Gerbner et al. 1980a; Hawkins and Pingree 1982). This paper is an initial effort to bring this theory to bear on the cultivation of consumer norms.

The Cultivation Effect

Throughout the brief history of communication theory there has been a changing perspective on the influence of the media. In its early days, scholars viewed the media as having powerful effects which would bring about changes in the audience. When these effects were not consistently demonstrated the field reverted to a limited effects paradigm in which the media were generally seen as merely reinforcing existing beliefs. Cultivation theory assumes that the media act to both change and reinforce perceptions depending on how media depictions compare with the individual's own perceptions of his or her social environment.

Cultivation theory assumes that different demographic groups (based on income, education, sex, SES, etc.) will have had different life experiences which will lead to different perception of social reality. However, heavy television viewers from these different groups will, over time, begin to develop more similar perceptions of the world. This effect is referred to as *mainstreaming*. Mainstreaming can occur when heavy viewers from different demographic groups change their views to more closely reflect the television world, and are metaphorically swept into the "mainstream." Yet for some groups, the television reality may closely match their own real world experiences. In this case, television would serve to simply reinforce existing social perceptions.

Examination of the cultivation effect from television require two separate but related areas of research. The first is to document the content found on television. Gerbner and his colleagues refer to this as "cultural indicators" (Gerbner, Morgan and Signorielli 1982) or *message system analysis* (Gerbner et al 1980a). These researchers have been involved in conducting detailed content analyses of week long samples of network television since the late 1960's. This analysis records the frequency with which different types of people and events appear or occur in the television world.

Message system analysis has found that the composition of the television world is significantly different from that of the real world. For example, there are three times as many men on television as women (Gerbner et al 1980a), and television is over-populated by characters in the 25 to 45 year old age range and under-populated by young and old people (Gerbner et al. 1980b; 1980c). Occupationally, professionals, especially doctors and lawyers, and people in law enforcement predominate on television

(Gerbner, Morgan and Signorielli 1982). Studies of the events occurring on television have predominantly focused on violence and found that threats and physical force are extremely common. Approximately two-thirds of male characters and almost one-half of female characters are involved in violent acts (Gerbner et al 1980a). Surprisingly, illness and injuries are infrequent. Only 6 - 7% of major characters on TV have injuries or illness which require treatment (Gerbner, Morgan and Signorielli 1982).

Even though most message system analysis has simply documented the occurrence of people and events on television, a few studies have gone beyond this to establish characteristics associated with different types of characters. For example, the elderly on television are shown as lacking common sense, eccentric and prone to failure (Arnoff 1974; Gerbner et al. 1980c) Other studies have reported level of job satisfaction associated with commonly portrayed occupations (Jeffries-Fox and Signorielli 1979), and degree of success and happiness associated with characters of different demographic groups (Gerbner et al 1980b). Thus, message system analysis provides for an assessment of the "facts" and associated inferences which television provides about the world and the people populating it.

The second stage of research needed to document the cultivation effect is to show that the television content which is at variance with real life has a greater influence on heavy viewers than on lighter viewers. This is done through survey instruments which compare heavy and light television viewers' responses to items which ask for estimates of the occurrence of various types of people or events in the real world.

Research at this second stage, referred to as *cultivation analysis*, has found some support for the belief that heavy viewers of television are more likely than lighter viewers to have incorrect beliefs about the world which are biased in the direction of television content portrayals. For example, heavy viewers have been found to overestimate the prevalence of violence in the world and their chances of being a victim of a crime (Doob and McDonald 1979; Gerbner et al. 1977, 1979). A review of findings indicates that this is true for both child and adult viewers (Hawkins and Pingree 1982). Other studies have found that heavy viewers are also more likely to have greater faith in doctors (Volgy and Schwarz 1980); have more negative attitudes toward the elderly (Gerbner et al. 1980a); hold more sexist attitudes (Morgan 1980; Volgy and Schwarz 1980); and overestimate the stability of the nuclear family (Pingree et al. 1979).

Critical Questions About Cultivation

Although several studies have found support for the cultivation hypothesis, belief in this effect is far from unanimous. Over the years there has been a great deal of criticism of this model and the methods used to test it (Hirsch 1980; 1981). The correlations between viewing and effects, although significant, often indicate only weak to moderate relationships. It is, therefore, necessary to examine some of these critical questions about the cultivation effect.

One major controversy in cultivation studies has been on the appropriate use of control variables. Control variables are needed to rule out possible spurious correlations due to the association of both viewing and social perceptions with some third variable. This concern is quite reasonable since magnitude of viewing has been shown to be related to demographic variables such as SES, age, income and sex (Comstock et al. 1978). Real life experiences are also likely to differ among members of different demographic groups. Thus, a relationship between heavy viewing and overestimation of crime or violence may simply be due to the fact that lower income people are both heavy viewers and more likely to live in high crime neighborhoods.

Most researchers have recognized the need to apply control variables in analyses, but the controversy has centered on whether these variables should be used one at a time or all at once. Some studies have found cultivation effects when control variables are applied one at a time, but when used simultaneously, the relationship becomes nonsignificant (Doob and McDonald 1979; Hughes 1980). It would appear that control variables should be used simultaneously, but not indiscriminantly. Control variables should be carefully thought out and should have some clear theoretical relationship to the effect under study in order to be meaningfully applied to cultivation analysis. Even when relationships are reduced using many control variables, further analyses may reveal that important conditional relationships persist. For example, the notion of mainstreaming implies that television effects may exist for some subgroups but not for others. These findings may be hidden by the indiscriminate use of control variables (Hawkins and Pingree 1982). Thus, we must be careful in making sure that we are not just "throwing" a general assortment of control variables at the phenomenon and its analysis. Theory and consistency with previous research should guide selection.

In developing a complete theory or model of the impact of cultivation it is likely that we would want to expand it beyond just the development of false perceptions to also include the impact of these beliefs. One result might be the development of values and beliefs. If heavy viewers develop a belief that expensive possessions are more prevalent in the real world than they actually are, this may, in turn, lead to a greater desire to have these things (materialism) and perhaps lower levels of life satisfaction. Cultivation may also serve to guide impression formation and expectations. Possessions may come to be associated with success and power. Thus, we may judge others by the things they have and come to expect people with certain possessions to be more likely to succeed. Finally, these beliefs may serve to guide one's own behavior. This may occur well after the viewing situation where cultivated beliefs are utilized by consumers who no longer recognize them as coming from the media.

Cultivation and Consumer Behavior

To date, little of the literature on cultivation has looked at outcomes relevant to consumer behavior.

There have been two studies which directly relate to this issue, but both have significant limitations. Fox and Phillibe (1978) examined the impact of television viewing on perceptions of affluence in the U.S. However, their measure of TV viewing was a very questionable one. It simply asked people to indicate the number of evenings in an average week they watched one hour or more of television. A person who watched one hour every evening would be treated as a heavy viewers even though they would be well below the national average in total amount of television viewed. Using this measure, they found a significant relationship between amount of viewing and perceptions of affluence, but this relationship disappeared when control variables were applied.

A study of Israeli viewers of American programs found that they overestimated the percentage of Americans owning various household items as well as the average earnings of American families (Weimann 1984). Heavy viewers overestimated these things to a greater extent than lighter viewers. Additionally, by testing different causal models, he found that the data are best explained by a model in which control variables influence amount of viewing, but not cultivation effects directly, and amount of viewing does have a direct effect on cultivation. However, the generalizability of this study to American viewers is problematic, especially since the control variables did not include any measure of direct experience with American households.

Pilot Study on Cultivation and Consumer Behavior

In order to overcome some of the problems with, and to reconcile the differences between, the previous studies touching on the cultivation of consumer beliefs, a pilot study was conducted to examine the effects of viewing on consumption perceptions. To accomplish this, 191 students at a major midwestern university filled out questionnaires assessing their perceptions of the percentage of people in the U.S. possessing various things and engaging in different behaviors. Separate estimates were made for the percentage of men, women and households possessing or doing various things. Examples of items investigated included the percentage of people: earning various amounts; living beyond their means; satisfied with their lives; and owning items such as dishwashers, VCR's, compact disc players, swimming pools, convertibles, expensive clothing and vacation homes.

Respondents were also asked to indicate the number of hours they watch each of 10 different types of television programs in the average week. Separate estimates of different types of content were deemed desirable since they would allow for an examination of the relative contribution of different types of content as well as the overall effect of TV viewing on the cultivation of consumption beliefs.

As an extension of previous studies, this pilot study attempted to see if cultivation effects go beyond perceptual differences and also influence value orientations. To assess this a 24 item materialism scale developed by Belk (1985) was included. This scale measures three components of materialism (possessiveness, envy and nongenerosity) as well as overall materialism.

Finally, several demographic variables which have been found to be important control variables in previous cultivation studies were examined. These included age, sex, GPA, number of siblings and family wealth. Each is justifiable on theoretical grounds, and is consistent with previous research.

Results from Pilot Study

In order to more parsimoniously handle the data, several indices were constructed. Since separate questions were asked about perceptions of possessions among men, women and households, affluence indices for each of these groups were computed. Along with the three affluence indices, two simple indices of happiness were computed (one for men and one for women). Each of these indices were composed of just two items: "the percentage of women (men) who are happy with their lives," and the percentage who are "happily married." Finally, scores were computed for materialism and each of its three subcomponents - envy, possessiveness and nongenerosity.

As a first test of television effects, amount of television viewing was correlated with each of the indices discussed above. This yielded only two significant correlations. Television viewing is positively correlated with happiness of women ($r=.12$) and with possessiveness ($r=.13$). When the effect of age, sex, number of siblings, GPA and family wealth are simultaneously controlled, the relationship between television viewing and happiness of women remains significant, but the correlation with possessiveness does not. Thus, it appears from this initial level of analysis that amount of television viewing does not strongly affect perceptions of affluence, happiness or materialism in U.S. viewers.

However, before concluding that television viewing had no impact on consumption beliefs, a test for a possible mainstreaming effect was conducted. It seemed that the level of wealth one experiences in daily life would influence how television messages are perceived and how they effect the individual. Therefore, separate analyses were run for people who came from families with above average wealth versus those from families with average or less wealth. Table 1 shows the partial correlations of amount of TV viewing and each of the indices for each group after controlling for age, sex, number of siblings, and GPA. As can be seen in this table, television viewing seems to have opposite effects for these two groups. For wealthy respondents, greater viewing is generally associated with lower perceptions of affluence in the real world. However, among average or poorer respondents, greater viewing is associated with greater perceptions of affluence. Therefore, television seems to be providing a mainstreaming effect with heavy viewers developing more similar perceptions of real life affluence.

Mainstreaming also appears to be affecting expectations of happiness in the world. Among the more wealthy respondents, television viewing had no impact on perceptions of happiness. However, among

TABLE 1

Partial Correlations Between TV Viewing and Consumer Beliefs (Controlling for Age, Sex, # Siblings and GPA)

	Respondents' Wealth	
	Above Average (n = 75)	Average or Less (n = 91)
Affluence among Women	-.02	.19**
Affluence among Men	-.13	.17*
Affluence in Households	-.22**	.05
Happiness among Women	.01	.22**
Happiness among Men	-.01	.16*
Envy	.22**	-.07
Possessiveness	.16*	.08
Nongenerosity	.14	-.02
Materialism	.25**	-.01

* indicates p<.10
** indicates p<.05

the less wealthy, television viewing was positively associated with believing more people in the world were happy.

An opposite finding occurs with materialistic values. Here, only the more wealthy respondents demonstrate an effect of television viewing. For them, greater levels of viewing are associated with greater amounts of envy, possessiveness and overall materialism. No association is found among viewing and materialism for less wealthy respondents.

These findings may help to reconcile the previous studies of the cultivation of consumer beliefs as well as extend our knowledge. Weimann (1984) found a consistent direct effect of viewing on his entire sample. However, his respondents probably had only limited direct experience with American society. When one has limited direct experience with the content of interest, it is likely that television viewing will exert a consistent and noticeable cultivating effect on all viewers. However, as direct experience becomes more common with the subject matter, television effects are likely to depend on what the viewer's real life experience has been. Thus, homogeneous effects like those found by Weimann are less likely to occur and instead be replaced by mainstreaming effects.

Unlike Weimann, Fox and Philliber (1978) found no correlation between viewing and perceptions of affluence after controlling for other variables. The same was true of the initial analysis here. However, examining only this correlation may have masked a possible mainstreaming effect. Only by examining differences in relevant sub-groups (in this case by income or wealth of respondents) can we determine if a mainstreaming effect, such as the one found in this pilot study, is occurring.

The findings from the pilot study also have interesting implications for a more thorough model of cultivation effects. As might be expected, the cultivation of beliefs about affluence in the real world are strongest among people who have average or less wealth themselves. These people also showed the greatest effect of viewing on perceptions of happiness in others. However, when the outcome variable switches from perceptions to personal values, it is the wealthy subgroup that shows the greatest association between TV viewing and materialism (especially envy). This may indicate that while TV most affects the perceptions of those viewers whose real lives vary most from TV's content, to influence values and beliefs requires some degree of similarity between one's own life and TV content. People who do not perceive themselves as capable of attaining the degree of wealth portrayed on TV may not be influenced by the materialistic message of TV. On the other hand, those who see attaining this level of wealth as within the realm of possibility are affected by this desire. This would be consistent with the belief that perceptions may be influenced through a low involvement process, while values and behaviors are mediated through greater levels of thought.

Developing a Program of Research on Consumer Cultivation

The pilot study would seem to indicate encouragement for future research on the impact of media cultivation of consumer beliefs. It would seem that television viewing may have the ability to influence both perceptions of the real world and values which may ultimately effect consumer behaviors. However, to accurately assess the potential impact of media cultivation on consumer beliefs and behaviors requires an extensive on-going program of research. This program of research must examine both the content of television and its potential effects.

Content

As Hawkins and Pingree (1982) have pointed out, many failures to find a cultivation effect may be due to inaccurate assumptions about the content of television. Therefore, any true examination of these effects must begin with a detailed analysis of relevant television content. As a starting point for this proposed program of research, we have taped one week of programming on all three network stations. Programs taped include both daytime and prime-time shows. While a growing percentage of television viewing involves non-network programs, these shows still represent the majority of viewing. Additionally, many non-network stations air reruns of previous network shows. Since programming has not undergone radical changes in the last few years, it is unlikely that the consumption related content of television has dramatically changed either. Therefore, an analysis of network programming should provide a reasonably good indication of the consumption images viewers are presented.

To study the types of consumption messages available on television requires the examination of both the visual and verbal content. Further, it should look both at the existence of items and events as well as the associations of values to these things. Analysis must be contextual. As a start, we plan to examine the types of characters on television and the types of things they own. One method will involve an examination of the items contained in systematically selected frames. The videotapes will be stopped at selected intervals and a still will be extracted from that tape to another for later analysis. All items appearing in the frame will then be coded. When summed, this should provide a good indication of the types of products owned in the television world. By examining all frames showing similar places (ie. - living room, bedroom, backyard) we can get an idea of how common specific items are in the world of television. Attempts at assessing the relative value of several types of items (ie. - cars, furniture, clothes) will also be done. Ownership will also be linked to demographic descriptions and estimates of the power and success of these characters.

In addition to examining the type of possessions shown on television, analyses will also be conducted to determine the frequency and characterization of acquisition and consumption behaviors on television. Content will be coded for the frequency of purchasing and indications of desiring items, as well as how often different types of products are used or consumed. Examinations of the process of buying and the types of considerations going into televised portrayals of purchase decisions will also be included.

Effects

Once an analysis of the content of television is completed, hypotheses about potential cultivation effects can be developed. Perceptions of heavy viewers would be expected to begin to resemble what is portrayed on television. As was found here, mainstreaming effects may be the most common cultivation effect, with television's influence depending on viewers' own real life experiences.

If cultivation effects are found, we can then go on to test for further effects of television viewing on consumer behavior. For example, heavy viewers who demonstrate a cultivation effect may also be hypothesized to internalize this effect by ascribing power and success to people who possess items associated with positive values and outcomes on television. This can be assessed through story completions which vary the types of items or brands hypothetical characters possess. If viewers perceive that they have the ability to attain the items they see on television, heavy viewers may also demonstrate greater desire for things and, somewhat paradoxically, lower life satisfaction.

Finally, we may look for behavioral outcomes. These can be divided into two groups, direct effects and indirect effects. Indirect effects might include overspending, high degrees of debt and more frequent purchase of status brands. These effects would not come directly from the content portrayed, but instead be mitigated by materialism and other beliefs.

Direct behavioral outcomes are also possible. These are likely to involve the ways in which people make purchase decisions. Decisions on television tend to infrequently consider important purchase decisions such as finances available and alternative choices (Faber 1978; Way 1982). Additionally, few sources of information are considered and decisions are made within a very short time frame (typically within one day) on television (Faber 1978). Therefore, we may find that heavy viewers are less deliberate and thorough in their purchase decision making.

Final Note on Cultivation Effects

It should be pointed out that most studies on cultivation effects find that television has only a weak or moderate effect on beliefs especially after controlling for other variables. Similar levels of effects are likely in the study of the cultivation of consumption beliefs. However, this should not necessarily be taken as an indication that the media have only weak effects. It is important to keep in mind that television is so prevalent in our society that virtually no one can escape its influence. Even light viewers are likely to be effected by the images and values of television either directly through viewing or indirectly through interactions with others who have been effected. Given the similarity of content from place to place and the prevalence of television in American life, assessments of its effects are likely to produce much less variance across individuals than other sources of socialization (Chaffee 1976; Gerbner et al. 1986). Thus, we must assume that some of the influence of television may well be masked by its ubiquitous effect.

Cultivation analysis provides one way to examine some of the potential effects of the mass media on consumer socialization and enculturation throughout the life-span. Many of the findings may be strongest for children and adolescents who have limited real life experiences. However, cultivation may also occur for adults, both in situations where their real life experiences are limited, and through mainstreaming when direct experience is more common. There are many factors which may play important roles in mitigating the effect of cultivation and the development of a comprehensive model may still be in the distance. However, given the pervasiveness of television and other mass media, it appears to be worthwhile for consumer researchers to further utilize and develop models which incorporate the role entertainment media can play in fostering perceptions of consumption reality and how these perceptions ultimately influence consumer attitudes, values and behaviors.

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Reflections on Cultivation Theory and Consumer Behavior

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In many areas of communication theory and research, cultivation theory has enjoyed considerable popularity over the past decade. The three papers that comprise this panel represent important extensions of some of the underlying themes of cultivation theory to consumer behavior. For this, the authors should be commended for their efforts.

As I offer my comments on cultivation analysis and its applications to consumer behavior theory and research, allow me to focus briefly on the nature of the task facing researchers seeking to apply a broadly based and only partially defined theory to a directly related sphere of human behavior. I would then like to discuss the list of topics which I feel should be closely examined in future research that will make use of cultivation theory and its underlying assumptions. In this part, I will point to key areas of clarification that need to be addressed before cultivation theory can serve as a solid anchor for consumer-related research. I will also integrate the contributions of the three papers on this panel regarding their potential future research. With this agenda in mind, let met proceed.

Theories in communication (and in the rest of the social sciences as well) usually suffer from one of two inherent problems: they are either too narrow and specific; or they are too broadly conceptualized. Narrow perspectives suffer because they fail to account for the host of complex variables and intrinsic processes that make up the social phenomena the theory purports to explain. Conversely, broad or grand theories error in the opposite direction, attempting to explain or account for all major elements while failing to clearly explicate any components of the theory with sufficient detail. Most often, grand theories use terms that (perhaps purposely) do not lend themselves to being operationally defined; constructs are frequently defined in simplistic and/or arbitrary ways that render results of empirical investigations as being obvious or severely constrained by conceptual and methodological limitations.

Researchers in communication have chosen to pursue one of these two directions in their theory building, opting for a strategy that takes a narrow focus and works to broaden it or choosing instead to embark upon a program that pursues verification of specific, operationally defined propositions deduced from broadly conceived hypotheses. Both directions have experienced limited success, due in large part to the newness of the field, limited methodologies, and the task of seeking to explain an extraordinarily complex nexus of interrelated processes that seem to make up our rich arrays of communication behaviors.

Cultivation analysis springs from one of those broadly based theories in communication. As such, it has of course been guilty of committing the errors that all grand theories make as they develop from infancy toward maturity. Previous research has advanced essentially to the stage where certain degrees of media exposure (mostly television) are correlated with predicted differences in cognitive, affective or behavioral measures. Exposure to large does of TV generally or specifically to violent, crime-laden programming is linked to higher rates of fear of being victimized by violent crime, overestimates of actual crime rates, and chances of becoming a victim of crime, etc. This line of research focuses on the associations between content and subsequent indicators of behavior. The research agenda develops along the lines of additions to the kinds of content studied and/or the kinds of consequences for such rates of exposure to that content. The key point to remember about this research is that the study of cultivation effects is largely driven by the search for which associations exist and how strong those associations are. What the research has lacked to date is the empirical investigation of how such associations come about, under what conditions, and how consequences ensue as part and parcel of a complex, on-going process. This discussion of what future cultivation research needs to consider in its development as a useful and viable theory with meaningful relevance to consumer behavior forms the next part of my commentary.

In their review of nearly fifty studies dealing with cultivation effects and perceived reality of television, Hawkins and Pingree (1982) concluded that the evidence in support of cultivation "...is relatively supportive of television's influence on *some* aspects of social reality, especially in areas related to violence" (p.244). They added, as have others since, that the relationships reported are indeed very small and often disappear when other variables are controlled for statistically. Research by Potter (1986) has concluded that cultivation effects even in the area of violence are better explained by the degree and type of perceived reality of such television content, as compared to traditionally used measures of exposure to violent content. These researchers point to two important limitations of cultivation research: 1) When cultivation effects are present, the evidence that supports them is weak but persistent; most of the evidence is also limited to the area of perceived violence in viewers' real worlds (chances of becoming a victim of violence and perceived frequency of the occurrence of violent crimes); 2) The use of a traditional global measure such as degree of exposure to TV (overall or to certain types of content) is of limited value in establishing relationships and in being able to support the explanations of why the relationships seem to exist.

The papers on this panel present evidence which is consistent with both of these limitations. The pilot study reported by O'Guinn, Faber, Curias, and Schmitt (1988) produced results which were generally consistent with cultivation theory. Students from wealthier backgrounds who were heavier TV viewers perceived less affluence in the real world, while those from backgrounds with average or less than average wealth who viewed a great deal of TV perceived more affluence in real world. The strength of the evidence was weak, but most importantly, persistent, suggesting that future research could begin to build underlying sets of related variables which would more accurately explain the relationship between what is viewed and how often and the perceptions of real world wealth. Future research should also continue to incorporate measures of materialistic attitudes and other similar consumer value indicators as possible links to viewing perceptions. Measures of TV viewing need to become considerably more sophisticated in order to allow for a more predictive measure of cultivation effects.

The paper by Lee (1988) holds a great deal of promise for understanding cultivation effects as they manifest themselves on those who find themselves in a new environment as they become enculturated. Her research, like all previous research in cultivation, shows preliminary evidence of persistent cultivation effects. Improvements need to be made in the measures of TV viewing (perceptions of specific content and more accurate, reliable indexes of amount of TV viewed) and in the impact of perceptions and viewing on various aspects of consumer attitudes, values, and behavior.

In the paper by Tims, Fan, and Freeman, (1988) the level of analysis (global or macro-measures) produced impressive amounts of agreement between media reports of economic news and consumers' attitudes toward and assessments of the state of the economy and what the future holds. While there is a high degree of correspondence between the two global measures reported, future research will need to incorporate actual mediated news about the economy as received and perceived by various groups of consumers and the degree to which the nature of such economic news predicts the attitudes and opinions of consumers about the economy. Global measures usually produce statistically significant but small associations. This study has produced associations of impressive magnitude. But, what the associations mean, how they occur, and with what specific consequences have not been investigated to date. The future in this area looks very promising.

In countering these two limitations, researchers will have to consider the application of cultivation to content domains other than TV violence and to media other than television (various typical combinations of media which present overlapping content). While television is certainly an influence agent, it is certainly not the only one, nor does it function in a vacuum devoid of other media. Advertising especially cuts across the various media, and its influence, therefore, would best be treated as a function of a media mix. Both fictional and news content also play roles in influencing consumer expectations and desirable styles of appearance and behavior. The entire nexus of media content should be considered in terms of how this content is accommodated by different individuals in different ways. This panel provides three excellent examples of how cultivation theory might be usefully tested in the consumer behavior arena. We certainly need more and more diverse tests of cultivation theory in other dimensions of social behavior portrayed in the media and displayed by media audiences. The authors of the papers on this panel should also be commended for describing their plans for future research. All three papers, individually and collectively, represent a "good start" in identifying the occurrence of cultivation effects. Building on this start will depend upon a clear sense of what major gaps in cultivation theory need to be addressed and filled.

Researchers also must become concerned with how cultivation effects manifest themselves. Potter's work shows that viewers' perceived reality of the content they view is a better predictor of cultivation effects than traditional indexes of exposure. His conclusion about future research: It appears that cultivation of beliefs may take place, but the process is much more complex than that specified in the cultivation hypothesis as it is now framed. The amount of exposure to television seems far less important than the attitudes and perceptions of the individuals exposed (p.172).

Once again, we hear the now-familiar cry for researchers to stop talking about the need to study complex processes and start doing it. Social scientists are all eager to talk about the complex processes that are involved in identifying the interrelationships among the three major sets of variables: audiences, social environments, and media. But their research only rarely studies process in the dynamic, real-world way in which it actually occurs. Cultivation effects undoubtedly involve this same complex set of interactions among these three key variables. Yet, no process-oriented investigation to date offers insights into how cultivation effects take root, when, and how they manifest themselves in different ways. Moreover, research to date has not allowed us to examine how different individuals in different environments will accommodate various kinds of television content in different ways and how such accommodations change over time for the same individuals. Certainly, future cultivation research will need to study process in its dynamic forms.

The research methods of social action theorists need to be seriously considered and adopted in some fashion if cultivation theory is to develop in sophistication. Global variables and contingent variables that represent dimensions of media content and human behavior have produced unimpressive evidence. While it is true that complex underlying relationships are neither easily discovered or comprehended, researchers need to address themselves to procedures that are ideally designed to assess dynamic processes involving individuals acting as part of a social environment which includes *others* as principal influences on the interpretations and actions of those individuals. These methods are those that involve participant observation and other ethnographic procedures.

Social action theorists (e.g., Lindlof, 1987; 1988; Anderson and Meyer, 1989) have observed that human beings make sense of their surrounding environment (of which the media are obviously a part) through referencing others in what is termed an "on-going, emerging performance." Anderson and Meyer's

(1989) recently published text on mediated communication provides an extended, detailed explication of how media and media content are accommodated into the on-going daily social routines of individuals. Their ideas have a direct bearing on how cultivation effects need to be examined.

Anderson and Meyer posit that human sense-making or interpretation of the world in which we operate is a changing, emerging process. There is never a single understanding of meaning, but a continual re-creation of meaning as the various sources of influence are accommodated within everyday life, within a particular social context. They make several important observations.

The individual is incomplete. Social action theory breaks off most decisively from traditional social science by claiming that the individual is made whole only in reference to an other. No individual is ever permitted to be solely responsible for his or her cognitions. An individual's knowledge, beliefs, attitudes, values, and so on are always framed within the alternatives presented by the social action.

Social action theorists hold that we are born into a preexisting framework of social action routines that provide the alternatives of our behavior and the meaning of our acts. To understand the effect of violent content on an individual requires the study of where and how aggression is manifested within the routines of the community in which that individual participates to discover how such violent content is accommodated within them. To understand the effect of violent content on a society requires the study of how that society creates and reproduces the routines of aggression and the study of the everyday performance of aggression. Being a criminal (or one who regularly commits violent acts), in this perspective, is as much a way of life as being a college professor.

Questions of meaning are at the center of social action theories as meaning is a situated coproduction of text and action not the spasm of a cognitive reflex. When social action theories are turned to mediated communication, the questions addressed concern the empowerment of texts in action and the process of reinvention of the premises of action that include the application of texts. Such questions would include the achievement of meaning, the manner in which mediated texts become significant in our lives, and the incorporation of mediated texts in the premises of action.

For Accommodation Theory, (see Anderson & Meyer, 1989, for a complete explanation of this theory) the organizing principle is the social action -- the performance of the relationship between self and other as a valid expression of the mutually held theme(s) of performance; the focus can be on the relationships or the themes of performance but is often on the individual as a relating member, achieving understanding in interpretive performances; and the examination of effect is taken from the premises of the action in place.

Individual human behavior can be understood as a local production that is both a representation and improvisation of partial, fragmented, conflicted, emergent, ongoing, and evolutionary premises of action. Our understanding of human behavior will, therefore, be partial, fragmented, conflicted, emergent, ongoing, and evolutionary. In short, there will be no *final* statements on the progress of social reality, as that reality is always in the process of becoming in one view and dissolving from another. This argument may appear to be disabling to the researcher, but there is a great deal of work to be done in the middle of things -- work that will necessarily be done again and again as the premises of action evolve.

Phenomenologically based ethnography holds that the proper explanatory targets are the premises of action; the proper object of study is the performing individual situated within these premises; and the manner of accomplishments is through the achievement of a member's understanding. For social action theories, ethnography is the methodological center. Survey and experimental methods are used inside of or in support of the ethnographic claims. They are, nonetheless, used, (contrary to popular myths held be those who are not well versed in such procedures and theories). The focus of study is thus not on the individual but on the *situated individual*.

CONCLUSIONS

These central ideas of social action theory are wholly applicable to the study of cultivation effects. Researchers need to stop adding to the "catalogue of relationships" weakly linking exposure to television with a list of "effects." Cultivation, like any other kind of mediated effect, occurs embedded within a dynamic process of human social interaction. How various kinds of mediated content are accommodated or cultivated by different individuals situated in different social environments should become the focus of future research. To accomplish this end, appropriate process-oriented empiricism should be implemented. And, as my comments have indicated, how one goes about accomplishing this end is amenable to a variety of different methodological approaches. These different methods, however, need to be applied to some common research agenda. If future research remains a fragmented endeavor with research programs going blindly along separate paths, cultivation theory and its application to consumer behavior is destined to remain another on the lengthening list of potentially insightful areas that should be further investigated. A variety of methodological approaches brought to bear on a common agenda of research topics could propel cultivation theory to the forefront of consumer behavior theory.

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The Elimination of Advertising Directed at Children in Quebec: A Quasi-Experiment

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Methodological problems associated with surveys and experiments, methods typically used to study the effects of advertising on children, are reviewed. In brief, it is suggested that due to the forced exposure of experimental subjects, effects obtained using experimentation may be overstated. Equally, surveys may result in spurious correlations with "self-selection" responsible for observed relationships between exposure to TV commercials and various outcome measures. A number of solutions are proposed to this dilemma, including one suggestion that researchers become attuned to the possibility of a natural or quasi-experiment.

One recent natural experiment developed as a result of a law enacted by the Province of Quebec, Canada, eliminating advertising directed at children under 13 years of age, on Quebec-based TV stations. This left American border stations as the main source of information for those children's products that were specifically targeted at children. A quasi-experiment developed, inasmuch as this information (American TV commercials) was far more accessible to English-speaking than to French-speaking children in Quebec, given their relative affinities for American (English-language) programming. The law eliminating advertising directed at children was hypothesized to have considerable effect on French but not English Canadian children. Dependent measures included the awareness of various toys on the market and the number of children's cereals purchased. Results of the study are discussed.

How Do Young Children Learn to be Consumers?: A Script Processing Perspective

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How do young children acquire and organize their knowledge about the world? According to Nelson (1986), young children acquire knowledge by learning stereotypical sequences of events, or scripts. In a series of studies, Nelson asked preschool age children about events in their daily lives, such as going to school and eating at McDonald's. Nelson found that even three year old children produce detailed, sophisticated scripts of these familiar events without error. In a consumer context, Roedder John and Whitney (1986) investigated the development of script knowledge in young children over multiple audio presentations of an unfamiliar script and, unlike Nelson, found the preschool age child to have relatively little script-like knowledge structures.

These disparate findings may be resolved by recognizing that many processing deficits, or perhaps limitations, in young children are dependent on task conditions. In this study, we examined the conditions under which a young child would acquire an unfamiliar consumer script for product exchange. Since young children prefer visually presented information and are often unable to spontaneously produce visual images to accompany audio input, the children were provided with audio-visual presentations of the unfamiliar script. Children were also presented with multiple exposures to the new script to allow them several opportunities to experience the script.

This study also concentrated on reducing the processing demands of the dependent variables used to elicit the new script. Children often perform poorly when presented with decontextual, abstract questions. Donaldson (1978) found that children's performance dramatically improves when they are provided with a context, for example, objects and pictures, from which to formulate their verbal responses. In this study children were probed to determine their acquisition of the new script using a series of questions which varied from abstract to concrete. Children's performance on abstract questions, for example, "How do you return something to the store?", was very poor, while their performance on questions where they were provided with objects and pictures was superior. For example, children were given a broken toy and asked, "What would you do if I gave you this for your birthday?".

When young children were exposed to multiple audio-visual presentations of the product exchange script and concrete questions were used to elicit the script, even young children showed well-developed scripts and were able to generalize the product exchange script. Subsequent research examines how multiple exposures assist the young child in forming a scripted representation for an event.

The Development of an Attitude Scale Appropriate for Use with Preschoolers

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ABSTRACT

Marketers are showing new interest in children. For example, Procter & Gamble Co. recently introduced Crest for Kids toothpaste with a $25,000 name-the-flavor contest. In addition, Black & Decker Corp. has licensed its name to be a line of toys that are miniature versions of its small appliances (Graham 1988). Possible reasons for such increased interest in the children's market are multifold. Two primary ones are the recent baby boomlet coupled with an increase to 65% of all mothers who work. Not only is there an increase in the targeted population, children, but the higher discretionary income of dual-income households suggests a more lucrative aim for marketers.

While interest in children by marketing academicians has been evident at least since Ward's important piece (1974), the topic has received less attention in the years following the 1981 Federal Trade Commision's abandonment of proposed regulation of advertising directed to children (Ratner 1978). While academic concern may renew in accord with practioner interest, many issues remain concerning research with children. The current work focuses on one of them: what are the best methods to use in research with young children?

Prior work has indicated that special care is needed in the selection of dependent variables (e.g., Chestnut 1979a, 1979b; Goldberg and Gorn 1983; Macklin 1987). In particular, tasks that require articulation in the obtainment of dependent measures are deemed age-inappropriate (Gelman 1978). It is now generally recognized that without accurate methods for assessment, children's abilities and attitudes may be incorrectly described.

The purpose of the current work is to develop a standardized measure appropriate for use with young children. Two key features are necessary: 1) *nonverbal* responses are required, and 2) the type of responses requested must be *familiar* to young children because the procedure will be posed as a game. Seven five-point scale items were developed (e.g., smile faces, stars) and each scale item was placed on a small poster board. Three of the scale items were randomly selected to be reverse ordered.

The procedure for using the scale is as follows. A child will be shown brands from various product categories and will be asked to indicate their attitude toward the brands by pointing to the appropriate scale position on each of the seven poster boards. Children will complete the procedure individually, and each will be given instructions before s/he begins.

The aim in developing the scale is to minimize two sources of research bias: 1) instrument bias and 2) response set bias. In regards to the first source, the wording of the questions and oral descriptors are designed especially for use with young subjects. As to response set bias, the pictures are also be tailored for ease and accuracy of use. Such attention to both task instructions and task responses suggests the development of the measure will be multi-phased. The issues of dimensionality, reliability, and predictive validity of the scale are to be addressed.

Preliminary testing of the scale has been very promising. Children between the ages of three and five seem to be capable of giving consistent responses to the scale items as indicated by high coefficient alpha levels. Current efforts are focused on refining the instructions given to the children in addition to taking a closer look at the scale dimensionality and validity issues.

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